

EFFICACY OF A THREE-WEEK INTERVENTION PROGRAM FOR SCHOOL-AGED CHILDREN IN THE AREAS OF LANGUAGE, LITERACY, PHONOLOGICAL AWARENESS, AND AUDITORY PROCESSING

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ABSTRACT

Research demonstrates that competency in the areas of language, literacy, phonological awareness, and auditory processing is vital to academic success in children, as well as in navigating adult life.

The study's purpose is to measure the efficacy of an intensive, three-week summer camp program in addressing these areas, and to identify areas of strength and weakness in the program and interventions implemented. Programs utilized during the summer camp include Visualizing and Verbalizing®, Lindamood Phoneme Sequencing® (LiPS), On Cloud Nine®, Color My Conversation®, Differential Processing, as well as science experiments, snack, and craft time.

METHODOLOGY

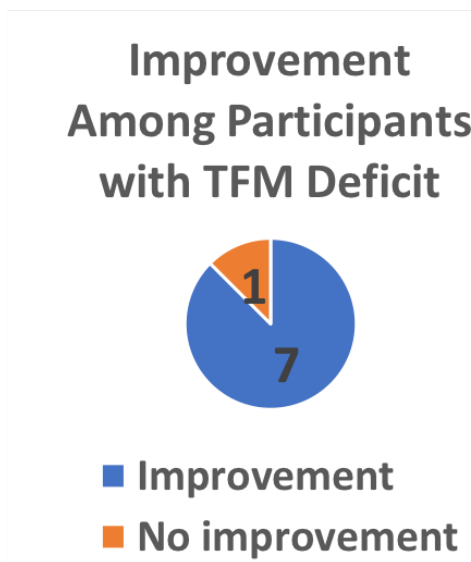
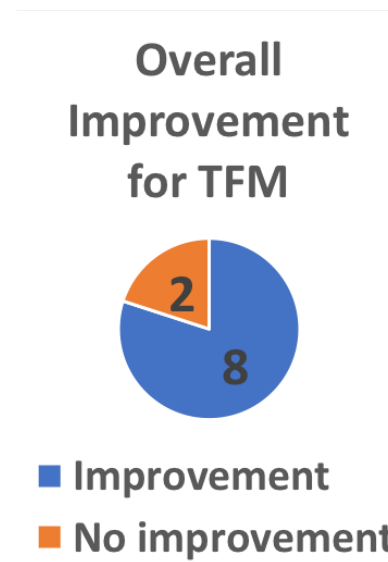
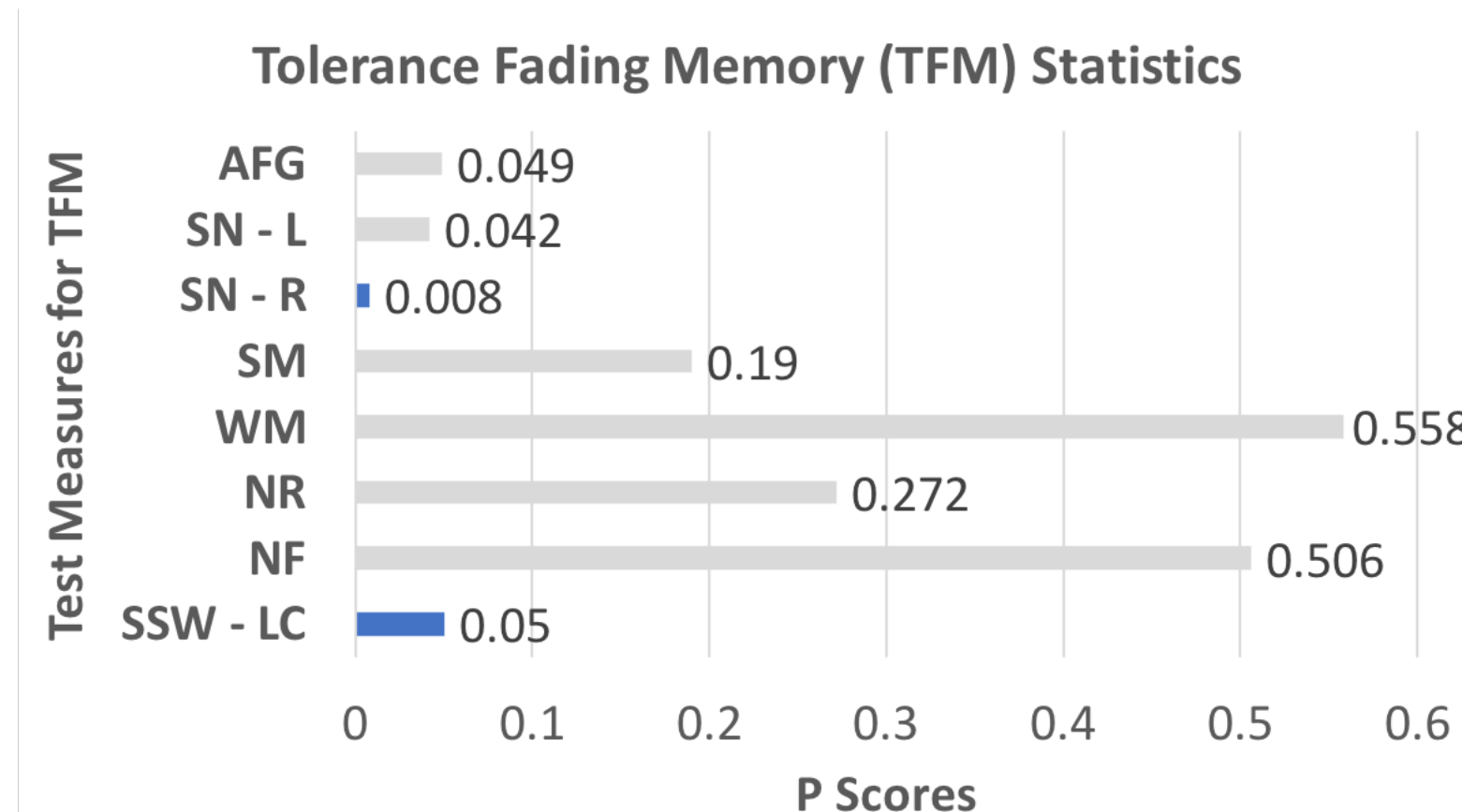
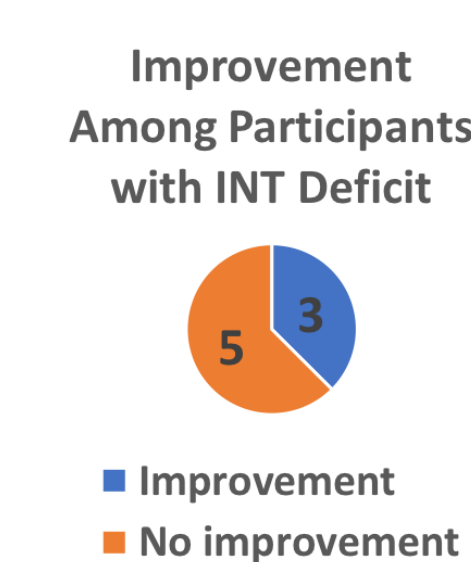
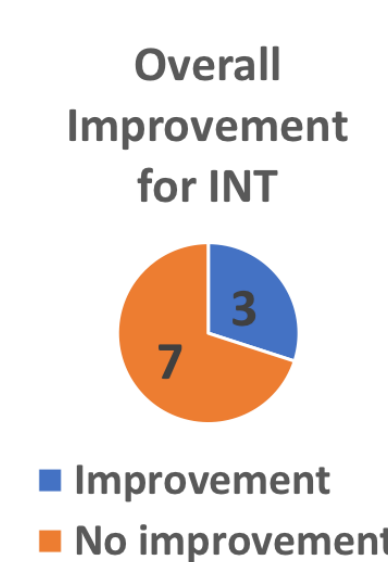
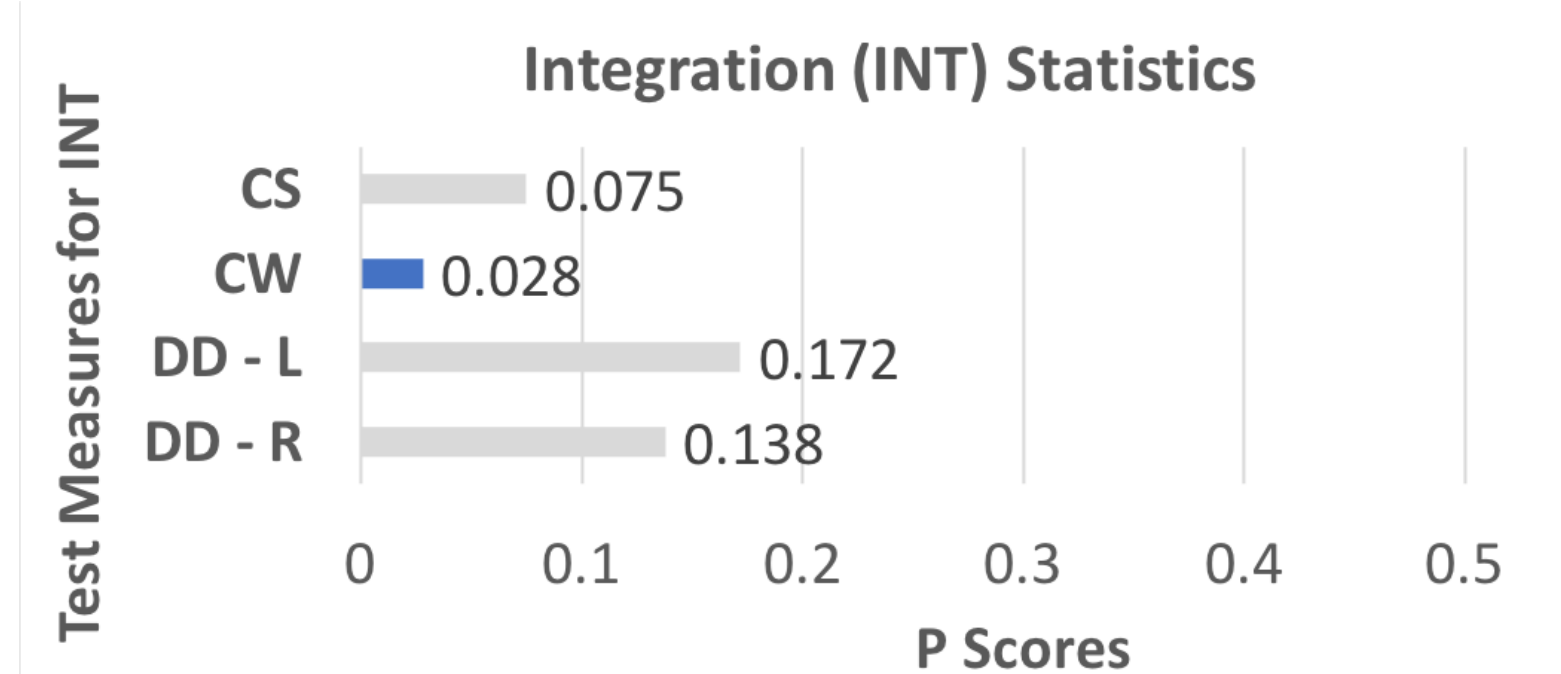
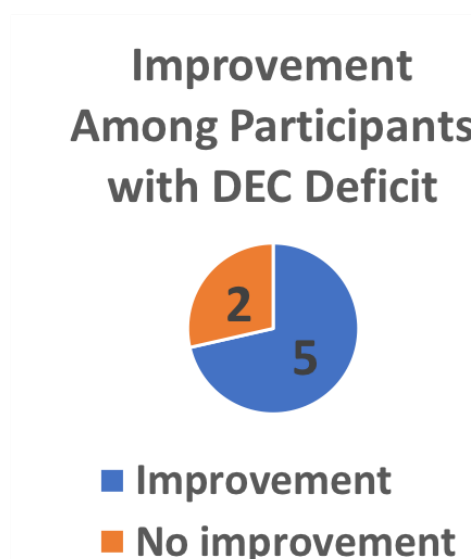
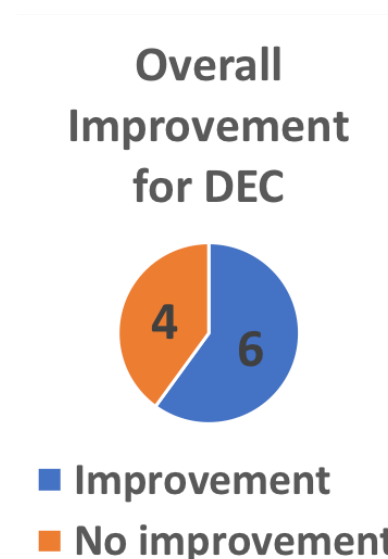
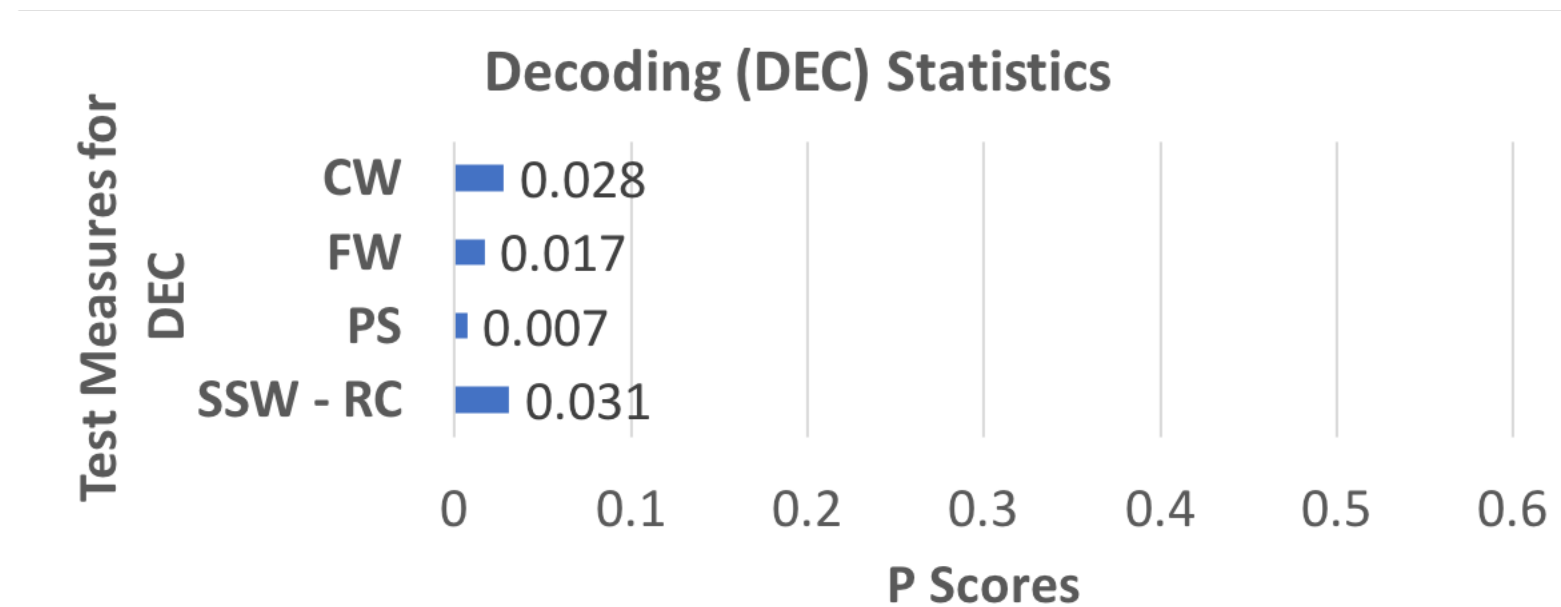
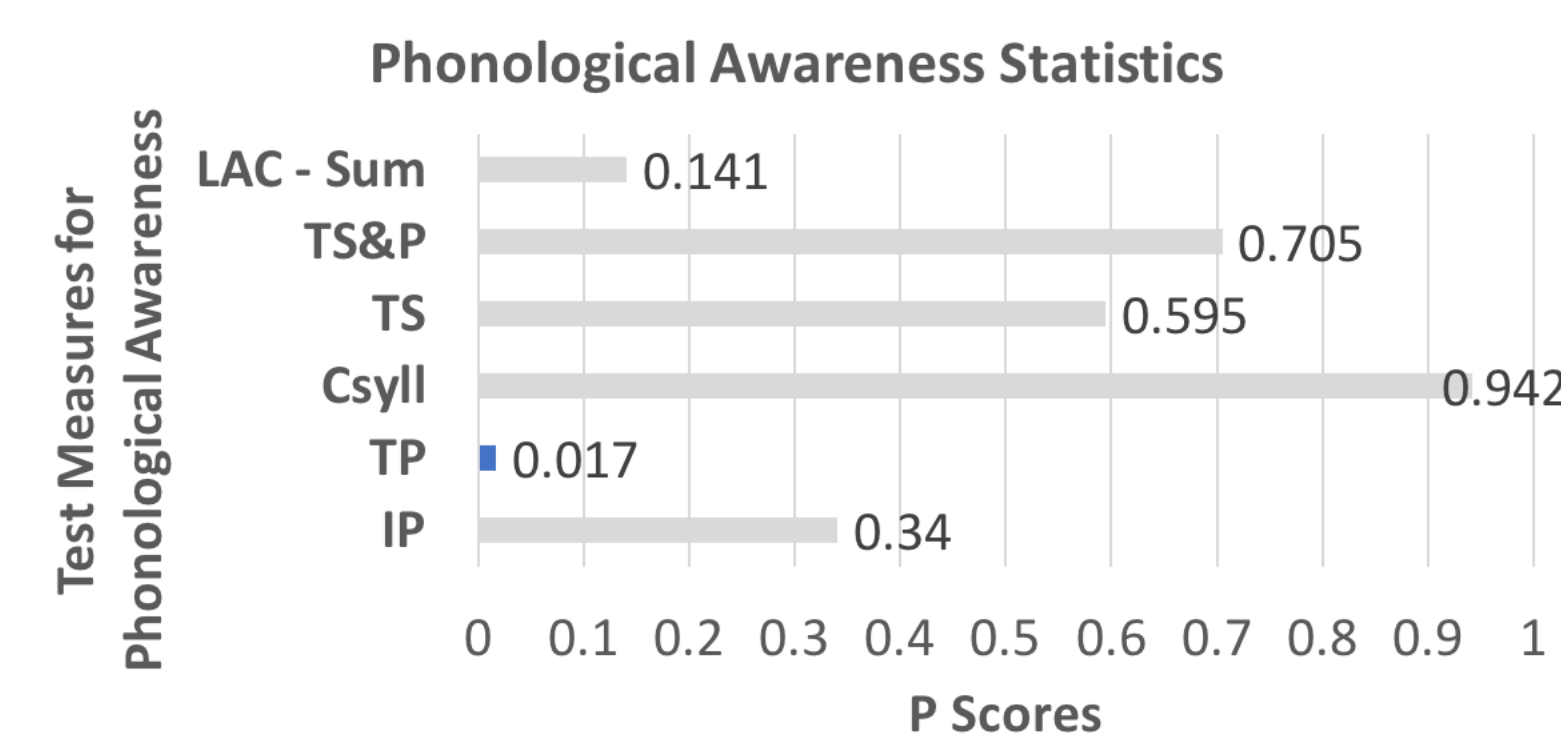
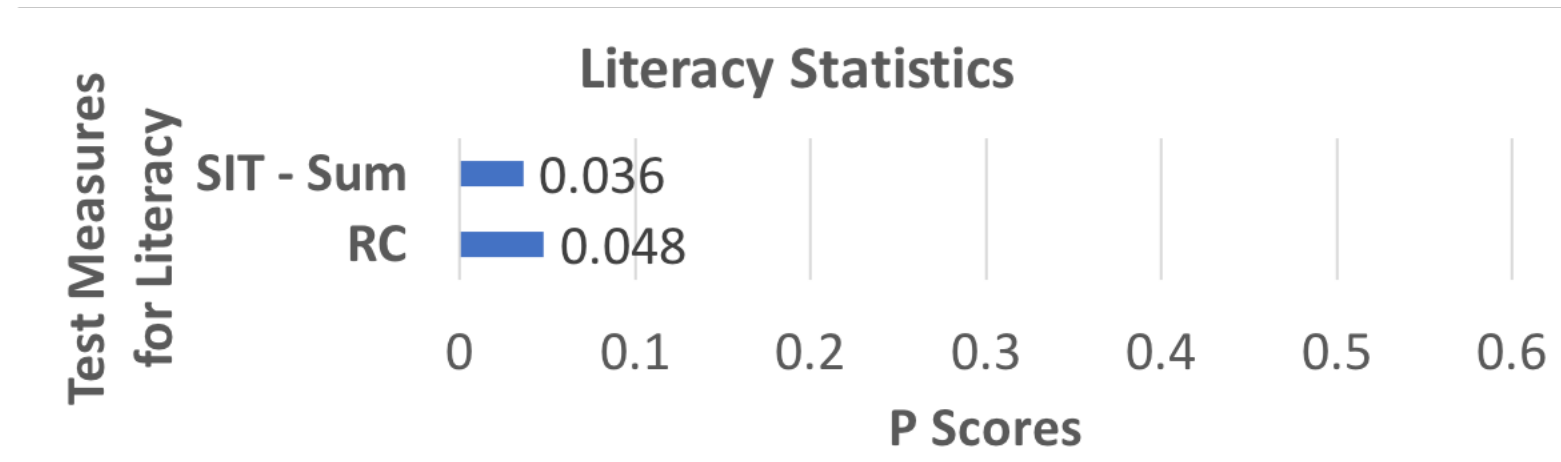
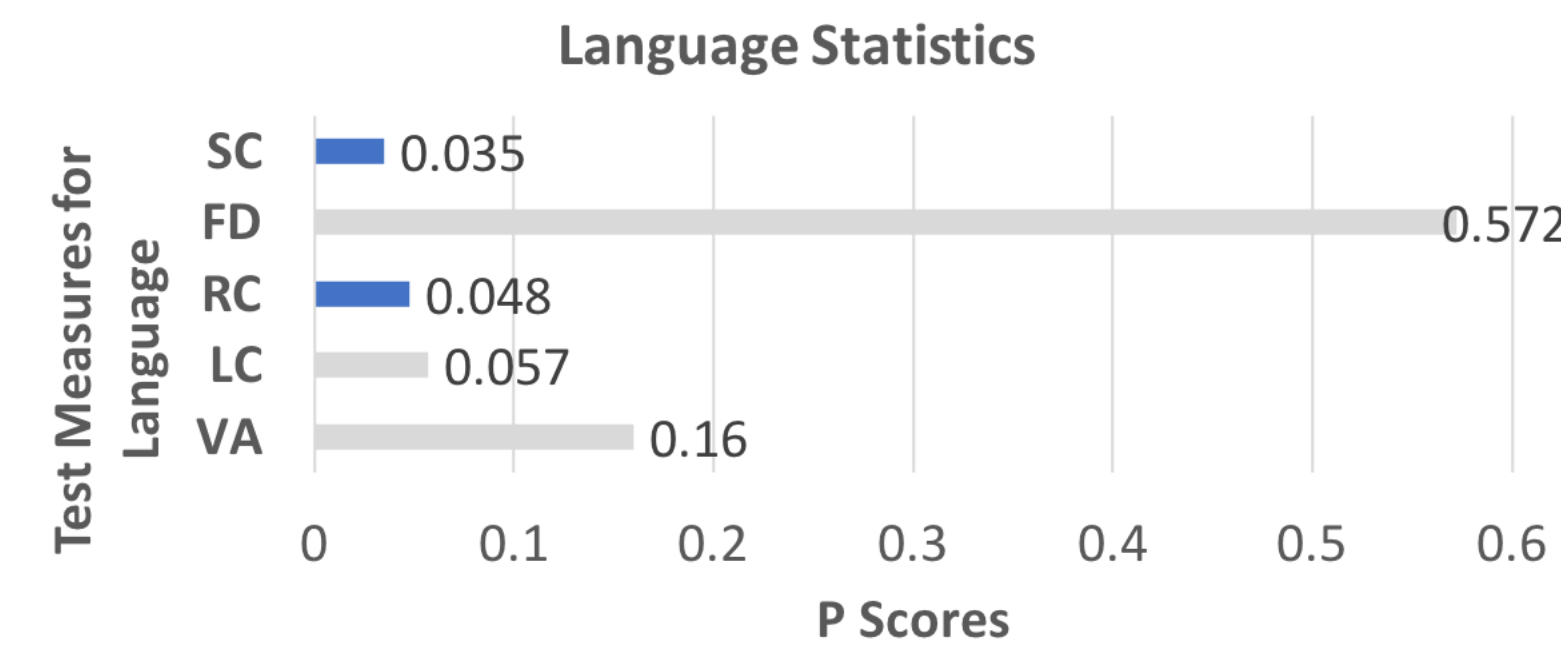
- The study was conducted as a pre/post-test intervention with all tests administered before and after the summer camp program.
- Ten research participants were enrolled in the program through clinical referral and community advertisement.
- Tests administered include:
 - Lindamood Auditory Conceptualization Test, 3rd Edition (LAC-3)
 - Test of Integrated Language & Literacy Skills (TILLS)
 - Symbol Imagery Test (SIT)
 - Dr. Regal's Central Auditory Processing Test Battery
- During the three-week program, participants rotated either in pre-selected pairs or individually through a series of eight stations for twenty-minute therapy sessions, for a total of three hours of therapy daily.
- Therapy was administered by graduate students under the supervision of licensed clinicians.
- Statistical data were derived using a Wilcoxon Signed Ranks Test.

RESULTS

P Scores of 0.05 and below are statistically significant and are represented in blue.

Statistically significant improvement was seen in:

- Social Communication
- Reading Comprehension
- Both Literacy measures
- LAC- Tracking Phonemes
- Right ear
 - Speech-in-Noise
 - Right Competing – SSW
- Left ear
 - Left Competing – SSW
- All Decoding measures



Key

AFG	SCAN – Auditory Figure Ground
CS	SCAN – Competing Sentences
Csyll	LAC – Counting Syllables
CW	SCAN – Competing Words
DD – L	Dichotic Digits – Left Ear
DD – R	Dichotic Digits – Right Ear
FD	TILLS – Following Directions
FW	SCAN – Filtered Words
IP	LAC – Isolated Phonemes
LAC – Sum	LAC – Sum of Standard Scores
LC	TILLS – Listening Comprehension
NF	TAPS – Auditory Memory – Numbers Forward
NR	TAPS – Auditory Memory – Numbers Reversed
PS	Phonemic Synthesis Test
RC	TILLS – Reading Comprehension
SC	TILLS – Social Communication
SIT – Sum	SIT – Sum of Standard Scores
SM	TAPS – Auditory Memory – Sentence Memory
SN – L	Speech-in-Noise – Left Ear
SN – R	Speech-in-Noise – Right Ear
SSW – LC	SSW Test – Left Competing
SSW – RC	SSW Test – Right Competing
TP	LAC – Tracking Phonemes
TS	LAC – Tracking Syllables
TS&P	LAC – Tracking Syllables and Phonemes
VA	TILLS – Vocabulary Awareness
WM	TAPS – Auditory Memory – Word Memory

CONCLUSIONS

It was determined that this camp was effective in four areas:

- Literacy
- Decoding (the ability to take separate sounds and put them together to make something meaningful)
- Right ear auditory processing ability
- Social Communication

The programs utilized that provide direct intervention in these areas are LiPS®, Visualizing and Verbalizing®, Differential Processing, and Color My Conversation®. It is recommended that the camp continue to use these programs and increase their length of sessions.

Significant improvement was not observed in the following areas: auditory memory, auditory organization, phonological awareness, and following directions. Retrospective analysis indicates little to no direct intervention in auditory memory and organization. It is proposed that the level of therapy in following directions and phonological awareness was not systematic and skill-appropriate, and should be lowered to a more rudimentary level.

Recommendations for further research include:

- Protocols for pairing participants
- Developing a screening process to better match the needs of the participants to the therapy programs utilized

SELECTED REFERENCES

IRB protocol # 17-080

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