

Harmonizing Neurodevelopment: Effects of Early Musical Experiences on Language and Cognitive Development in Infants

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BACKGROUND

- Early music exposure influences neurodevelopment.
- With increasing media use in infancy, understanding how the amount and type of music exposure relate to early cognitive and language development is critical.

PURPOSE

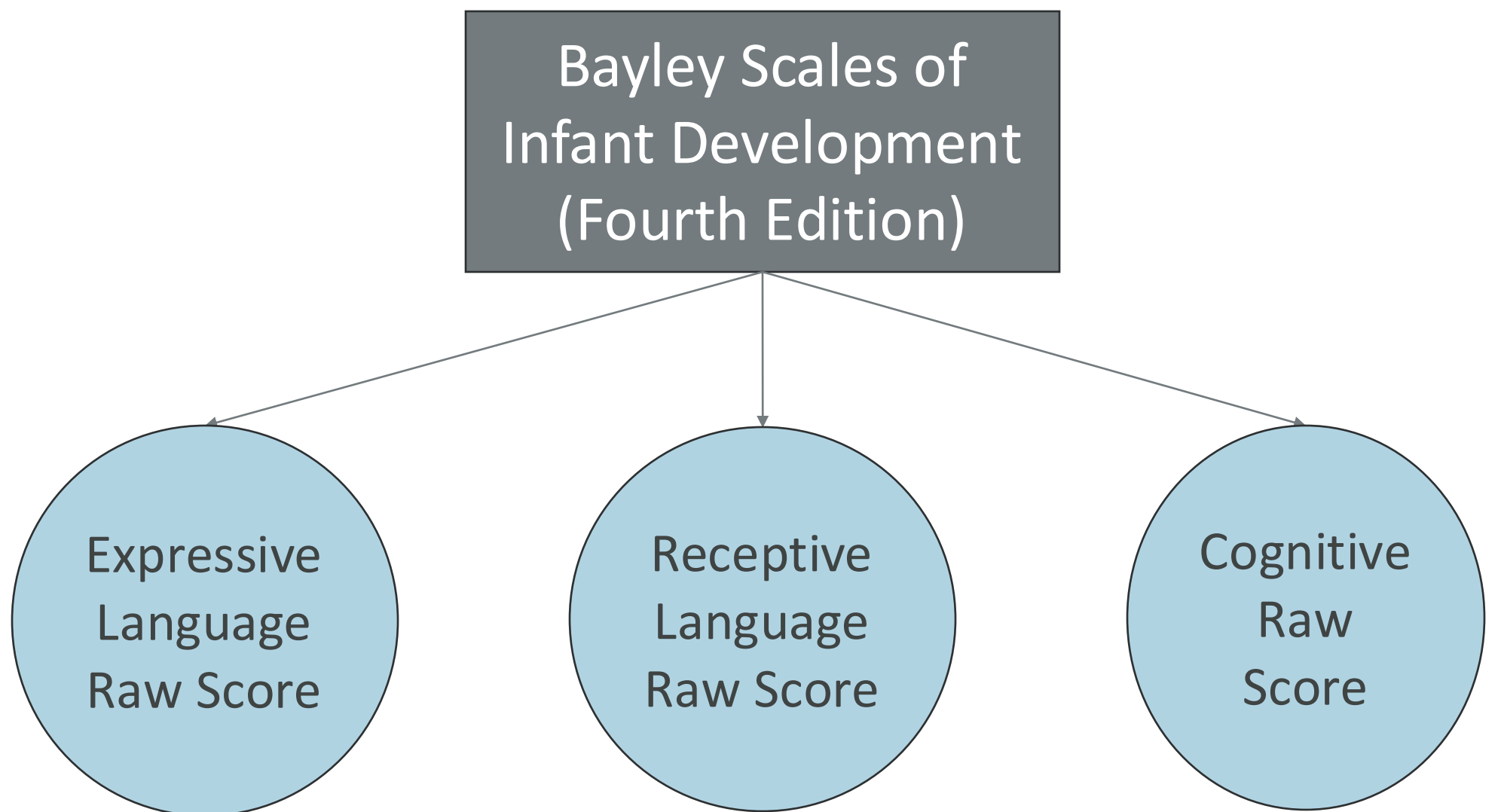
This study examined music exposure and type and associations with neurodevelopmental outcomes

METHODS

Participants

Sample	N = 29 typically developing infants
Age Range	4-29 months
Sex	59 % Male

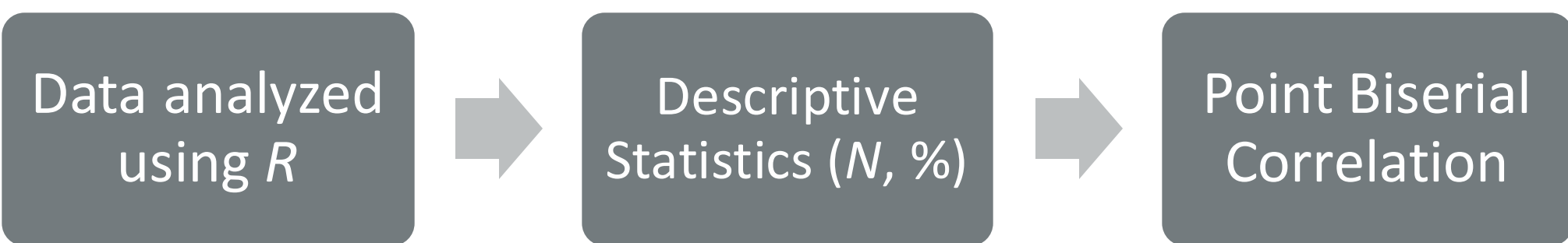
Measures



Parent Report of Music Exposure Amount Type:

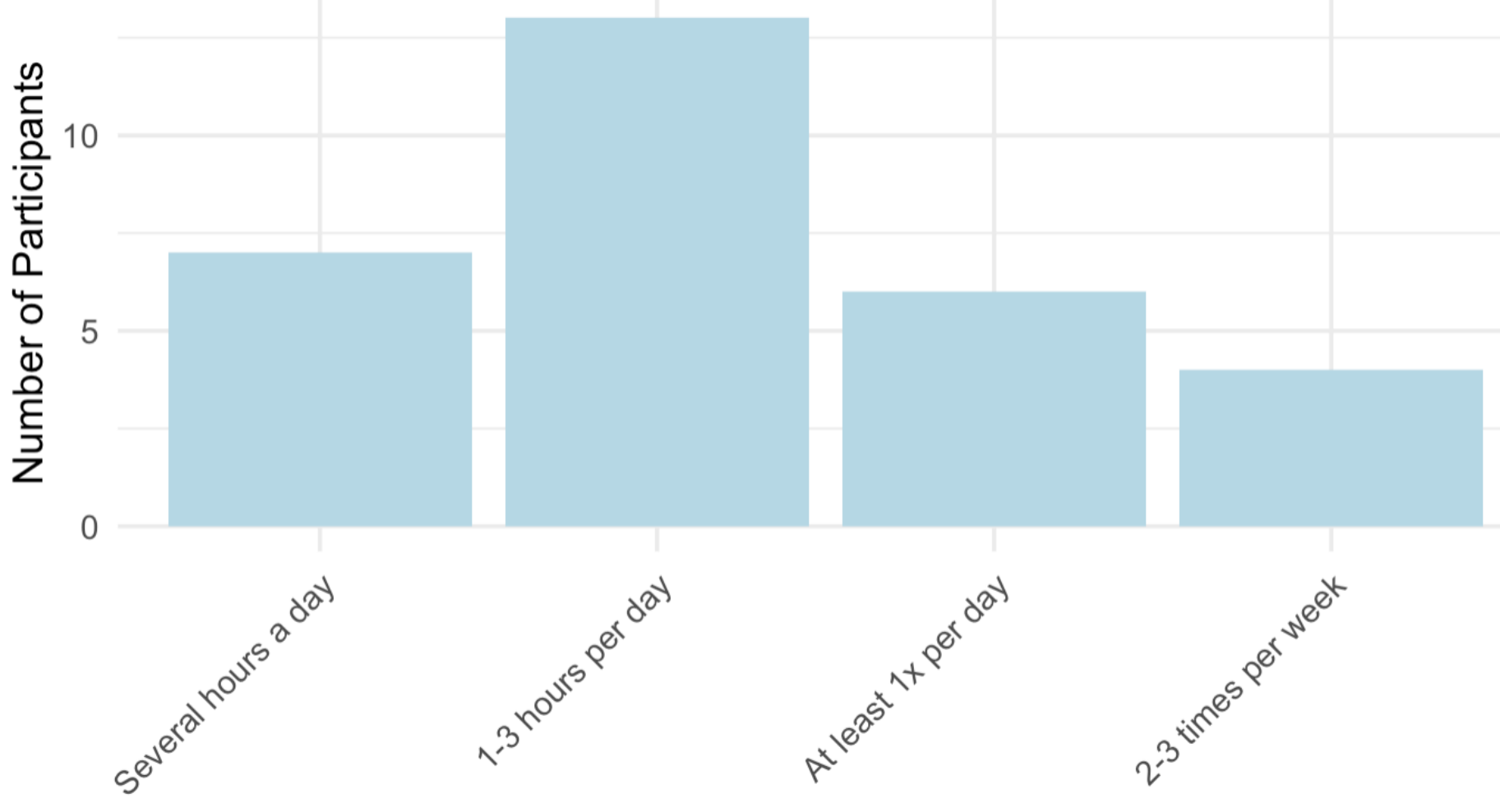
- 2-3x per week
 - 1x per day
 - 1-3 hours per day
 - Several hours per day
- Attends music class
 - Watches TV or YouTube videos with music
 - Listens to music with words
 - Listens to music without words
 - Parental Singing

Data Analysis

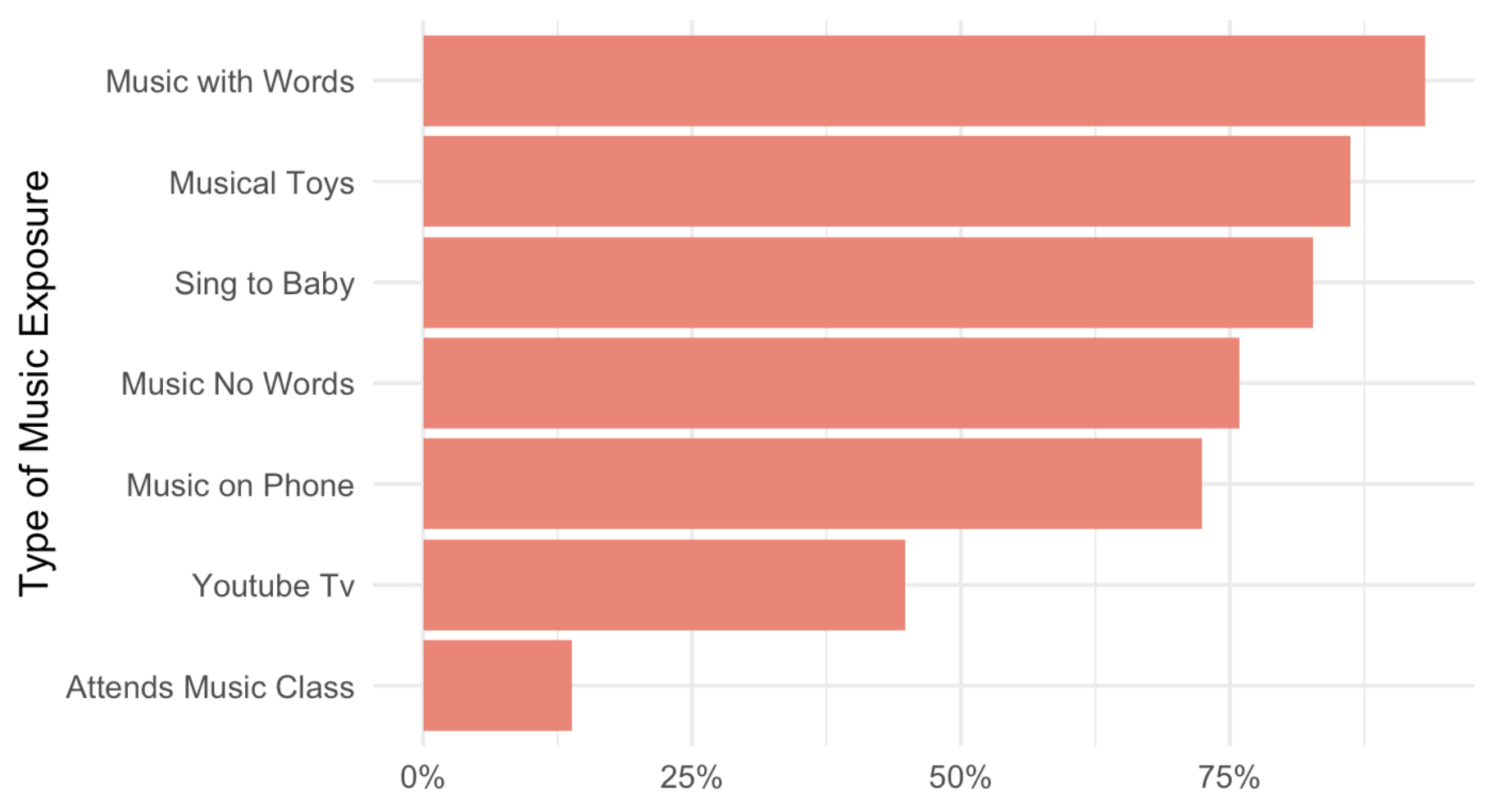


RESULTS

Frequency of Music Exposure Amount



Frequency of Music Exposure Type



Correlations of Bayley Scores Based on Music Exposure Type

	Cognitive	Expressive Language	Receptive Language
Parent sings to baby	-0.06	0.13	0.03
Plays music on phone	-0.32	-0.25	-0.08
Watches TV or YouTube	0.49**	0.43*	0.23
Attends music class	0.48**	0.34	0.62**
Listens to music with no words	-0.22	0.01	0.01
Listens to music with words	-0.47*	-0.10	-0.24
Has musical toys	-0.16	-0.23	-0.04

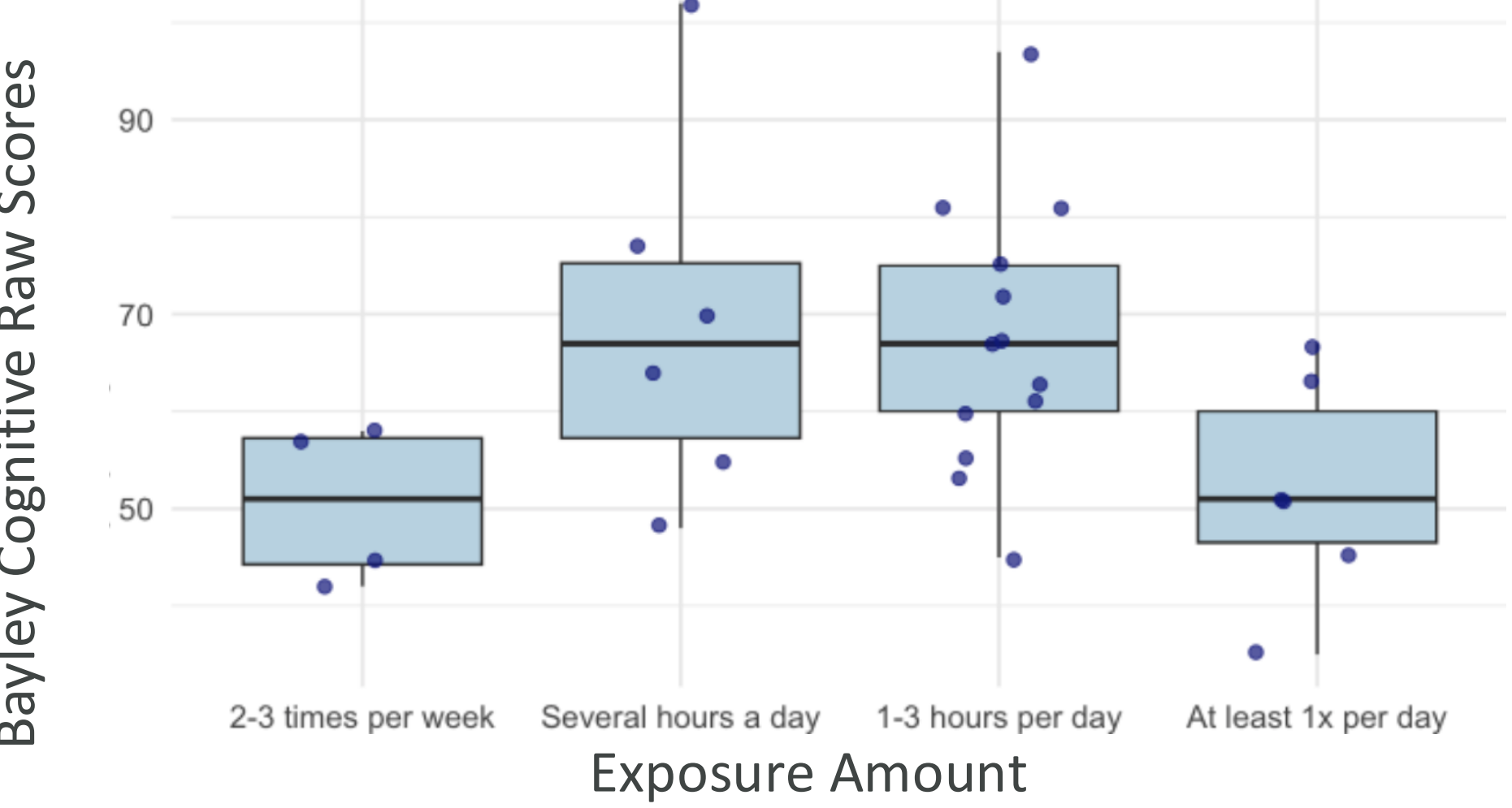
*indicates significant finding ($p < 0.05$)

** indicates significant finding ($p < 0.01$)

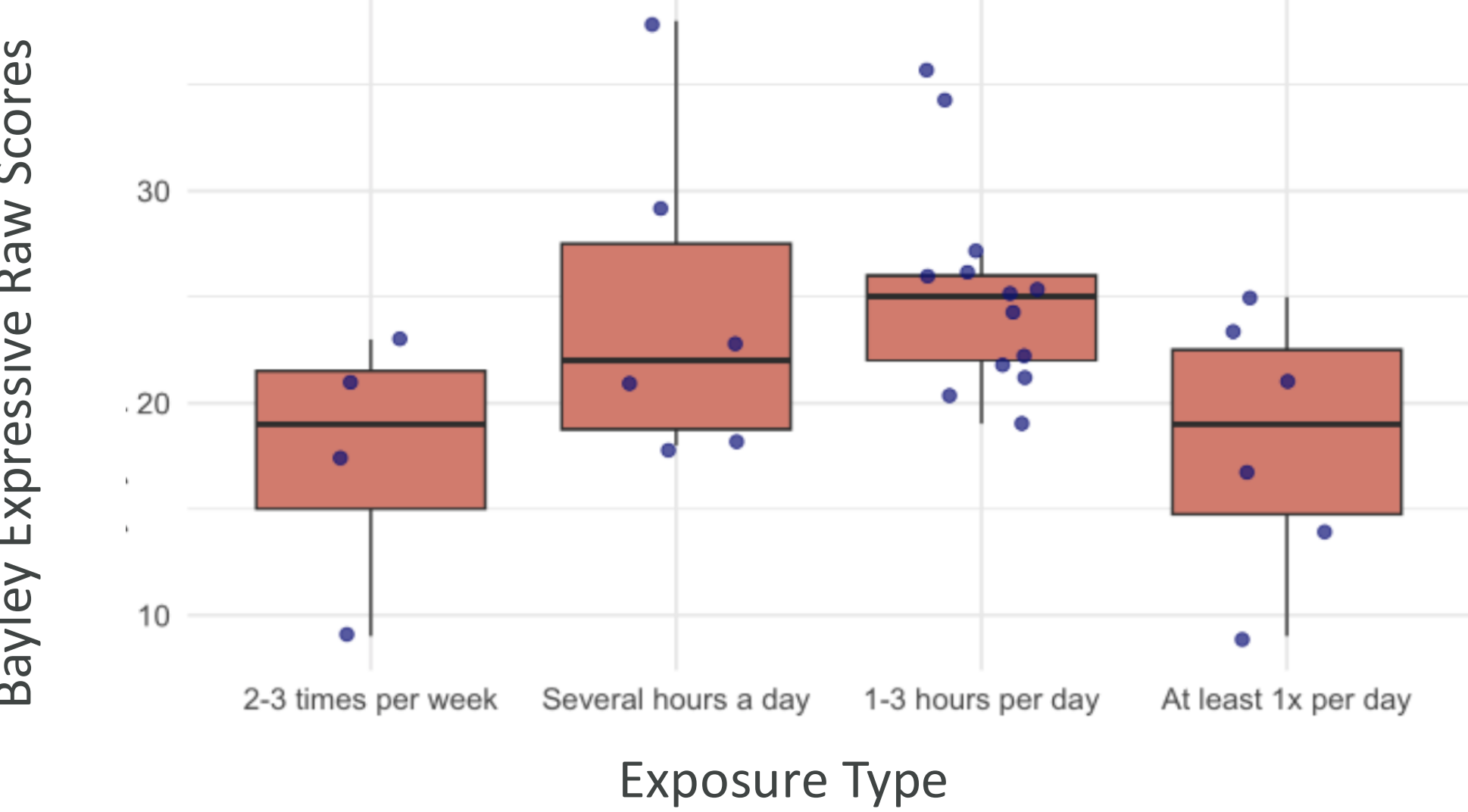
Correlations of Bayley Scores Based on Music Exposure Amount

	Cognitive	Expressive Language	Receptive Language
2-3 times per week (r)	-0.31	-0.31	-0.34
1 time per day (r)	-0.34	-0.34	-0.23
1-3 hours per day (r)	0.30	0.37	0.25
Several hours per day (r)	0.23	0.15	0.21

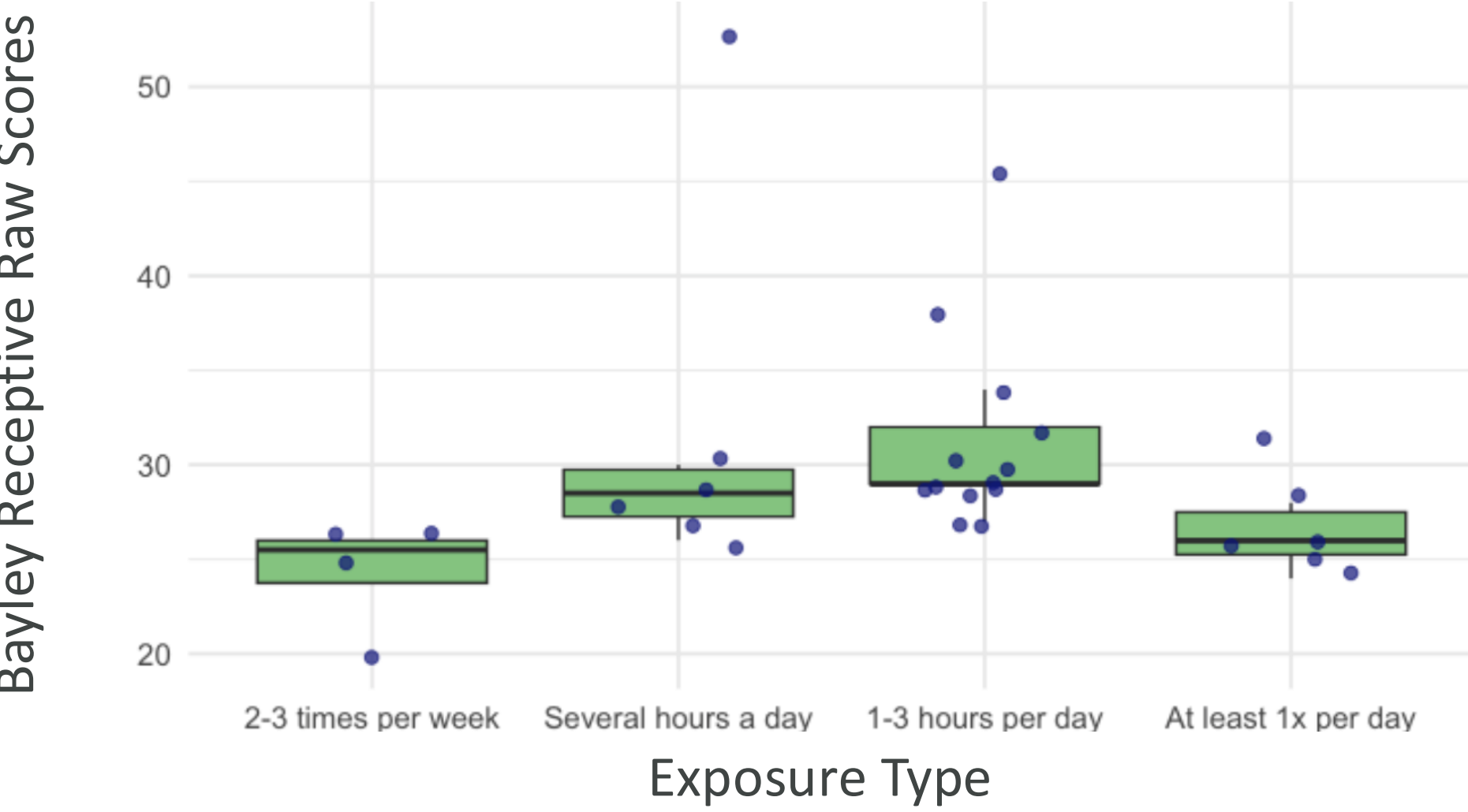
Bayley Cognitive Raw Scores by Music Exposure Amount



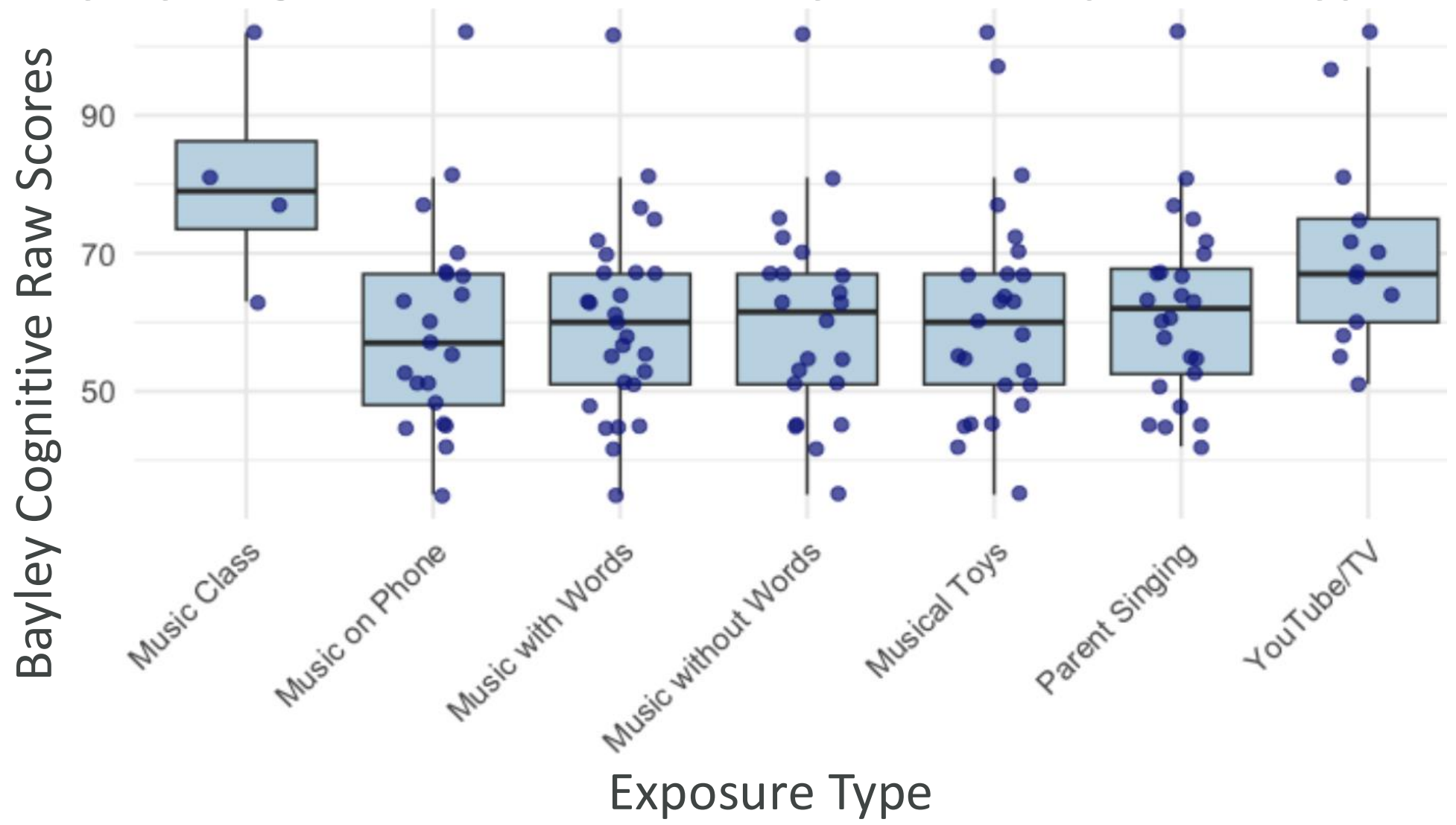
Bayley Expressive Raw Scores by Music Exposure Amount



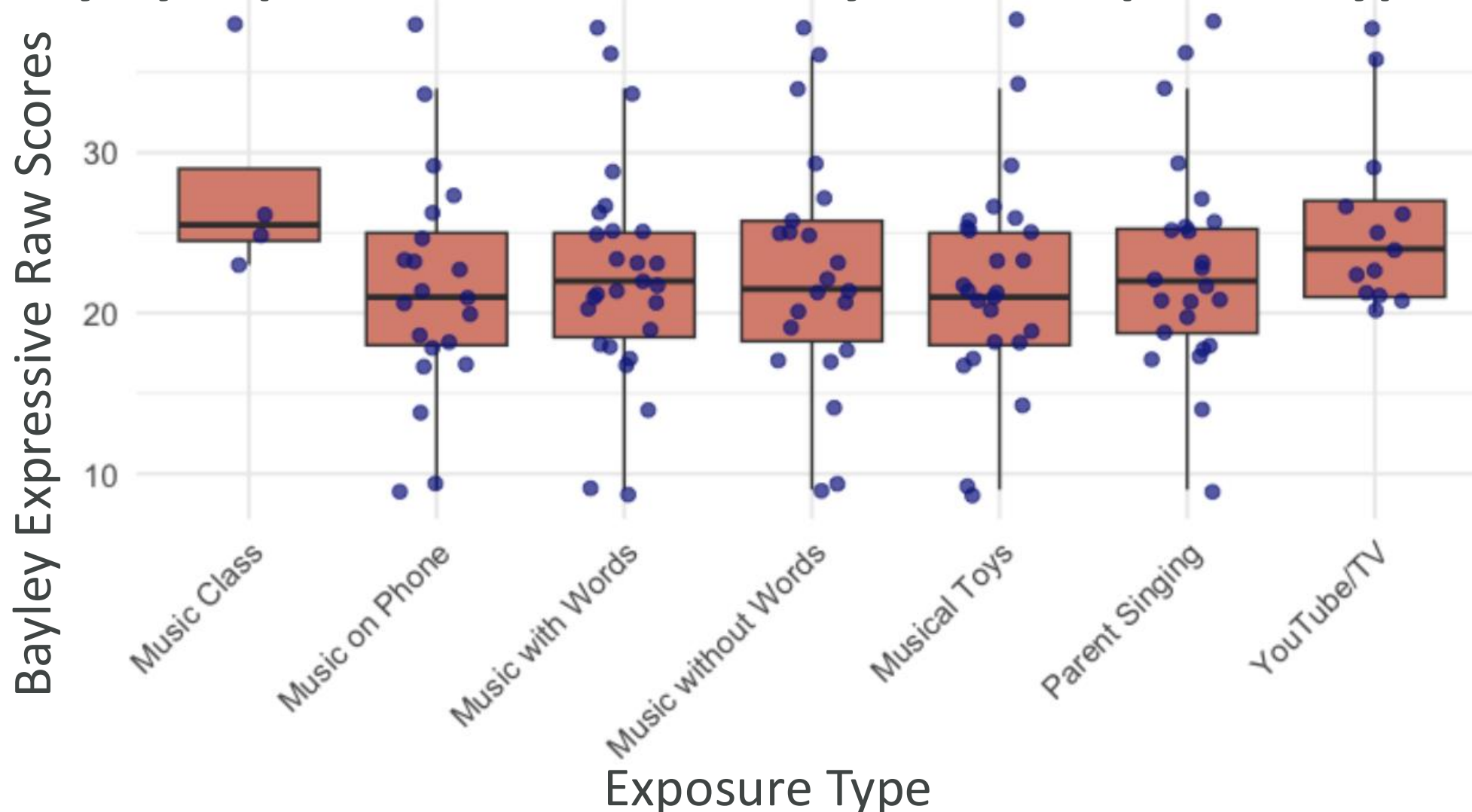
Bayley Receptive Raw Scores by Music Exposure Amount



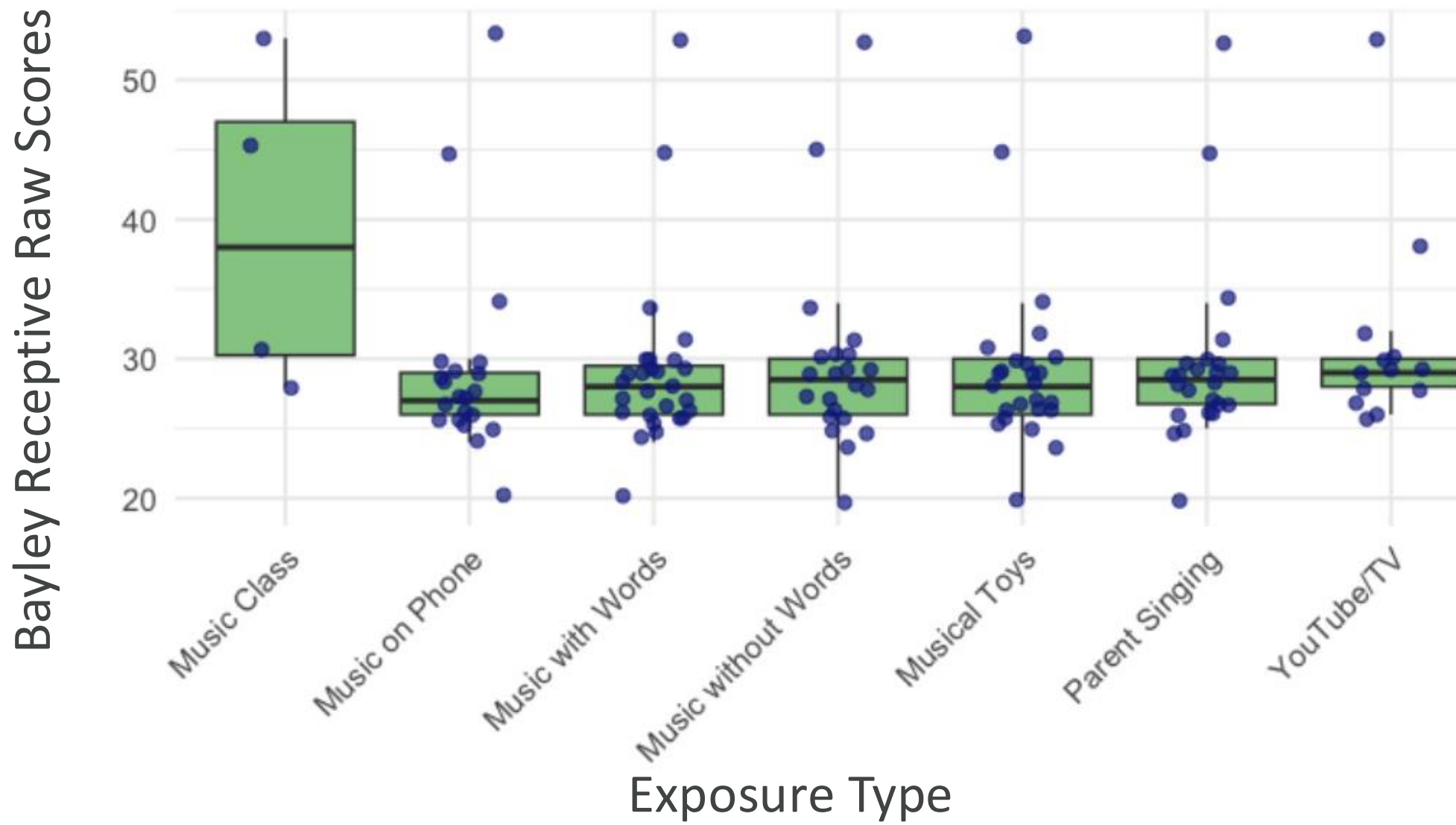
Bayley Cognitive Raw Scores by Music Exposure Type



Bayley Expressive Raw Scores by Music Exposure Type



Bayley Receptive Raw Scores by Music Exposure Type



IMPLICATIONS

- Type of music exposure may contribute to early neurodevelopment.
- Greatest effects seen for receptive language outcomes

LIMITATIONS, FUTURE DIRECTIONS

- Limitations
 - Small sample size
 - Potential Bias in Parent report
- Future Directions
 - Larger sample with representation from a broader age range

REFERENCES

