Coaching Caregivers In-Person and via Telehealth to Implement Tier-3 Interventions
Addressing Challenging Behavior and Social-Emotional Skills in Home-Based Services: A Systematic Review
Stephanie Gerow

Conducting Brief Functional Analysis via Telehealth Technology
Lisa Sanchez

Training Caregivers via Telehealth to Implement Functional Communication Training
Charissa Richards
Addressing Challenging Behavior and Social-Emotional Skills in Home-Based Services: A Systematic Review

Stephanie Gerow, Emily Exline, Lindsey Swafford, David Cosottile, Maureen Conroy, Wendy Machalicek, Tonya Davis, Qi Wei, & Amy James
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Introduction

- Young children with developmental delays or disabilities (DD) often receive home-based services through IDEA Part C or B
  - Experience difficulties in social-emotional skills
  - Higher risk for engaging in challenging behavior
- Home-based services, involving coaching caregivers to implement evidence-based practices, can improve social-emotional and challenging behavior outcomes

(Baker et al., 2002; Buschbacher & Fox, 2003; IDEA, 2004; Roberts et al., 2010; U.S. Department of Education, 2016)
Purpose of Review

• Synthesize the literature related to home-based interventions to address to social-emotional skills and challenging behavior for young children (age birth to 6 years old)

• Provide information that will assist early intervention professionals and researchers in improving social-emotional and challenging behavior outcomes in the context of home-based services
Methods

• Inclusion Criteria:
  • Birth to 6 years 11 months old, diagnosed with disability or delay
  • Dependent measure: social-emotional skill or challenging behavior
  • Evaluated the efficacy of an educational or behavioral intervention
  • Some or all intervention sessions involved coaching a caregiver in the home
• Databases and search terms developed in consultation with librarian
• Ancillary search
Studies included in review: \( n = 57 \)

Studies identified from databases: \( n = 15,822 \)

Studies removed before screening:
Duplicate studies removed: \( n = 6,633 \)

Studies screened for eligibility \( n = 9,189 \)

Studies excluded: \( n = 9,147 \)
Reasons for exclusion:
Age: \( n = 1,501 \)
Dependent variable \( n = 1,281 \)
Intervention \( n = 7,725 \)
No disability or delay \( n = 2,190 \)
Setting \( n = 2,083 \)

Studies meeting eligibility criteria: \( n = 42 \)

Studies identified through ancillary search: \( n = 15 \)

Studies included in review: \( n = 57 \)

Figure 1. PRISMA Diagram
Results and Discussion
<table>
<thead>
<tr>
<th>Variable</th>
<th>Group Design Participants (n = 3749)</th>
<th>Single Case Participants (n = 91)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>889 (24%)</td>
<td>23 (25%)</td>
</tr>
<tr>
<td>Male</td>
<td>1,949 (52%)</td>
<td>56 (62%)</td>
</tr>
<tr>
<td>Not reported</td>
<td>911 (24%)</td>
<td>12 (13%)</td>
</tr>
<tr>
<td><strong>Age (average)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0 to 2 years old</td>
<td>345 (9%)</td>
<td>23 (25%)</td>
</tr>
<tr>
<td>3 to 6 years old</td>
<td>2,289 (61%)</td>
<td>68 (75%)</td>
</tr>
<tr>
<td>Older than 7 years old*</td>
<td>1,027 (27%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>Not reported</td>
<td>88 (2%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td><strong>Race or Ethnicity</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>American Indian or Alaska Native</td>
<td>1 (&lt;1%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>Asian, Native Hawaiian, or Other Pacific Islander</td>
<td>32 (&lt;1%)</td>
<td>2 (2%)</td>
</tr>
<tr>
<td>Black or African American</td>
<td>376 (10%)</td>
<td>1 (1%)</td>
</tr>
<tr>
<td>Hispanic or Latino/a/x</td>
<td>300 (8%)</td>
<td>3 (3%)</td>
</tr>
<tr>
<td>White</td>
<td>1,331 (36%)</td>
<td>16 (18%)</td>
</tr>
<tr>
<td>Two or more races</td>
<td>87 (2%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>Other</td>
<td>39 (1%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>Not reported</td>
<td>1,614 (43%)</td>
<td>69 (76%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Variable</th>
<th>Group Design Participants (n = 3749)</th>
<th>Single Case Participants (n = 91)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>IDEA Disability Category</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Autism Spectrum Disorder</td>
<td>1,252 (33%)</td>
<td>43 (47%)</td>
</tr>
<tr>
<td>Deaf-Blindness</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>Deafness</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>Developmental delay</td>
<td>588 (16%)</td>
<td>11 (12%)</td>
</tr>
<tr>
<td>Emotional disturbance</td>
<td>19 (&lt;1%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>Hearing impairment</td>
<td>2 (&lt;1%)</td>
<td>1 (1%)</td>
</tr>
<tr>
<td>Intellectual disability</td>
<td>0 (0%)</td>
<td>13 (14%)</td>
</tr>
<tr>
<td>Orthopedic impairment</td>
<td>2 (&lt;1%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>Other health impairment</td>
<td>586 (16%)</td>
<td>14 (15%)</td>
</tr>
<tr>
<td>Specific learning disability</td>
<td>306 (8%)</td>
<td>1 (1%)</td>
</tr>
<tr>
<td>Speech or language impairment</td>
<td>495 (13%)</td>
<td>21 (23%)</td>
</tr>
<tr>
<td>Traumatic brain injury</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>Visual impairment</td>
<td>7 (&lt;1%)</td>
<td>3 (3%)</td>
</tr>
<tr>
<td>Specific disability not reported</td>
<td>981 (26%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td><strong>SES Metric Reported</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Receiving or not receiving public assistance</td>
<td>1,516 (40%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>Household income</td>
<td>807 (22%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>Category (i.e., low, middle, upper)</td>
<td>0 (0%)</td>
<td>48 (53%)</td>
</tr>
<tr>
<td>Other</td>
<td>0 (0%)</td>
<td>6 (7%)</td>
</tr>
<tr>
<td>Not reported</td>
<td>1,418 (37%)</td>
<td>37 (41%)</td>
</tr>
</tbody>
</table>

*Race aligns with categories described by U.S. Census Bureau (2020) guidelines except for “Asian” and “Native Hawaiian or Other Pacific Islander.” These 2 categories were combined in our reporting due to lack of specificity in race categories reported in the included studies. The total number of participants in this category is more than the number of included participants because some studies reported both the race and ethnicity of the participants.*

*The inclusion criteria for this study specified that studies needed to include children born to 6 years 11 months old. In some of the group design studies, participants older than this age were also included and we were not able to disaggregate the data for those participants in each of the demographic categories. For this reason, some participants are older than the age range in the inclusion criteria.*
### Table 2.
**Caregiver Demographics**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Group Design Caregivers (n = 3780)</th>
<th>Single Case Caregivers (n = 101)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>1,312 (35%)</td>
<td>70 (69%)</td>
</tr>
<tr>
<td>Male</td>
<td>75 (2%)</td>
<td>16 (16%)</td>
</tr>
<tr>
<td>Not reported</td>
<td>2,393 (63%)</td>
<td>15 (15%)</td>
</tr>
<tr>
<td><strong>Age (average)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20 to 29 years</td>
<td>594 (16%)</td>
<td>4 (4%)</td>
</tr>
<tr>
<td>30 to 39 years</td>
<td>551 (15%)</td>
<td>13 (13%)</td>
</tr>
<tr>
<td>40+ years</td>
<td>70 (2%)</td>
<td>3 (3%)</td>
</tr>
<tr>
<td>Not reported</td>
<td>2,501 (66%)</td>
<td>81 (80%)</td>
</tr>
<tr>
<td><strong>Race or Ethnicity</strong>&lt;sup&gt;a&lt;/sup&gt;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>American Indian or Alaska Native</td>
<td>2 (&lt;1%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>Asian, Native Hawaiian, or Other</td>
<td>2 (&lt;1%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>Pacific Islander</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Black or African American</td>
<td>65 (2%)</td>
<td>5 (5%)</td>
</tr>
<tr>
<td>Hispanic or Latino/a/x</td>
<td>18 (&lt;1%)</td>
<td>3 (3%)</td>
</tr>
<tr>
<td>White</td>
<td>432 (11%)</td>
<td>30 (30%)</td>
</tr>
<tr>
<td>Two or more races</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>Other</td>
<td>51 (&lt;1%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>Not reported</td>
<td>3,151 (83%)</td>
<td>63 (62%)</td>
</tr>
</tbody>
</table>

**Caregiver role**
- Father: 34 (<1%) 16 (16%)
- Mother: 153 (4%) 70 (69%)
- Familial caregiver (e.g., grandmother): 97 (<1%) 1 (1%)
- Non-familial caregiver: 17 (<1%) 0 (0%)
- Parent/caregiver, not further described: 3,479 (92%) 14 (14%)

**Marital Status**
- Single: 767 (20%) 26 (27%)
- Married/living with partner: 1,053 (28%) 9 (9%)
- Divorced or separated: 72 (2%) 0 (0%)
- Widowed: 4 (<1%) 0 (0%)
- Not reported: 1,482 (39%) 66 (65%)

**Education**
- Some high school/diploma/GED: 444 (12%) 14 (14%)
- Some college/college degree: 722 (19%) 23 (23%)
- Graduate/advanced degree: 175 (5%) 8 (8%)
- Not reported: 2,334 (62%) 56 (55%)

<sup>a</sup>Race aligns with categories described by U.S. Census Bureau (2020) guidelines except for “Asian” and “Native Hawaiian or Other Pacific Islander.” These 2 categories were combined in our reporting due to lack of specificity in race categories reported in the included studies. The total number of participants in this category is more than the number of included participants because some studies reported both the race and ethnicity of the participants.
<table>
<thead>
<tr>
<th>Intervention Characteristics</th>
<th>Variable</th>
<th>Group Design Studies ( (n = 35) )</th>
<th>Single Case Participants ( (n = 27) )</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Intervention Categories</strong></td>
<td>Antecedent-based interventions</td>
<td>13 (37%)</td>
<td>17 (63%)</td>
</tr>
<tr>
<td></td>
<td>Augmentative and alternative communication</td>
<td>2 (6%)</td>
<td>1 (4%)</td>
</tr>
<tr>
<td></td>
<td>Cognitive behavioral/instructional strategies</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td></td>
<td>Differential reinforcement</td>
<td>12 (34%)</td>
<td>7 (26%)</td>
</tr>
<tr>
<td></td>
<td>Discrete trial teaching</td>
<td>4 (11%)</td>
<td>1 (4%)</td>
</tr>
<tr>
<td></td>
<td>Extinction</td>
<td>2 (6%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td></td>
<td>Functional communication training</td>
<td>2 (6%)</td>
<td>17 (63%)</td>
</tr>
<tr>
<td></td>
<td>Naturalistic intervention</td>
<td>11 (31%)</td>
<td>1 (4%)</td>
</tr>
<tr>
<td></td>
<td>Peer-based instruction and intervention</td>
<td>0 (0%)</td>
<td>1 (4%)</td>
</tr>
<tr>
<td></td>
<td>Prompting</td>
<td>6 (17%)</td>
<td>8 (30%)</td>
</tr>
<tr>
<td></td>
<td>Reinforcement</td>
<td>7 (20%)</td>
<td>5 (19%)</td>
</tr>
<tr>
<td></td>
<td>Response interruption and redirection</td>
<td>4 (11%)</td>
<td>4 (15%)</td>
</tr>
<tr>
<td></td>
<td>Social narratives</td>
<td>0 (0%)</td>
<td>1 (4%)</td>
</tr>
<tr>
<td></td>
<td>Task analysis</td>
<td>0 (0%)</td>
<td>1 (4%)</td>
</tr>
<tr>
<td></td>
<td>Not reported</td>
<td>8 (23%)</td>
<td>0 (0%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Caregiver Implementation</strong></th>
<th>Did not implement</th>
<th>n/a</th>
<th>n/a</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 to 25% of intervention sessions</td>
<td>3 (9%)</td>
<td>0 (0%)</td>
<td></td>
</tr>
<tr>
<td>26 to 50% of intervention sessions</td>
<td>2 (6%)</td>
<td>2 (7%)</td>
<td></td>
</tr>
<tr>
<td>51 to 75% of intervention sessions</td>
<td>2 (6%)</td>
<td>0 (0%)</td>
<td></td>
</tr>
<tr>
<td>76 to 100% of intervention sessions</td>
<td>20 (57%)</td>
<td>21 (78%)</td>
<td></td>
</tr>
<tr>
<td>Number of sessions implemented not reported</td>
<td>8 (23%)</td>
<td>4 (15%)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Caregiver Coaching Strategies</strong></th>
<th>Variable</th>
<th>Group Design Studies ( (n = 35) )</th>
<th>Single Case Participants ( (n = 27) )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Written instructions</td>
<td>11 (31%)</td>
<td>15 (56%)</td>
<td></td>
</tr>
<tr>
<td>Verbal instructions</td>
<td>11 (31%)</td>
<td>14 (52%)</td>
<td></td>
</tr>
<tr>
<td>Goal Setting</td>
<td>2 (6%)</td>
<td>1 (4%)</td>
<td></td>
</tr>
<tr>
<td>Modeling</td>
<td>11 (31%)</td>
<td>21 (78%)</td>
<td></td>
</tr>
<tr>
<td>Video examples</td>
<td>7 (20%)</td>
<td>7 (26%)</td>
<td></td>
</tr>
<tr>
<td>Role-play without child</td>
<td>11 (31%)</td>
<td>9 (33%)</td>
<td></td>
</tr>
<tr>
<td>Role-play with child</td>
<td>4 (11%)</td>
<td>13 (48%)</td>
<td></td>
</tr>
<tr>
<td>Coaching or verbal prompting</td>
<td>9 (26%)</td>
<td>17 (63%)</td>
<td></td>
</tr>
<tr>
<td>Observation without coaching</td>
<td>8 (23%)</td>
<td>9 (33%)</td>
<td></td>
</tr>
<tr>
<td>Immediate feedback</td>
<td>7 (20%)</td>
<td>13 (48%)</td>
<td></td>
</tr>
<tr>
<td>Delayed feedback</td>
<td>2 (6%)</td>
<td>6 (22%)</td>
<td></td>
</tr>
<tr>
<td>Feedback using video</td>
<td>1 (3%)</td>
<td>3 (11%)</td>
<td></td>
</tr>
<tr>
<td>Review of graphs or data</td>
<td>2 (6%)</td>
<td>7 (26%)</td>
<td></td>
</tr>
<tr>
<td>Reflection or self-feedback</td>
<td>1 (3%)</td>
<td>3 (11%)</td>
<td></td>
</tr>
<tr>
<td>Problem solving</td>
<td>7 (20%)</td>
<td>5 (19%)</td>
<td></td>
</tr>
<tr>
<td>Answering questions</td>
<td>2 (6%)</td>
<td>8 (30%)</td>
<td></td>
</tr>
<tr>
<td>Homework/lessons</td>
<td>7 (20%)</td>
<td>2 (7%)</td>
<td></td>
</tr>
<tr>
<td>DVD</td>
<td>2 (6%)</td>
<td>0 (0%)</td>
<td></td>
</tr>
<tr>
<td>Meeting to review progress</td>
<td>0 (0%)</td>
<td>1 (4%)</td>
<td></td>
</tr>
<tr>
<td>Not reported</td>
<td>6 (17%)</td>
<td>0 (0%)</td>
<td></td>
</tr>
</tbody>
</table>

| **Caregiver Treatment Fidelity** | Measured treatment fidelity | 13 (37%) | 17 (63%) |

\*35 treatment groups across 30 group design studies. Percentages calculated out of 35 treatment group.
Design Evaluation Experiments

Group Design \((n=31)\)
- Meets without Reservations \((n=8)\)
- Meets with Reservations \((n=11)\)
  - Strong Evidence \((n=6)\)
  - Moderate Evidence \((n=6)\)
  - No Evidence \((n=7)\)
- Does Not Meet \((n=12)\)

Single Case \((n=27)\)
- Meets without Reservations \((n=0)\)
- Meets with Reservations \((n=5)\)
  - Strong Evidence \((n=4)\)
  - Moderate Evidence \((n=0)\)
  - No Evidence \((n=1)\)
- Does Not Meet \((n=22)\)

*Figure 2. Quality evaluation and visual analysis results for all included articles*
Themes from the Literature

- Interventions: Antecedent-based interventions, differential reinforcement, functional communication training, naturalistic intervention, and prompting

- Coaching Strategies: instructions, modeling, coaching/verbal prompting, observation, role play, and feedback

- Resources needed
  - Most of the materials were already available in the home - e.g., items for task and toys
  - Sometimes additional materials required – e.g., visual schedule, manual for parent
Suggested Steps in Home-Based Services

1. Assess social-emotional skills/challenging behavior
2. Develop individualized intervention for child based on family input and evidence-based practices
3. Develop jargon-free instructions
4. Teach caregiver to implement intervention
5. Provide continued support, observation, coaching, and data monitoring
Discussion

• Limitations
• Future research
• Implications
  • Teaching caregivers to implement evidence-based practices leads to improvements in social-emotional skills and challenging behavior for young children with DD
Email Stephanie Gerow (stephanie.gerow@unlv.edu) for additional information
Conducting Brief Functional Analysis via Telehealth Technology

Stephanie Gerow, Supriya Radhakrishnan, Tonya Davis, Jacqueline Zambrano, Suzannah Avery, and David Cosottile

Contact: Stephanie_Gerow@baylor.edu
Parent-implemented brief functional analysis and treatment with coaching via telehealth

Stephanie Gerow, Supriya Radhakrishnan, Tonya N. Davis, Jacqueline Zambrano, Suzannah Avery, David W. Cosottile and Emily Exline

Department of Educational Psychology, Baylor University
Introduction

• Functional analysis (FA) leads to effective interventions to reduce challenging behavior (Beavers et al., 2013; Hanley et al., 2003; Saini et al., 2020)
• Many families do not have access to challenging behavior intervention; telehealth technology can improve access (LeBlanc et al., 2020; Schieltz & Wacker, 2020)
• The majority of studies delivering FA via telehealth have coached parents to implement traditional FA (Shieltz & Wacker, 2000)
Introduction

• Brief FA is well suited for implementation by parents (Gardner et al., 2012)
• Brief FA can be incorporated into progressive FA model, consisting of an initial brief FA and additional assessments as needed (Vollmer et al., 1995)
• Suess et al. (2016) evaluated brief FA via telehealth with parents in clinic
• Purpose: to evaluate a progressive FA model delivered via telehealth to parents in their homes
Method
## Participants and Data Collection

<table>
<thead>
<tr>
<th>Child (Parent)</th>
<th>Age</th>
<th>Gender</th>
<th>Race/ Ethnicity*</th>
<th>Diagnosis</th>
<th>Topography of Challenging Behavior</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zach (mother)</td>
<td>11</td>
<td>Male</td>
<td>Hispanic/Latino and White</td>
<td>ASD, intellectual disability</td>
<td>Property destruction</td>
</tr>
<tr>
<td>Cameron (mother)</td>
<td>3</td>
<td>Male</td>
<td>White</td>
<td>ASD, Fragile X Syndrome</td>
<td>Aggression</td>
</tr>
<tr>
<td>Logan (mother)</td>
<td>4</td>
<td>Male</td>
<td>Hispanic/Latino</td>
<td>ASD</td>
<td>Aggression, property destruction</td>
</tr>
<tr>
<td>Kyle (mother)</td>
<td>5</td>
<td>Male</td>
<td>White</td>
<td>ASD, speech delay</td>
<td>Self-injury</td>
</tr>
<tr>
<td>Paul (mother)</td>
<td>10</td>
<td>Male</td>
<td>White</td>
<td>ASD, Down syndrome</td>
<td>Self-injury</td>
</tr>
<tr>
<td>Diego (mother)</td>
<td>5</td>
<td>Male</td>
<td>Hispanic/Latino</td>
<td>ASD</td>
<td>Aggression</td>
</tr>
<tr>
<td>Sophia (mother)</td>
<td>6</td>
<td>Female</td>
<td>Black/African and White</td>
<td>ASD</td>
<td>Self-injury, disruptive vocalizations</td>
</tr>
</tbody>
</table>

*The race/ethnicity column reflects data gathered from parents via an interview and the categories were based on the U.S. Census Bureau categories (U.S. Census Bureau, 2017). Participants could select more than one race/ethnicity category.
Technology

• Coaches: Laptops with videocamera
• Videoconference software: Vsee
• Families:
  • Their own technology OR
  • Tablet mailed to them with cellular capability, tablet stand, and headsets (optional for use during session)
Procedures

• Parent coaching: instructions, prompting, rehearsal, and feedback
• Parent interview, preference assessment, and progressive FA model (based on Vollmer et al., 1995)
• Treatment evaluation
  • Baseline: same procedures as relevant FA condition
  • Intervention: functional communication training or competing stimulus, prompting, and differential reinforcement of alternative behavior
Progressive FA Model

**Brief FA**
- 4-5 conditions, 1 session per condition

**Additional FA Sessions**
- 3-5 sessions per condition

**Additional Ignore Sessions**
- differentiated
- undifferentiated, low CB, or no CB
  - undifferentiated w/ indication of automatic function

**Treatment Evaluation**
- for socially maintained CB

**Treatment Evaluation**
- for automatically maintained CB

**Additional assessments and treatment evaluation or no treatment**
- based on parent report

**No or low CB**
- differentiaed
- undifferentiated or high in ignore
  - CB persists

**Differentiated**

**Undifferentiated, low CB, or no CB**

**Baylor University**
Progressive FA Model

**Brief FA**
4-5 conditions, 1 session per condition

- undifferentiated, low CB, or no CB
- undifferentiated w/ indication of automatic function

**Additional FA Sessions**
3-5 sessions per condition

**Additional Ignore Sessions**

**Treatment Evaluation**
for socially maintained CB

- differentiated
- undifferentiated or high in ignore

**Treatment Evaluation**
for automatically maintained CB

- CB persists
- no or low CB

**Additional assessments and treatment evaluation or no treatment** based on parent report

- no or low CB
Progressive FA Model

**Brief FA**
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- 3-5 sessions per condition
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**Additional assessments and treatment evaluation**
- or no treatment
  - based on parent report

**undifferentiated, low CB, or no CB**

Baylor University
**Progressive FA Model**

- **Brief FA**
  - 4-5 conditions, 1 session per condition

- **Additional FA Sessions**
  - 3-5 sessions per condition
  - undifferentiated, low CB, or no CB
  - undifferentiated w/ indication of automatic function

- **Additional Ignore Sessions**

- **Treatment Evaluation**
  - for socially maintained CB
  - Differentiated
  - Undifferentiated or high in ignore
  - CB persists
  - No or low CB

- **Treatment Evaluation**
  - for automatically maintained CB
  - Differentiated
  - Undifferentiated or high in ignore
  - CB persists
  - No or low CB

- **Additional assessments and treatment evaluation or no treatment**
  - Based on parent report

---

**Baylor University**
Brief FA
4-5 conditions, 1 session per condition

undifferentiated, low CB, or no CB

undifferentiated w/ indication of automatic function

Additional FA Sessions
3-5 sessions per condition

differentiated

Additional Ignore Sessions

undifferentiated or high in ignore

CB persists

no or low CB

no or low CB

Treatment Evaluation
for socially maintained CB

Treatment Evaluation
for automatically maintained CB

Additional assessments and treatment evaluation or no treatment based on parent report

Progressive FA Model
**Progressive FA Model**

- **Brief FA**
  - 4-5 conditions, 1 session per condition

  - undifferentiated, low CB, or no CB
  - undifferentiated w/ indication of automatic function

- **Additional FA Sessions**
  - 3-5 sessions per condition

- **Additional Ignore Sessions**

- **Treatment Evaluation** for socially maintained CB
  - differentiated
  - undifferentiated or high in ignore

- **Treatment Evaluation** for automatically maintained CB
  - CB persists
  - no or low CB

- **Additional assessments** and treatment evaluation or no treatment based on parent report
  - no or low CB
Results and Discussion
Progressive FA Model

**Brief FA**
- 4-5 conditions, 1 session per condition

- Undifferentiated, low CB, or no CB
- Undifferentiated w/ indication of automatic function

**Additional FA Sessions**
- 3-5 sessions per condition

**Additional Ignore Sessions**

- Differentiated
- Undifferentiated or high in ignore

**Treatment Evaluation**
- for socially maintained CB
- for automatically maintained CB

**Additional assessments and treatment evaluation or no treatment**
- based on parent report

Tangible = 13
Attention = 1
Escape = 2
Results & Discussion

Percentage of Intervals with Challenging Behavior

- Escape
- Control
- Tangible
- Attention

Sessions

1
2
3
4
Results & Discussion

Percentage of Intervals with Challenging Behavior

Sessions

- Δ Escape
- ⃗ Tangible
- ● Attention
- ■ Control
Progressive FA Model

**Brief FA**
4-5 conditions, 1 session per condition

- undifferentiated, low CB, or no CB
  - undifferentiated w/ indication of automatic function

- Additional FA Sessions
  3-5 sessions per condition

- Additional Ignore Sessions

- Treatment Evaluation for socially maintained CB
  - undifferentiated or high in ignore $n = 0$
  - CB persists
  - no or low CB

- Treatment Evaluation for automatically maintained CB
  - no or low CB

- Additional assessments and treatment evaluation or no treatment based on parent report
Results & Discussion

**Brief FA**
- 4-5 conditions, 1 session per condition

**Additional FA Sessions**
- 3-5 sessions per condition

**Additional Ignore Sessions**
- undifferentiated or high in ignore
  - no or low CB
  - Treatment Evaluation
    - for automatically maintained CB
  - differentiated
    - undifferentiated w/ indication of automatic function

**Treatment Evaluation**
- for socially maintained CB

**Additional assessments and treatment evaluation or no treatment**
- based on parent report

**n = 4**
**Progressive FA Model**

**Brief FA**
4-5 conditions, 1 session per condition

undifferentiated, low CB, or no CB

... continued...

**Additional FA Sessions**
3-5 sessions per condition

... continued...

**Additional Ignore Sessions**

... continued...

**Differentiated**

... continued...

**Treatment Evaluation** for socially maintained CB

... continued...

**Treatment Evaluation** for automatically maintained CB

... continued...

**Additional assessments and treatment evaluation or no treatment** based on parent report

... continued...
Results & Discussion

Graph showing the percentage of intervals with stereotypy across different conditions (Control, Escape, Tangible, Attention, Ignore) over sessions 1 to 8.
Progressive FA Model

Brief FA
4-5 conditions, 1 session per condition

- undifferentiated, low CB, or no CB
- undifferentiated w/ indication of automatic function

Additional FA Sessions
3-5 sessions per condition

- differentiated
- undifferentiated or high in ignore

Additional Ignore Sessions

- CB persists
- no or low CB

Treatment Evaluation
for socially maintained CB

Treatment Evaluation
for automatically maintained CB

Additional assessments and treatment evaluation or no treatment based on parent report

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Results & Discussion

• Social Validity
  • Average Response: 4.85 (scale of 1-6)

• Intervention
  • 10 participants received intervention
    • 80% reduction in challenging behavior achieved for 10 participants
  • 2 additional participants are still receiving intervention
Results & Discussion

• The initial brief FA was used to determine function for 16 participants
• Caregivers found the assessment procedures to acceptable
• The results of this study aligns with previous research (Gerow et al., 2021; Vollmer et al., 1995) which indicates that the progressive FA model is effective for creating interventions to decrease challenging behavior
Results & Discussion

• Limitations

• Implications
  • Importance of involvement qualified professionals to conduct BFA
  • The progressive FA model was only implemented with participants who engaged in challenging behavior that could be treated via telehealth
  • This study supports previous findings that indicate the progressive FA model can be used to create individualized interventions
For More Information:

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Stephanie.Gerow@unlv.edu
TRAINING CAREGIVERS VIA TELEHEALTH TO IMPLEMENT FUNCTIONAL COMMUNICATION TRAINING

Charissa Richards M.S.Ed, BCBA
ASD and FXS are both neurodevelopmental disabilities.

FXS is caused by mutations in the FMR1 gene (Hunter et al., 2014).

FXS is the most common single gene cause of ASD (Cohen et al., 2005).
- 46% of males with FXS have co-occurring ASD (Bailey et al., 2008).

Families of both populations report need for caregiver training related to challenging behavior, especially after COVID-19 (Hall et al., 2020; Jacques et al., 2022).
Access to caregiver training is a barrier for many families (Grenier-Martin & Rivard, 2022)

Telehealth allows new opportunities for families to receive training (Unholz-Bowden et al., 2020)

Most trainings include live training and coaching, which can be difficult for caregivers to attend to (Lerman et al., 2020; Unholz-Bowden et al., 2020)
• Function-based intervention (Carr & Durand, 1985)

• Teaches a new or different communicative response
  • Must meet the same function as their challenging behavior

• New response is reinforced, challenging behavior is placed on extinction

• Caregivers have been trained to implement FCT with their children (Hall et al., 2020; Machalicek et al., 2016)
Uses a discrete-trial methodology (Bloom et al. 2011; Rispoli et al., 2014)

More feasible for applied settings (Gerow et al., 2013; Rispoli et al., 2014)
  • Fewer instances of challenging behavior
  • Only the hypothesized functions are tested

No studies have evaluated caregiver implementation of the TBFA to inform FCT
Introduction - Practice-Based Coaching

- Non-hierarchical, collaborative coaching relationship
- Shared goal setting and action planning
- Focused observation
- Reflection and feedback

Snyder et al., 2015
We sought to evaluate:

- The effect of a telehealth caregiver training program on FCT implementation fidelity
- The effect of a telehealth caregiver training program on child challenging behavior, communication, and task completion
- Caregiver perspectives on the social validity of the program
## Method - Participants

<table>
<thead>
<tr>
<th>Caregiver</th>
<th>Amelia</th>
<th>Betty</th>
<th>Caroline</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (years)</td>
<td>32</td>
<td>34</td>
<td>39</td>
</tr>
<tr>
<td>Ethnicity</td>
<td>White</td>
<td>White</td>
<td>White</td>
</tr>
<tr>
<td>Gender</td>
<td>Female</td>
<td>Female</td>
<td>Female</td>
</tr>
<tr>
<td>Education</td>
<td>Bachelor’s Degree</td>
<td>Bachelor’s Degree</td>
<td>Bachelor’s Degree</td>
</tr>
<tr>
<td>Marital Status</td>
<td>Married</td>
<td>Married</td>
<td>Married</td>
</tr>
<tr>
<td>Employment Status</td>
<td>Business Owner</td>
<td>Teacher</td>
<td>Part time graduate student</td>
</tr>
</tbody>
</table>
## Method-Participants

<table>
<thead>
<tr>
<th>Child</th>
<th>Asher</th>
<th>Bryce</th>
<th>Cade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>4</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>Ethnicity</td>
<td>White</td>
<td>White</td>
<td>White</td>
</tr>
<tr>
<td>Gender</td>
<td>Male</td>
<td>Male</td>
<td>Male</td>
</tr>
<tr>
<td>Diagnosis</td>
<td>Fragile X Syndrome</td>
<td>Fragile X Syndrome</td>
<td>Autism</td>
</tr>
<tr>
<td>Targeted problem behavior</td>
<td>Throwing, yelling</td>
<td>Hitting, yelling</td>
<td>Throwing, hitting</td>
</tr>
<tr>
<td>Problem behavior function</td>
<td>Access to tangibles</td>
<td>Escape</td>
<td>Access to tangibles</td>
</tr>
<tr>
<td>Main form of communication</td>
<td>Vocal Communication; short sentences</td>
<td>Vocal communication; short sentences</td>
<td>No vocal communication; prelinguistic skills</td>
</tr>
</tbody>
</table>
All interactions took place via Zoom, with the caregivers in their home.

TORSH Talent Software for video uploads.

iPad sent to families for data collection.

Online researcher created modules related to challenging behavior and possible interventions.
Method-Dependent Variables

- **Caregiver**
  - FCT implementation fidelity
  - Social validity

- **Child**
  - Challenging behavior
  - Communication
  - Task completion (only Bryce)
Method-Procedures

Intake

- Average of 60-minute sessions
- Reviewed study expectations
- Gained demographic information
- Discussed target routine for intervention
Functional Behavior Assessment and TBFA

- **Functional Assessment Interview (FAI)**
  - 60-90 minutes to gather information about the behavior and build a hypothesis for the behavior’s function

- **TBFA**
  - Completed after the FAI
  - Only tested the hypothesized conditions
  - Caregiver completed with bug-in-ear coaching via zoom
Baseline

- Coaches completed a technology training for caregivers about TORSH Talent and the iPad
- Caregivers met with coaches weekly for “check-in” sessions that lasted 10-15 minutes on average
- Recorded and uploaded two 5-minute videos weekly to TORSH Talent of their child during the identified routine
Method-Procedures

Intervention

- Caregivers were given access to online modules related to:
  - Challenging behavior as communication
  - Preventative strategies
  - Teaching new communication
  - Responding to appropriate and challenging behaviors

- Weekly virtual coaching sessions between researchers and caregivers using practice-based coaching via Zoom

- Caregivers still uploaded two 5-minute videos per week of them implementing FCT with their child
Coaching Sessions Using Practice-Based Coaching

- First coaching session
  - Identified strengths and areas for support
  - Set a goal and created an action plan

- Weekly coaching sessions
  - Coaches reviewed uploaded videos prior to meeting with caregivers
  - Provided feedback via time-stamped on TORSH Talent
  - Reviewed action plan and goal
Parent FCT Implementation

![Graphs showing progress in Baseline and Intervention phases for Amelia, Betty, and Caroline.](image)

- **Amelia**
  - Baseline: Initial low percentage of correct FCT steps.
  - Intervention: Increase in percentage of correct steps, marked by significant improvements.

- **Betty**
  - Baseline: Moderate percentage of correct FCT steps.
  - Intervention: Consistent improvement with slight fluctuations.

- **Caroline**
  - Baseline: High percentage of correct FCT steps.
  - Intervention: Steady decrease in percentage, indicating potential areas for intervention.

*Note: Data points marked with asterisks represent specific intervention phases.*
Child Outcomes

Baseline vs. Intervention graphs for Asher, Bryce, and Cade showing changes in challenging behavior and percent of trials.
Telehealth and FCT Social Validity

- Caregivers reported that support they received via telehealth was “Good” or “Excellent”
- They found telehealth coaching to be useful and feasible for teaching them to use FCT
- FCT intervention was helpful in reducing challenging behavior and increasing communication
  - Helps reduce stress in the home
Practice-based coaching via telehealth can be used to train parents to implement FCT

Parent implemented FCT can help reduce child problem behavior and improve FCRs

Even without perfect parent fidelity, child problem behavior still decreased and FCRs increased

Parents reported high satisfaction with the FCT intervention, and the coaching provided, however, indicated when given the choice they would prefer in-home or in-person support

Some parents required more intensive supports to increase their implementation fidelity
THANK YOU

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QUESTIONS?