Supplemental Online Content

This supplemental material has been provided by the authors to give readers additional information about their work.

eTable. Count of the Top 10 Most Important Variables Broken Down by Model Outcome, Utterance Type and Acoustic Variable Type

	Total	Energy	Fundamental Frequency	Formants	Utterance	Voicing	Fricatives	Signal Quality
CBCL								
Total Problem Behavior (>63) - long	10	3	1	1	2	1	1	1
Total Problem Behavior (>63) - short	10	1	0	3	0	1	0	5
Externalizing Problem Behavior (>63) - long	10	3	3	1	1	1	1	0
Externalizing Problem Behavior (>63) - short	10	2	0	3	0	1	0	4
Internalizing Problem Behavior (>63) - long	10	3	1	3	0	1	1	1
Internalizing Problem Behavior (>63) - short	10	1	1	4	0	0	0	4
Bayley-III								
Language Composite (<85) - long	10	6	1	0	2	0	0	1
Language Composite (<85) - short	10	3	2	3	0	0	0	2
Cognitive Composite (<85) - long	10	5	2	2	0	0	0	1
Cognitive Composite (<85) - short	10	3	3	1	0	0	0	3
Motor Composite (<85) - long	10	3	3	1	1	1	1	0
Motor Composite (<85) - short	10	3	0	3	0	0	0	4
M-CHAT								
Positive Autism Screen - long	10	5	1	1	1	1	0	1
Positive Autism Screen - short	10	3	0	4	1	1	0	1
Total	140	44	18	30	8	8	4	28

eFigure 1. Feature Importance Estimates From Models Predicting CBCL Composite Scores Using Cry

Acoustic Characteristics (Only the Top 10 Features are Shown)
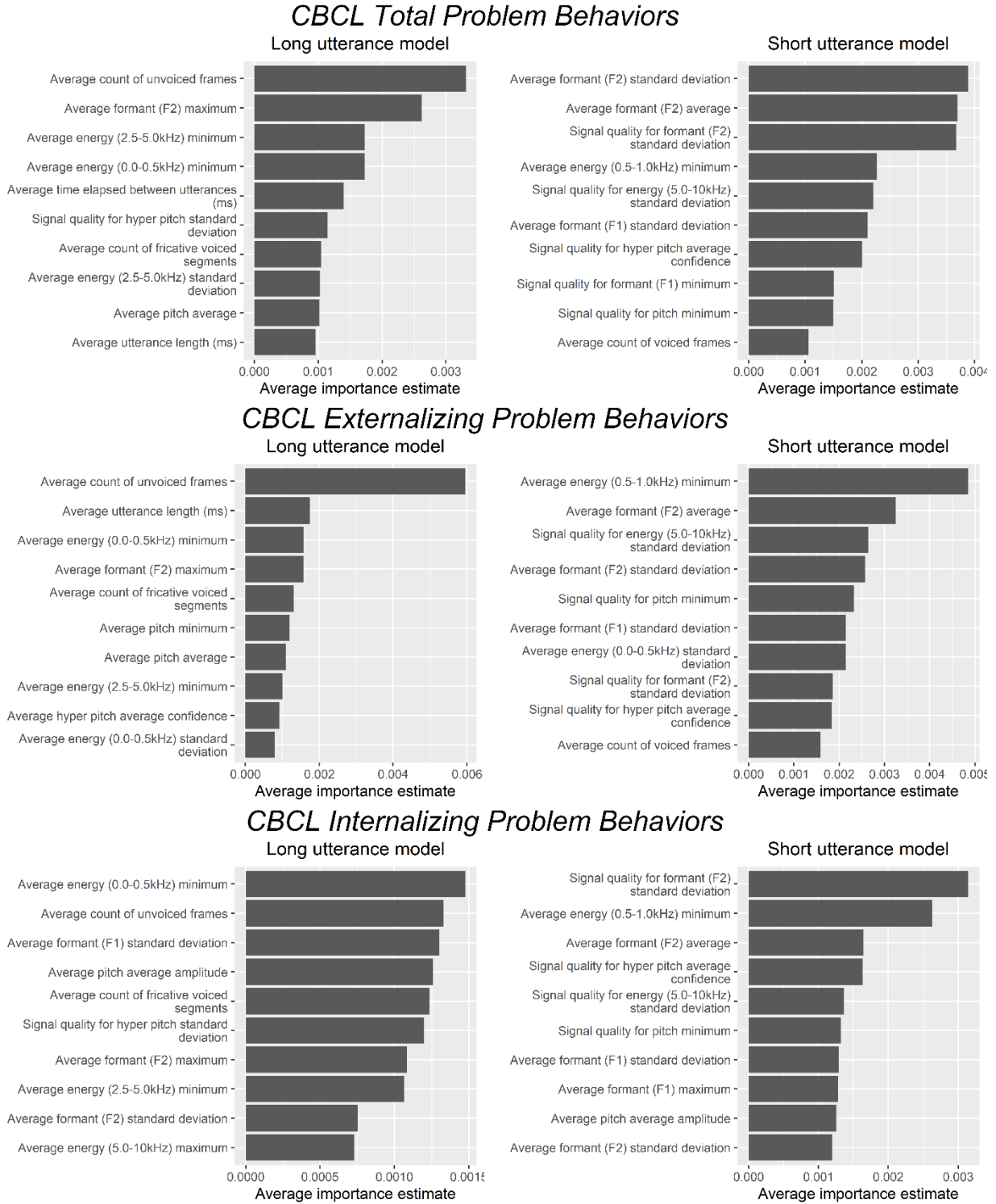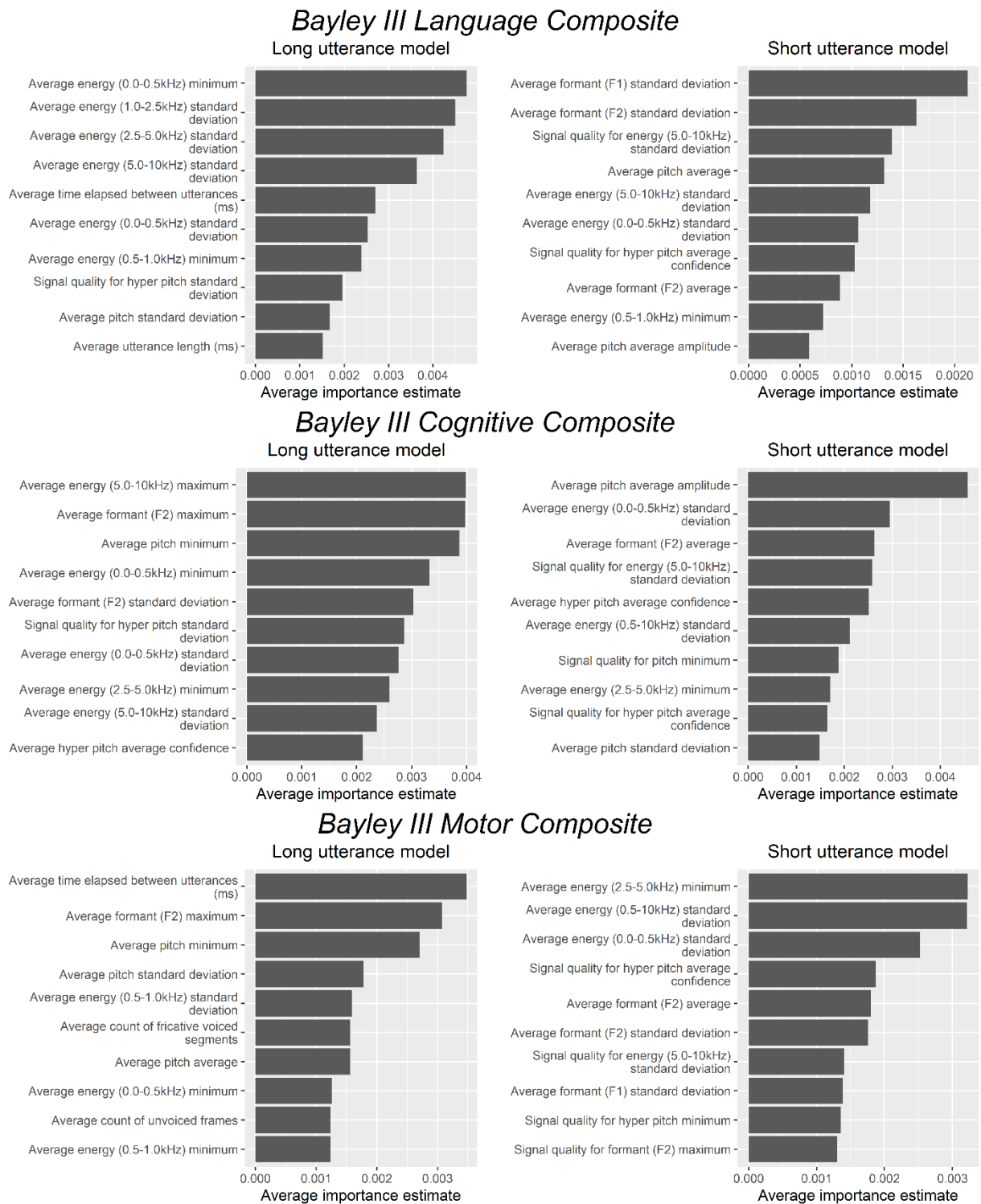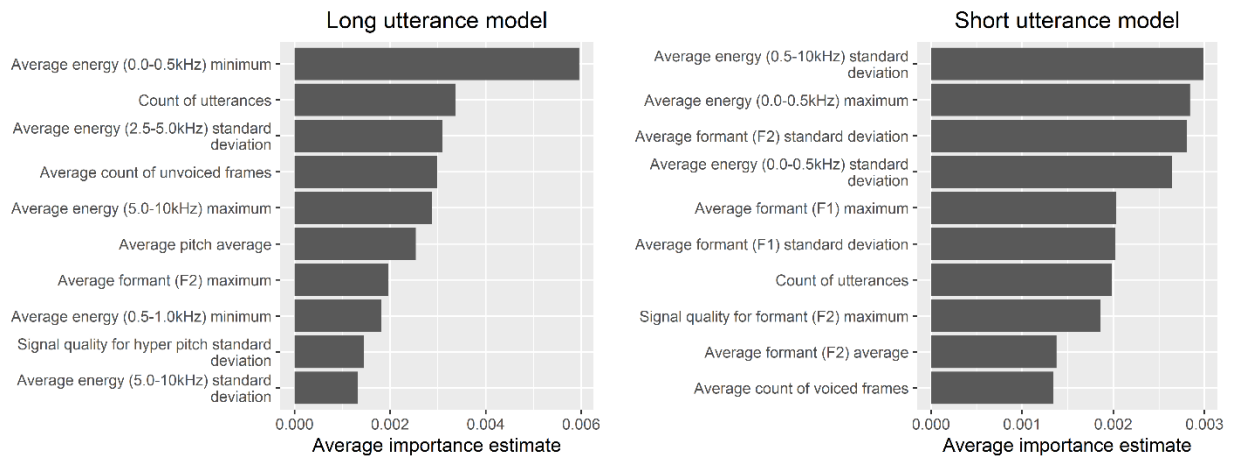
eFigure 2. Feature Importance Estimates From Models Predicting Bayley-III Composite Scores Using Cry Acoustic Characteristics (Only the Top 10 Features are Shown)

Autism Screener

eFigure 3. Feature Importance Estimates From Models Predicting MCHAT Positive Autism Screen

Using Cry Acoustic Characteristics (Only the Top 10 Features are Shown)