

# ENHANCING LITERACY SKILLS IN INDIVIDUALS WITH FRAGILE X SYNDROME

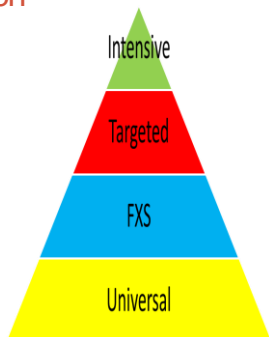
Anne Hoffmann, PhD, CCC-SLP  
Kerrie Lemons-Chitwood, PhD, CCC-SLP  
Karen Riley, PhD

## Background

- Clinical trials have advanced intervention research generally
- Translation research includes academic studies which can inform intervention approaches in schools and therapeutic settings
- Currently there is a paucity of research on evidence based intervention practices for individuals with FXS

## Goal of this research

- To explore reading interventions for individuals with FXS
  - For intervention
  - For research
  - As outcome
- Used phenotypic profile as selection criteria



## Phenotypic Profile

### Relative Strengths

- Vocabulary
- Simultaneous processing
- Combined visual and auditory

### Challenges

- Working memory
- Sequential processing
- Auditory processing
- Visual processing

- We assume the same is true for academic skills, and anecdotal evidence supports this
  - Sight words as a relative strength
  - Phonics skills as a relative weakness

- However, there is a lack of research about how we can effectively target the skills necessary for literacy
  - Sight words
  - Phonological skills
  - Fluency
  - Comprehension

- Can a targeted reading intervention produce measurable improvements?
- Three different interventions were chosen to cover the range of reading abilities found in FXS
  - Interest Based Sight-words
    - Readers with a limited corpus of sight-words and limited phonological skills
    - Based on the DIBELS Deep, pre-kindergarten reading skills
  - HeadSprout
    - Readers with significant number of sight-words but unable to decode novel words
    - Based on the DIBELS Deep, kindergarten through second grade reading skills
  - Reading Plus
    - Readers who are able to decode novel words but may struggle with fluency and comprehension
    - Based on the DIBELS Deep, third grade reading skills and above

## Interest Based Sight-words

- Developed by Karen Riley
- Systematic approach to teaching sight-words that incorporates the strong preferences exhibited by many individuals with FXS
  - Words are selected based on what the individual likes
    - T.V. shows, hobbies, foods, people
- Taught using stages of matching, selecting, and naming

---

## HeadSprout

- Web-based reading program
- Teaches beginning reading skills such as:
  - Phonemic awareness
  - Phonics
  - Decoding
  - Vocabulary
  - Reading comprehension
  - Print awareness
- Meant to bring individuals to mid 2<sup>nd</sup> grade level

---

## Reading Plus

- Web-based reading program
- Designed to promote fluent reading and text comprehension
- Focuses on three areas
  - Visual efficiency and reading rate
  - Motivation
  - Comprehension capacity and general vocabulary

---

## Pathway to evidence based academic intervention

