**Early Language Experiences**

- Infants and toddlers from disadvantaged families hear about 30 million fewer words by their 4th birthday than other children (Hart & Risley, 1995).
- Academic success at age 9 and 10 can be linked to the talk heard from birth through age 3 (Hart & Risley, 1995).
- Children who fail to acquire effective communication skills can experience relative social isolation irrespective of whatever other abilities they possess (Warren & Waller, 2005).

**Promoting Communication Strategies**

- Naturalistic strategies, designed to be flexible and individualized to unique skills, needs, and diverse backgrounds of families.
- Strategies integrated with family goals.
- Families implement strategies across daily routines.
- Intervention Coach supports intervention delivery.
- Materials can be found at http://www.talk.ku.edu

**Parent Engagement**

- Home visiting programs have shown positive results with high-risk populations, but meta-analyses have not reported consistently positive outcomes for parents and children (Astuto & Allen, 2009; Sweet & Appelbaum, 2004).
- Parent engagement is a barrier to home visiting effectiveness (Korfmarche et al, 2008).
- Programs that are able to maintain parents’ participation and keep them actively engaged are more likely to achieve improvements in parent and child outcomes (Gomboy, 2005).

**Randomized Controlled Trial, followed by secondary analyses examining effects of number of text messages sent.**

**Randomized Controlled Trial**

**Child and Family Characteristics**

<table>
<thead>
<tr>
<th>Control (N = 64)</th>
<th>Intervention (N = 60)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family Characteristics</td>
<td>Count</td>
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<tr>
<td>Les than High School</td>
<td>20</td>
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<tr>
<td>High school or GED</td>
<td>21</td>
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<tr>
<td>More than High School</td>
<td>24</td>
</tr>
<tr>
<td>Not Available</td>
<td>5</td>
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</table>

**Secondary Analyses—Effect of Number of Texts Sent**

- Differences in the effects of the text messaging enhancement to PC TALK were not found to reach statistical significance: 
  - The differences on the linear and quadratic slopes of parent-rated engagement between the two groups were −0.03 (SE = 0.46, p = 0.75), and 0.03 (SE = 0.26, respectively).
  - The differences on the linear and quadratic slopes of home-rated engagement between the two groups were 0.02 (SE = 0.48, p = 0.97), and 0.02 (SE = 0.5, p = 0.95), respectively.

**Randomized Controlled Trial Results**

- For the growth rate of parent’s use of PC strategies, the difference between the two groups were 0.02 (SE = 0.5, p = 0.96).
- The effect of text messaging on the growth rates of Preschool Language Scale-Auditory Comprehension, Preschool Language Scale-Expressive Communication, Early Communication Indicator, and observed Child Communication were 0.17 (SE = 0.09, p = 0.07), 0.11 (SE = 0.08, p = 0.18), -0.06 (SE = 0.59, p = 0.45) and 0.06 (SE = 0.66, p = 0.64), respectively.

**Parent and Home Visitor Satisfaction**

- The primary aims of this project are to examine how cellular phone technology can: 1) Increase and maintain parent engagement in an evidence-based intervention, and 2) Increase parents’ use of language promoting strategies, and thus improve child communication and language skills of infants and toddlers receiving Early Head Start and Part C/IDEA early intervention services.

**Intervention Design and Participants**

- Randomized Controlled Trial, followed by secondary analyses examining effects of number of text messages sent.
- Families randomly assigned:
  - Promoting Communication (PC) Strategies (n=69)
  - PC Strategies PLUS text messaging enhanced PC Strategies (n=58)
- PC Strategies-PLUS text messaging enhanced PC Strategies (n=58)

**Parent and Home Visitor Satisfaction**

- Parent and home visitor satisfaction with the PC strategies, the difference between the two groups were 0.42 (SE = 0.09, p = 0.01).
- One additional PC strategy-related text sent from home visitors tended to improve parent’s use of strategies, which then led to an increase by 0.09 in their child’s Early Communication Indicator (ECI) weighted total score (a = 0.09 = 0.09, CI = [0.019, 0.184]). The total number of texts sent from home visitors also had a significant mediated effect on PLS-EC through parent’s use of strategies (a = 0.09 = 0.09, CI = [0.019, 0.184]).
- One additional PC strategy-related text sent from home visitor tended to improve parent’s use of strategies, and then led to an increase by 0.11 in their children’s ECI weighted total score (a = 0.09 = 0.09, CI = [0.019, 0.184]). Also, a significant mediated effect was found for total texts sent from home visitors on ECI (a = 0.09 = 0.09, CI = [0.019, 0.184]).
- One additional PC strategy-related text sent from a home visitor tended to improve parent’s use of strategies, and then led to an increase by 0.20 in observed Child Communication Weighted Total Rate (a = 0.09 = 0.09, CI = [0.019, 0.184]).
- One additional PC strategy-related text sent from a home visitor tended to improve parent’s use of strategies, and then led to an increase by 0.20 in observed Child Communication Weighted Total Rate (a = 0.09 = 0.09, CI = [0.019, 0.184]).

**Contact Information**

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**Using Text Messages to Build Parents’ Capacity to Improve Child Language-Learning Opportunities**

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