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# Engagement Differences for 2-year-olds Identified as Late Talkers

Brianna Hendrickson, B.S. and Shari Deveney, Ph.D. CCC-SLP

## Background

### Late Talkers (LTs):

- Two to three year olds with  $\leq 50$  words; no/few 2-word phrases
- Not secondary to other conditions (e.g., Autism Spectrum Disorder)
- Approximately 10-15% of 2-year-olds (Rescorla & Dale, 2013)

### Two Subgroups:

- Expressive-only (EO)* = Receptively intact
- Expressive-Receptive (ER)* = Receptive language delay present

### Engagement:

- Engagement:** Control attention to explore & interact with social partners; follow attentional state of others; maintain attention to a social context through onlooking, with an interactive partner, or object/toy (Bakeman & Adamson, 1984)
- Unengagement:** Uninvolved with specific social partner, object, or activity (Bakeman & Adamson, 1984)
- Positive associations between early language development & attention/engagement to language-related activities (Adamson, Bakeman, & Deckner, 2004; Smith, Adamson, & Bakeman, 1988)

### Engagement and Late Talking:

- Typically developing peers compared with EO LTs:**
  - TD toddlers exhibited more engagement than late talkers at 18 months, but not at 30 months
  - Engagement focused on objects rather than people may be sign of development immaturity (Adamson et al., 2004)
  - When LTs (26 and 36 months) compared with 5-month younger TDs, no significant attentional differences found (Vuksanovic & Bjekic, 2013)
- EO LTs compared with ER LTs:**
  - To date, no researchers have investigated potential differences in engagement between subgroups of late talkers.
  - Role of comprehension:** Potential association between receptive language delay & engagement

### Aim of current study

- Investigate connection between engagement in a language-rich activity & presence of early language delay

### Research Questions

- When participating in a language-rich activity, is there a difference in overall engagement & unengagement between typically developing 2-year-olds, EO LTs, & ER LTs?
- When engaged in a language-rich activity, are there differences in the types of engagement behaviors observed (e.g., engagement with objects, engagement with people, onlooking) between typically developing 2-year-olds, EO LTs, & ER LTs?

Descriptor	TD 1	TD 2	TD 3	EO 1	EO 2	EO 3	EO 4	EO 5	ER 1	ER 2	ER 3	ER 4
Age	2;1	2;4	2;4	2;1	2;3	2;3	2;1	2;7	2;0	2;1	2;7	2;9
Gender	M	M	M	F	M	M	M	M	M	F	M	F
Pre MLU	1.49	1.82	1.76	1.02	1.22	1.08	1.64	1.38	1.00	1.36	1.13	1.57
Post MLU	1.94	2.33	1.66	1.06	1.49	1.26	1.75	1.76	1.00	1.33	1.14	2.51
PLS Exp.												
Raw	31	34	28	24	25	25	27	28	20	22	24	31
SS	103	113	94	82	85	85	85	74	71	77	75	79
%ile	58 <sup>th</sup>	81 <sup>st</sup>	34 <sup>th</sup>	12 <sup>th</sup>	16 <sup>th</sup>	16 <sup>th</sup>	16 <sup>th</sup>	4 <sup>th</sup>	3 <sup>rd</sup>	6 <sup>th</sup>	5 <sup>th</sup>	8 <sup>th</sup>
PLS Aud.												
Raw	26	33	31	28	28	31	29	39	23	19	25	22
SS	89	109	103	95	95	103	94	110	79	66	73	59
%ile	23 <sup>rd</sup>	73 <sup>rd</sup>	58 <sup>th</sup>	37 <sup>th</sup>	37 <sup>th</sup>	58 <sup>th</sup>	34 <sup>th</sup>	75 <sup>th</sup>	8 <sup>th</sup>	1 <sup>st</sup>	4 <sup>th</sup>	1 <sup>st</sup>
CDI/CDI III												
Raw	235	516	290	47	36	62	50	275/5	3	20	31	215/12
%ile	35 <sup>th</sup>	75 <sup>th</sup>	25 <sup>th</sup>	<5 <sup>th</sup>	<5 <sup>th</sup>	<5 <sup>th</sup>	<10 <sup>th</sup>	<10 <sup>th</sup>	<5 <sup>th</sup>	<5 <sup>th</sup>	<5 <sup>th</sup>	<5 <sup>th</sup>

## Method

- Participants (n = 12); Ages 2;0 months to 2;9 months (M: 2;3; SD: 2.906); TD (n = 3); EO LT (n = 5); ER LT (n = 4)
- Combined archival data set (DeVeney, 2012; DeVeney, Cress, & Reid, 2014); engagement coded in 15-second increments for all experimental sessions including baseline, intervention, & follow up sessions (M = 378.13 minutes; SD = 11.89)
- Video-recorded & transcribed independently by faculty advisor, undergraduate student author, & four additional undergraduate student reliability coders
- Types of Engagement (adapted from Adamson et al., 2004)
  - Unengaged:** Uninvolved with any specific people, objects, or symbols
  - Onlooking:** Watching researcher or parent activity, but not taking part
  - Person Engaged:** Involved solely with researcher/parent as social partner
  - Object Engaged:** Playing with objects alone (e.g., toys, picture symbols)
- Inter-Rater Reliability: M = 88% Agreement; Range = 83%- 95% Agreement

## Results

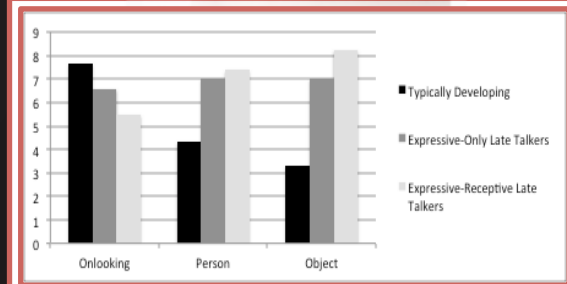
- Kruskal-Wallis H test: Nonparametric; selected to compare k independent groups

**Engaged vs. Unengaged:** Not significant, ( $X^2(2) = 1.450, p = .484$ ).

- However, distributions not similar; increased from EO LTs (mean rank = 7.80), to ER LTs (mean rank = 6.25), to TD peers (mean rank = 4.67)

**Differences in Type of Engagement:** Not significant

- Onlooking:** ( $X^2(2) = .626, p = .731$ ); however, decreased from TD group (mean rank = 7.67) to EO LTs (mean rank = 6.60), to ER LTs (mean rank = 5.50)
- Person:** ( $X^2(2) = 1.472, p = .479$ ); however, decreased from TD group (mean rank = 4.33) to ER LT group (mean rank = 7.00), to EO LTs (mean rank = 7.40)
- Object:** ( $X^2(2) = 3.364, p = .186$ ); however, increased from TD group (mean rank = 3.33), to EO LTs (mean rank = 7.00), to ER LTs (mean rank = 8.25)



## Conclusions

Consistent with previous findings for TD & EO LT groups:

- No significant engagement differences
  - No significant differences in type of engagement (2-year-olds)
- Engagement differences not likely to explain differences across language ability proficiencies; however, ER LTs demonstrated more object engagement than other two participant groups

## Clinical Significance

- Children with different language proficiencies may present different clinical profiles, but all have potential to be actively engaged in language-rich therapeutic activities
- Unlikely that ER LTs will be less engaged in therapeutic activities than EO peers, but may pay more attention to objects

## Limitations and Future Directions

- Small n; allow results of one participant to potentially skew data; Replication of the study with a larger group comparison
- Extend data coding into nuanced Adamson et al. (2004) categories

## Selected References

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