# Producing Outcomes for Group-Based Early Intervention

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## Center for Developing Kids (CDK)

- Pediatric outpatient facility in Pasadena, CA
- Providing speech, physical and occupational therapy
- Social skills groups, handwriting camps, summer camps and school support
- Good to Grow (GTG)
  - Group-based early intervention program
  - Transdisciplinary approach

## Literature Review & Needs Assessment

**Rate Study**

- A rate study produced by Burns & Associates in April 2019 suggested changes to current regional center billing codes. These changes would consolidate several frequently used early intervention codes. This change would force group-based early intervention to utilize a different group model or bill by individual service provider.
- One year later, the rate study suggestions have not been adopted due to large public feedback about flaws and potential impacts of the study. In late 2020, the rate study is set to be reviewed again by legislature.

**Needs Assessment**

- CDK identified the following areas of need:
  - Potential loss of group-based early intervention billing codes
  - Socioeconomic disparities caused by billing code consolidation
  - Lack of outcomes research for the good to grow program

**Group-based Early Intervention**

- The SCERTS Model (Prizant, et al., 2006) is utilized in the GTG program but has limited research. One RCT (Wetherby, et al., 2014) found that individual based SCERTS intervention with 3 sessions a week led to improved scores compared to the group-based intervention with 1 session a week.
- Sensory-based interventions are also utilized in the program and are effective when implemented in a multi-sensory approach (Blanche, et al., 2016).
- Group-based early intervention demonstrated improvements in the following outcomes:
  - Adaptive behaviors (Paynter, et al., 2018)
  - Social skills (Fabrizi, et al., 2016; Vinen, et al., 2018)
  - Motor skills (Pianezzola de Oliveira, et al., 2018)
  - Cognition (Pianezzola de Oliveira, et al., 2018; Clark & Schlabach, 2013)
  - Caregiver skills (Kingsley & Mailloux, 2013)
- Group-based early intervention research lacks higher levels of evidence and reporting on emotional regulation outcomes.

## Learning Objectives

- Apply advanced knowledge of sensory integration and modulation for the treatment of sensory processing related impairments in children
- Collect de-identified data through chart review and analyze outcomes of early intervention on the effects of social emotional and parent skills development collected through the Good to Grow program
- Present preliminary data to relevant stakeholders on importance of continued funding for early intervention services

## Ongoing Outcome Collection

- Creating a protocol for continued data collection in the GTG program was crucial to address the needs of the site.
- Student developed
  - Protocols:
    - Data Collection
    - DAYC-2 Scoring & Administration
    - Data Input
    - Data Analysis
  - Questionnaires:
    - Likert scale
    - Open-ended

## Methods

**Pre-test**
- DAYC-2 Social Emotional & Adaptive Behavior Subtests
- Good to Grow Caregiver Skills Questionnaire

**Intervention**
- Good to Grow (Group-based early intervention)
  - 3-hour sessions, 4x a week

**Post-test**
- Re-administer DAYC-2
- Re-administer Questionnaire

**Data Analysis**
- Descriptive and inferential statistics
  - Paired *t* test (JASP)
  - Microsoft Excel

## Results

- Sample size of 4 participants (n=4)
- Average start age between 24 to 30 months
- Average time in the program was 3 months and 18 days
- The adaptive behavior and social emotional raw scores were compared using the Wilcoxon signed rank test, and both demonstrated strong effect sizes (=1.00)
- Adaptive behavior and social emotional raw scores increased for each participant (Figure 1, Figure 2)
- Caregiver skills questionnaire was divided into three sub scores by averaging the score from several questions that related to three topic areas (Figure 3, Figure 4, Figure 5)

Figure 1. Adaptive Behavior Raw Score Outcomes

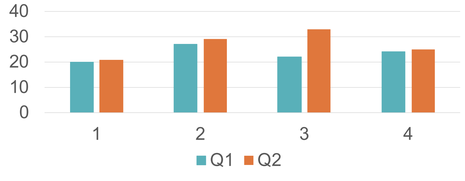



Figure 2. Social Emotional Raw Score Outcomes

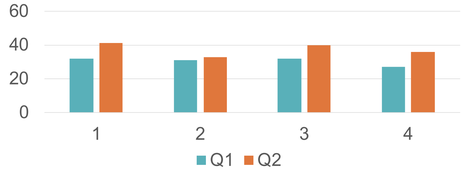



Figure 3. Parent Knowledge Sub Score

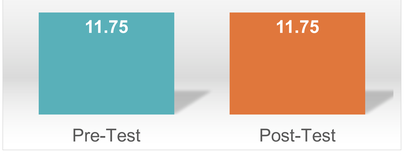



Figure 4. Child & Parent Interaction Sub Score

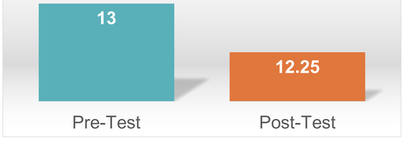
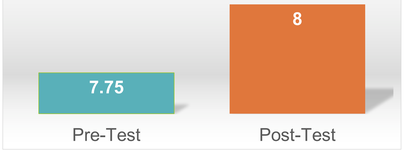



Figure 5. Communication Sub Score




## Discussion

**DAYC-2 Outcomes**

- Social emotional raw score demonstrate the program's ability to impact positively social communication and emotional regulation
- Adaptive behavior raw scores improved but at smaller intervals requiring further research into this area
- The effect sizes show that the intervention for adaptive behavior and social emotional skills had a strong benefit for these children

**Caregiver Skills Questionnaire**

- Results of the caregiver skills questionnaire were scattered:
  - Parents improved in their knowledge of communication, which indicates that the program was effective for these parents in the social communication focus
  - Parent knowledge and child & parent interaction sub scores either decreased or did not change indicating:
    - Parent skill assessment can lead to potential insecurities or bias
    - Parents learned more after pre-test resulting in a lower score
    - Parents come in with different levels of knowledge before the program

**Pilot Outcomes**

- These results provided a pilot for the ongoing outcome data collection, thus serving its purpose to the overall project
- Additional trends may arise but with this small sample, it is difficult to tell how the caregiver skills questionnaire will evaluate how the program can impact parent skills

## Limitations

- Intervention time & sample size
- Non-validated caregiver questionnaire
- Poor attendance could impact the parent and child's performance
- Waitlist control was not possible as the number of children fluctuated during the time of the study

## Implications & Future Directions

- CDK can use ongoing outcome collection for:
  - Quality improvement
  - Evidence for continued funding from regional centers
- The project provided an outline for how to develop an outcome collection plan and can be implemented in other group-based early intervention programs.
- The short-term outcomes and ongoing data collection can show the effectiveness of a transdisciplinary approach in implementing sensory-based interventions in the group-based early intervention setting for improving adaptive behavior and social emotional skills.

## References

Available upon request.

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