



Analyzing IGDI Communication Levels in At-Risk Infants

Before and After Parent-Coaching Treatment

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INTRODUCTION

- Autism Spectrum Disorder is a neurodevelopmental disability affecting an individual's social, communication, and behavioral abilities. (CDC)
- Not usually diagnosed until 3 or 4 years old, very little research in language and communication of infants as predictors of autism
- Infants with autism less likely than typical infants to utilize gestures that direct another person's attention to oneself, or direct another person's attention to an event, object or person. (Iverson, 2017)
- Gesture is a good indicator of a child's level in the language-learning process (Watson, 2013)
- Social communication delays are present by 12 months, more improved screening measures need to be created to help identify delays as autism specific (Tager-Flusberg)

OBJECTIVE

The objective of this study is separated into two goals.

- To gain an understanding of effectiveness of parent coaching and early intervention on communication levels of at-risk infants
- To promote discussion about assessment and early intervention for infants

METHODS

- Participants:** 11 infants, between 6 to 13 months of age during initial intake assessment
- Infant behavior coded from approximately 6 minute video segments of Pre-Treatment and Post-Treatment Telehealth AOSI and IGDI Communication assessments
- Coding was reliability tested
- Behavior coded:
 - Vocalization
 - Single Word
 - Multiple Word
 - Gestures
 - Deictic
 - Conventional
 - Representational
- Gestures were coded only if they displayed communication with their parent

RESULTS

Visit:	Pre-TX		Treatment												Post-TX					
	Assessment 1a	Assessment 1b	baseline			topic 1			topic 2			topic 3			topic 4			Assessment 2a	Assessment 2b	Assessment 3a
			tx 1	tx 2	tx 3	tx 4	tx 5	tx 6	tx 7	tx 8	tx 9	tx 10	tx 11	tx 12						

Figure 1: Telebaby Study Structure: Important to note that Pre-Treatment (Pre-Tx) Assessment were in two parts 1a and 1b, as well as Post-Treatment (Post-Tx) into 2a and 2b

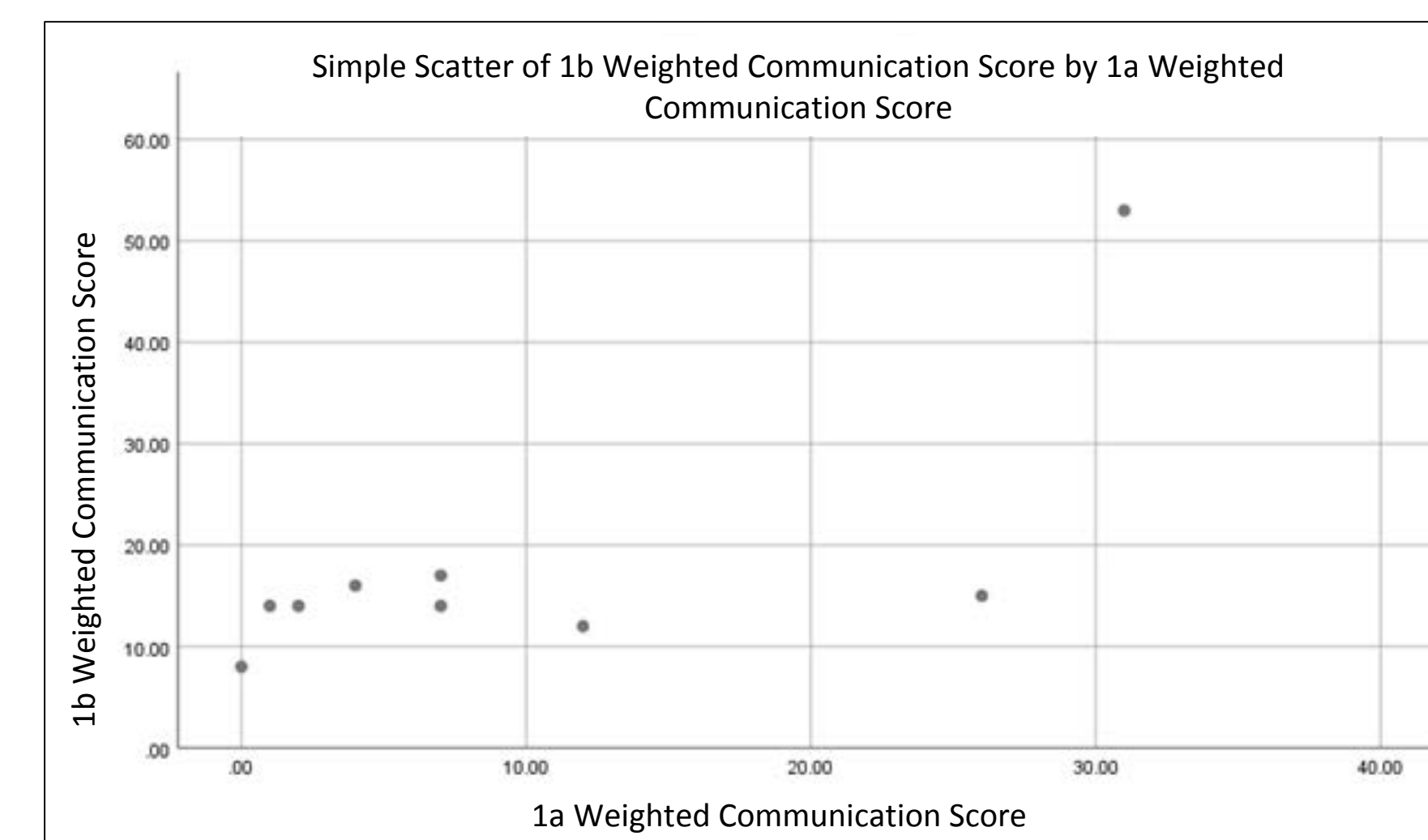


Figure 2: Scatter Plot of IGDI Communication Mean from 1a & 1b Pre-Treatment Assessment

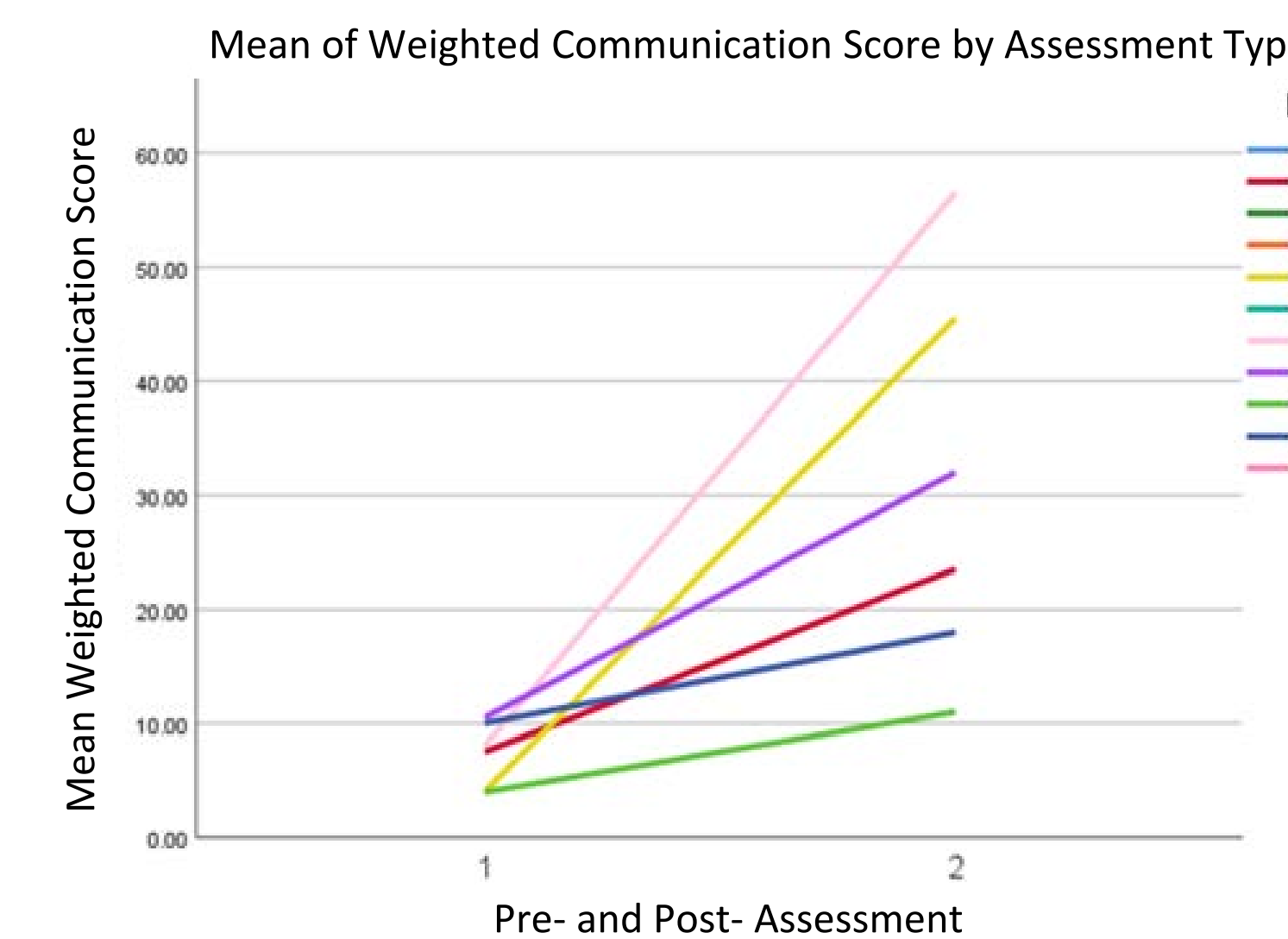


Figure 3: Graph Data of IGDI Communication Means in both Pre-Treatment Assessment, and Post-Treatment assessment: WC Score for 1a & 1b were averaged, WC Score for 2a & 2b were averaged to present this data

	N	Minimum	Maximum	Standard Deviation
Mean IGDI Communication Pre-Treatment	11	4.00	42.00	12.37226
Mean IGDI Communication Post-Treatment	6	11.00	56.50	17.24360

Figure 4: Descriptive Statistics of IGDI Communication Pre-Treatment and Post-Treatment

SUMMARY

- Results show a comparable difference between Pre-Treatment and Post-Treatment IGDI Communication measures
- Infants had significantly higher communication levels by the second assessment ($p < 0.05$)
- Upward trend of communication can indicate improvement based off of treatment, and can be used as a basis for further studies within the area of infant communication and parent-coaching
- Although results show a promising correlation between parent-coaching treatment and IGDI communication levels, it will take 12+ months before any acknowledgement of correlation between this infant assessment and a future diagnosis of ASD or any developmental delay
- Demographic data like SES and Race/Ethnicity is not presented

DISCUSSION/ PUBLIC HEALTH IMPLICATIONS

- The findings for this study provides leverage for further research into indicators of developmental delay at the infant age
- This research also provides promising results of early intervention at a younger age than which it is currently implemented
- This early intervention can take the form of parent-coaching which could include providing the infant with a more enriching communicative environment as suggested in previous studies (Iverson, 2017)
- It should be noted that this study was conducted all through Telehealth communication, promoting the idea that effective developmental screening and parent-coaching treatment can be provided through this form of communication
- Utilization of Telehealth communication, could help to eradicate significant health disparities of ASD diagnosis found within communities due to lack of access

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