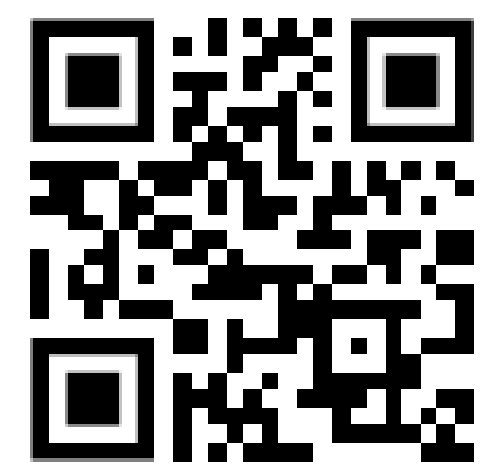


Associations of the Gut Microbiome with Caregiving Adversity and Internalizing Symptoms in Youth

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Introduction

- Caregiving adversity (CA; separation from or maltreatment by caregiver) is linked to internalizing symptoms (1,2)
- Gut microbiome dysregulation is a putative mechanism linking CA to internalizing (3,4,5)
- It is important to examine this possibility in childhood/adolescence, which encompass rapid neurodevelopment and peak internalizing disorder onset (6)
- However, research on gut microbiome, CA, and internalizing in children and adolescence is sparse

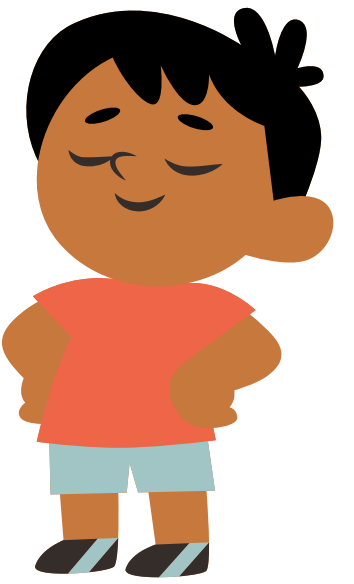
Aims

- Aim 1:** Examine the associations between CA and gut microbiome features
- Aim 2:** Test whether CA-linked microbiome features were associated with internalizing symptoms

Methods



Age
1-18



Comparison
N=53

Caregiving Adversity
N=49



16S sequencing
PICRUSt2 estimates of SCFA and AAA pathways



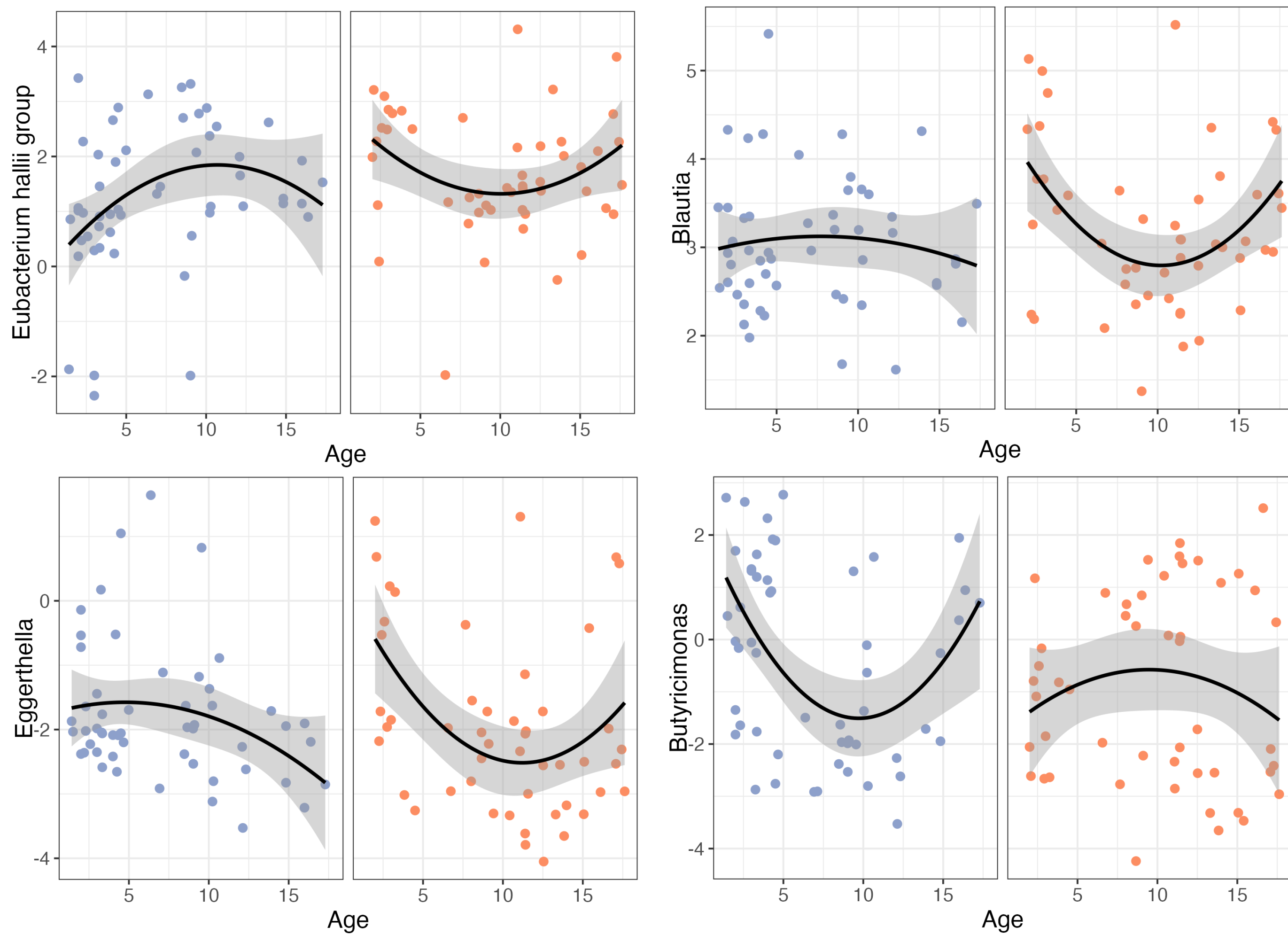
Caregiver reports on Child Behavior Checklist (7) (internalizing subscale)



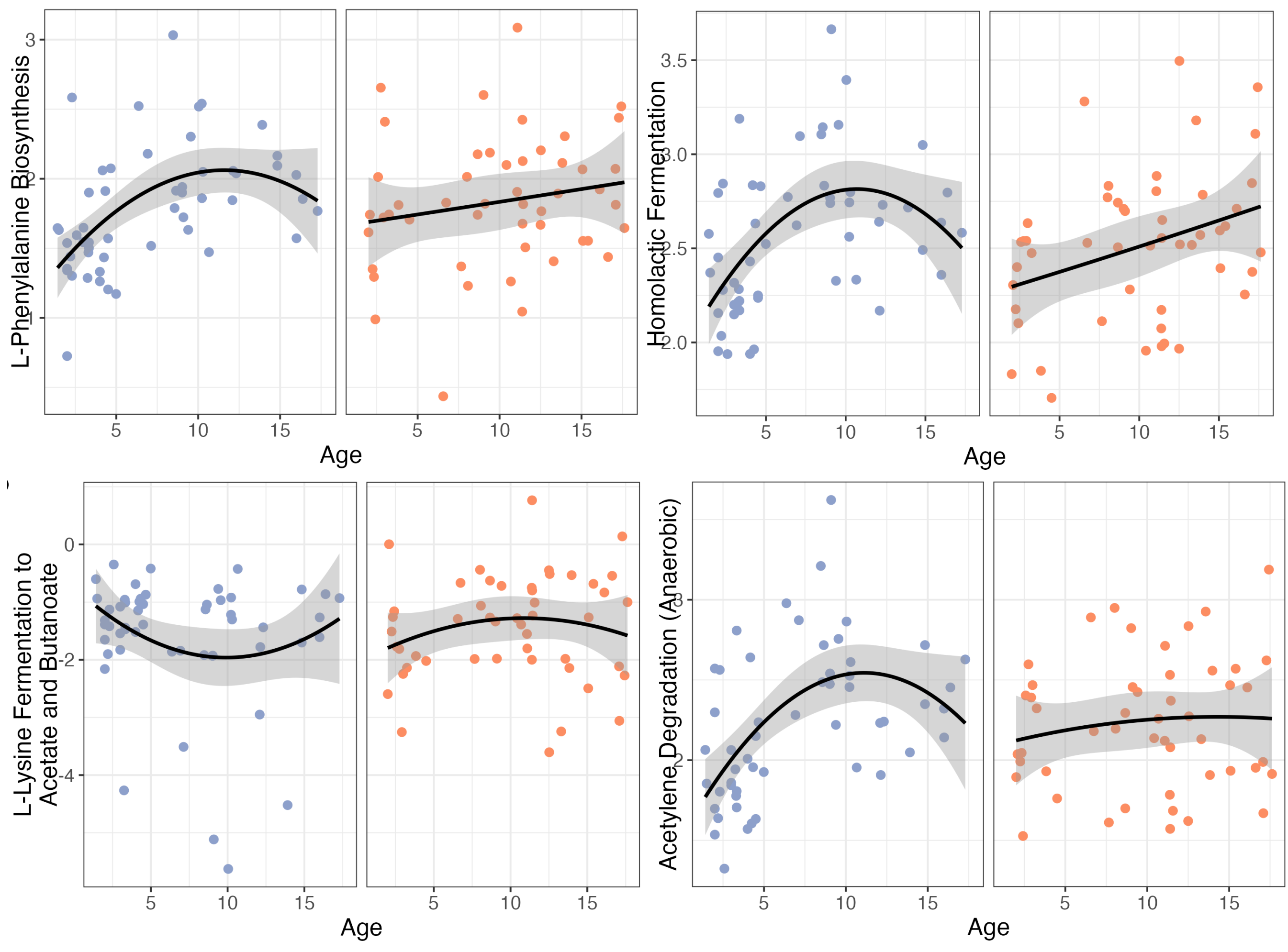
Systematic model-building approach (max adjusted R²)

Aim 1 Results: Caregiving Adversity Moderates Curvilinear Associations Between Age and Several Microbiome Features

Taxonomic Results



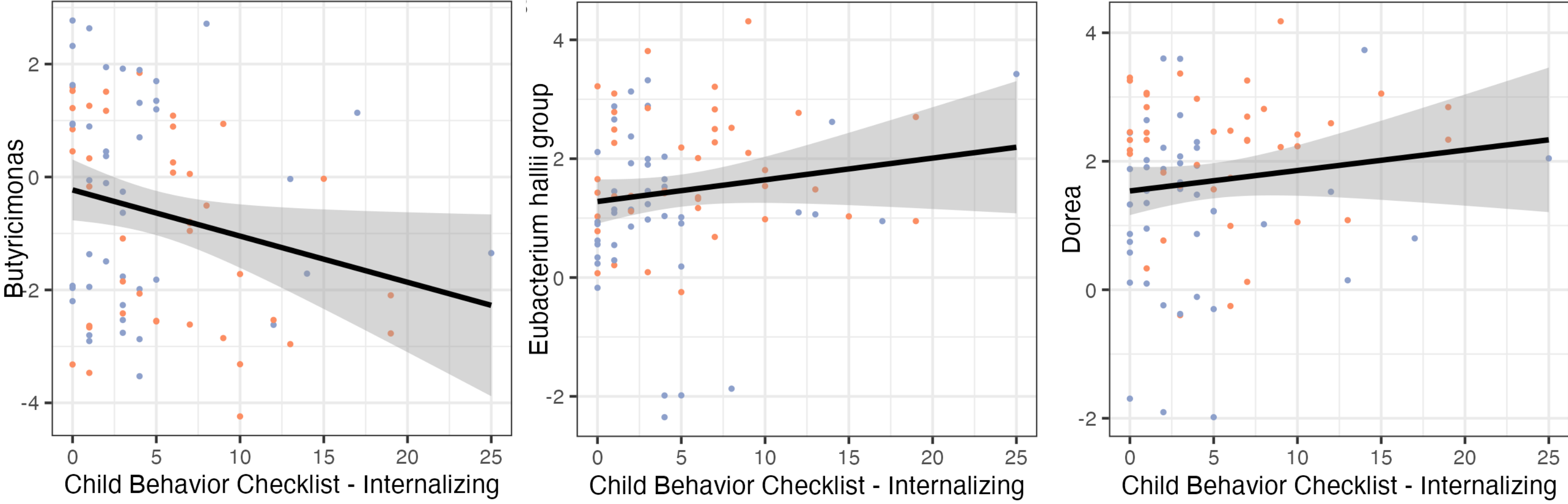
PICRUSt2 Results



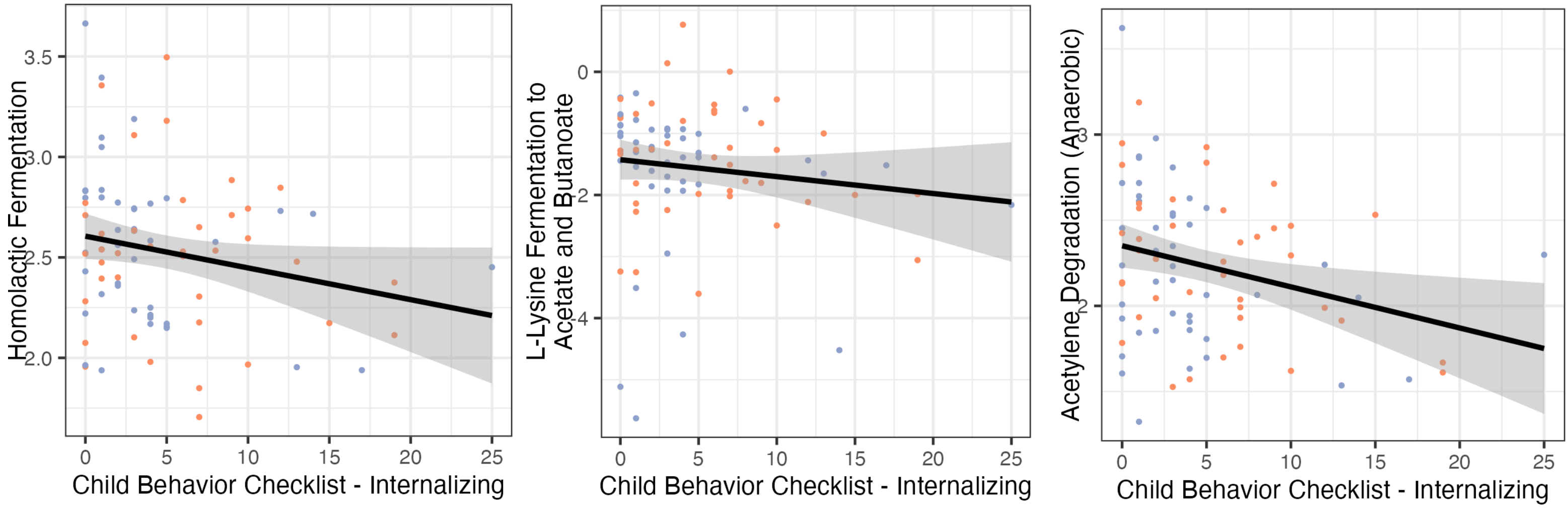
● Comparison ● Adversity

Aim 2 Results: Several CA-Linked Features Were Associated with Internalizing Symptoms*

Taxonomic Results



PICRUSt2 Results



*Controlling for all predictor terms from the Aim 1 model

● Comparison ● Adversity

Conclusions

- In both the CA and Comparison groups, several genera were curvilinearly associated with age, and these associations were moderated by CA
- Several estimated SCFA and AAA pathways exhibited similar curvilinear moderation
- Some CA-linked taxa were associated with internalizing symptoms
- Abundance of 3 estimated SCFA fermentation pathways was negatively associated with internalizing symptoms

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