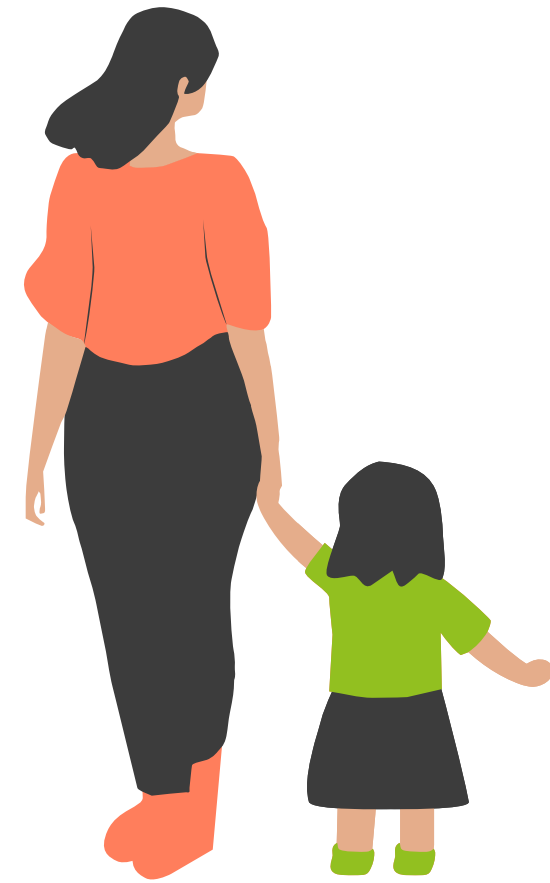




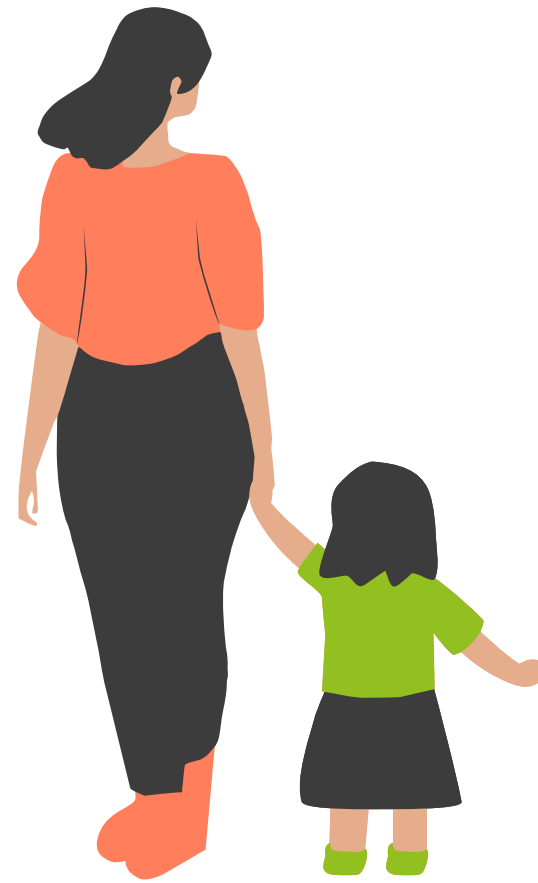
Adversity Moderates the Quadratic Distribution of Gut Microbiome Features Across Age – Implications for Internalizing Symptoms

ISDP 2024

Naomi Gancz



Interpersonal
Adversity

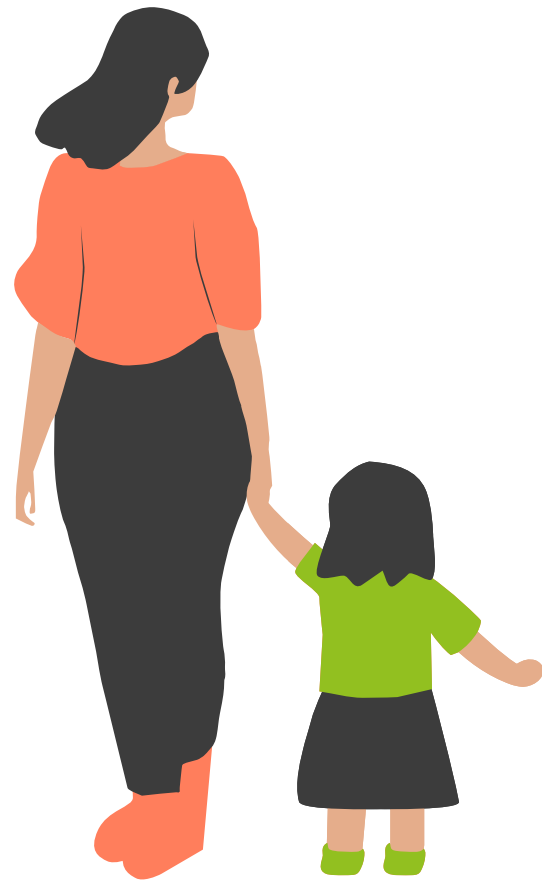


Interpersonal
Adversity



Psychiatric
outcomes

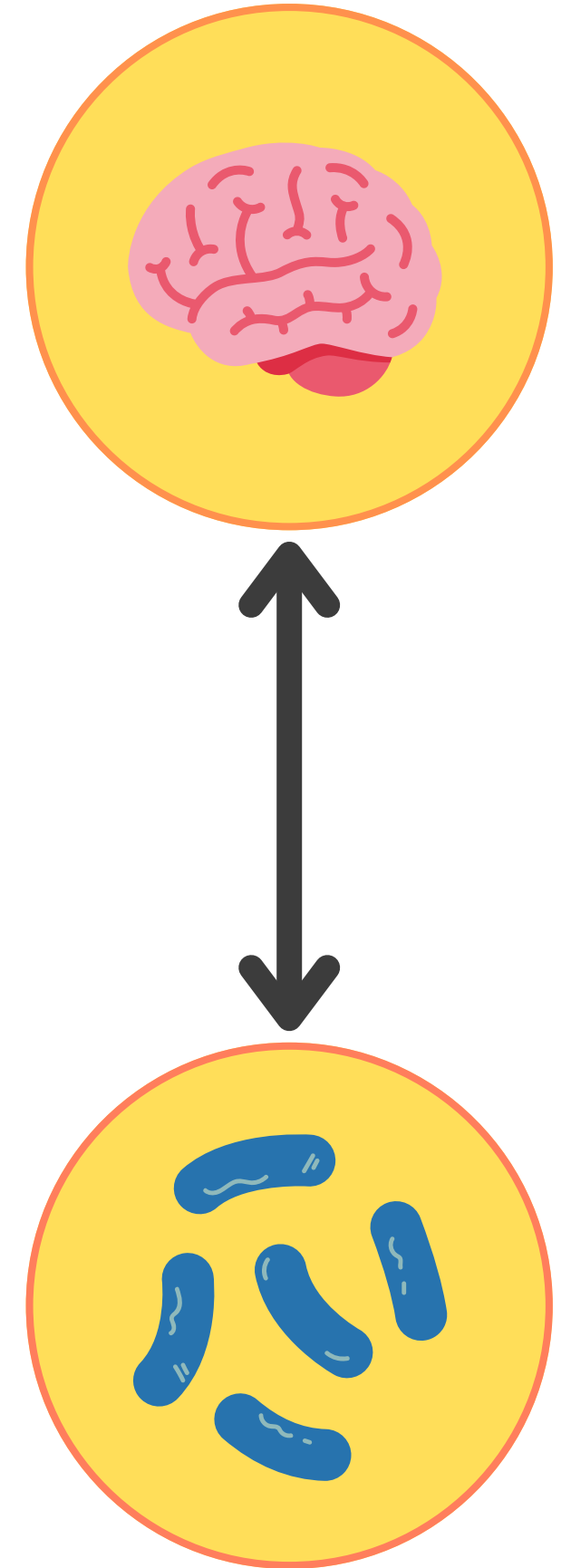
Is the **gut-microbiome-brain** axis a mechanism?



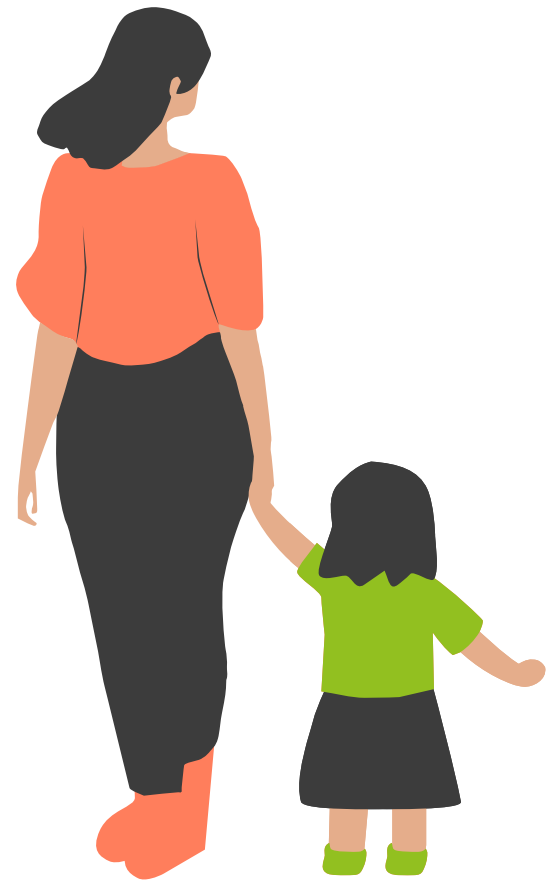
Interpersonal
Adversity



Psychiatric
outcomes



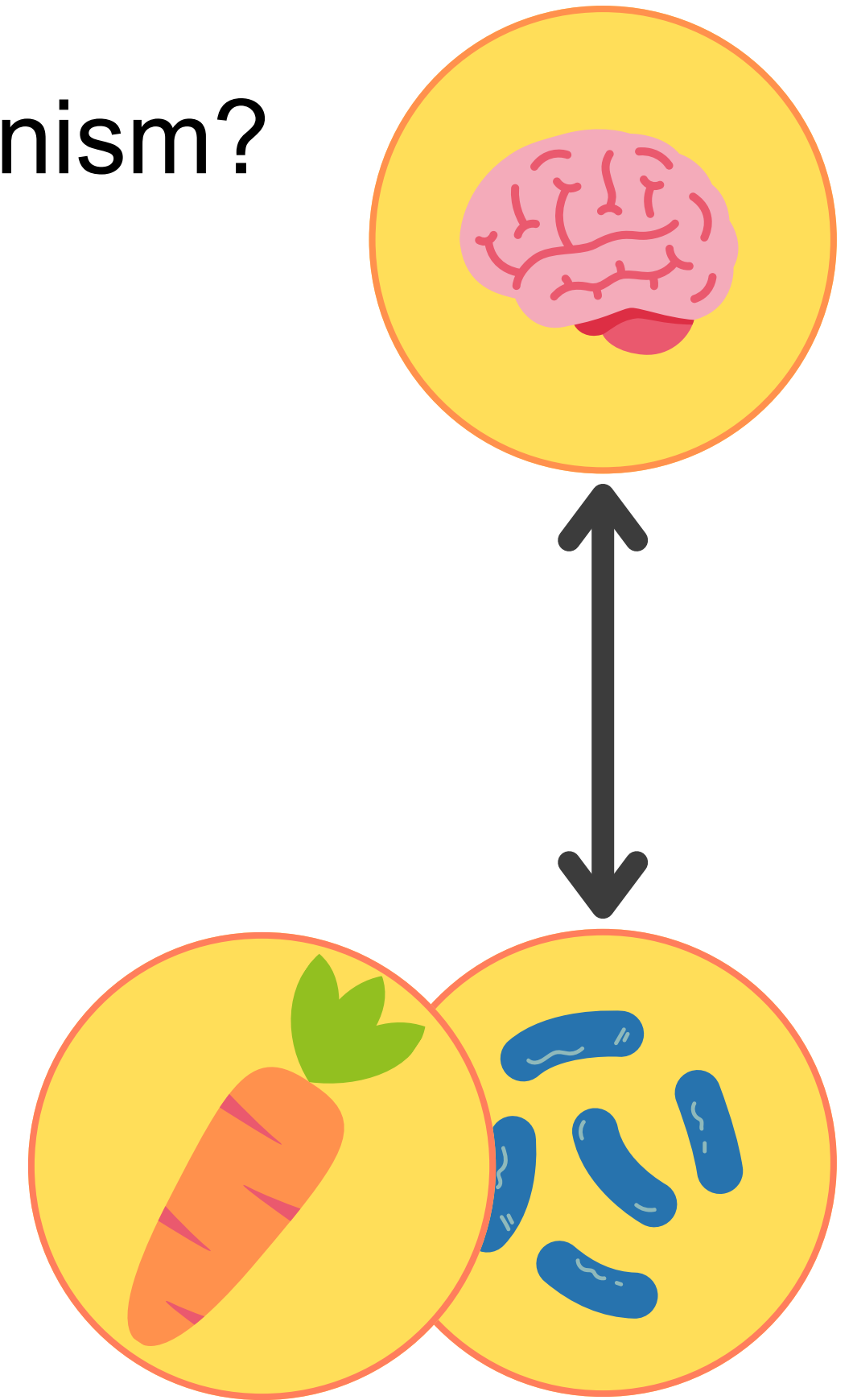
Is the **gut-microbiome-brain** axis a mechanism?



Interpersonal
Adversity



Psychiatric
outcomes



Can **diet** play a role?

Fiber

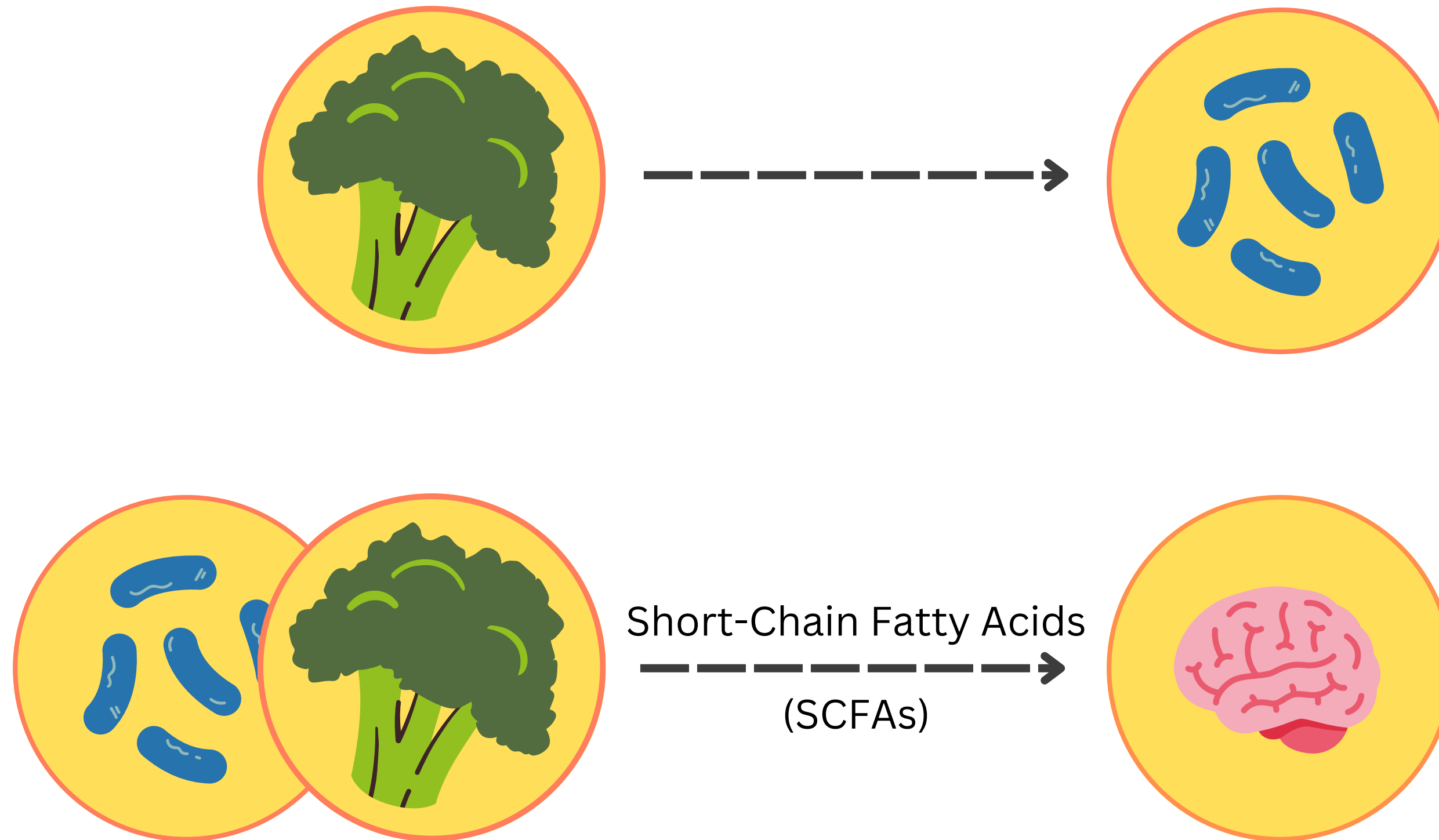


Baxter et al., 2019; Morrison et al., 2020; van de Wouw et al., 2018

Fiber



Fiber





102 Children
Age 1-17



102 Children
Age 1-17



Microbiome



102 Children
Age 1-17



Microbiome
16S
PICRUSt2



102 Children
Age 1-17



Microbiome
16S
PICRUSt2



Diet



102 Children
Age 1-17



Microbiome
16S
PICRUSt2

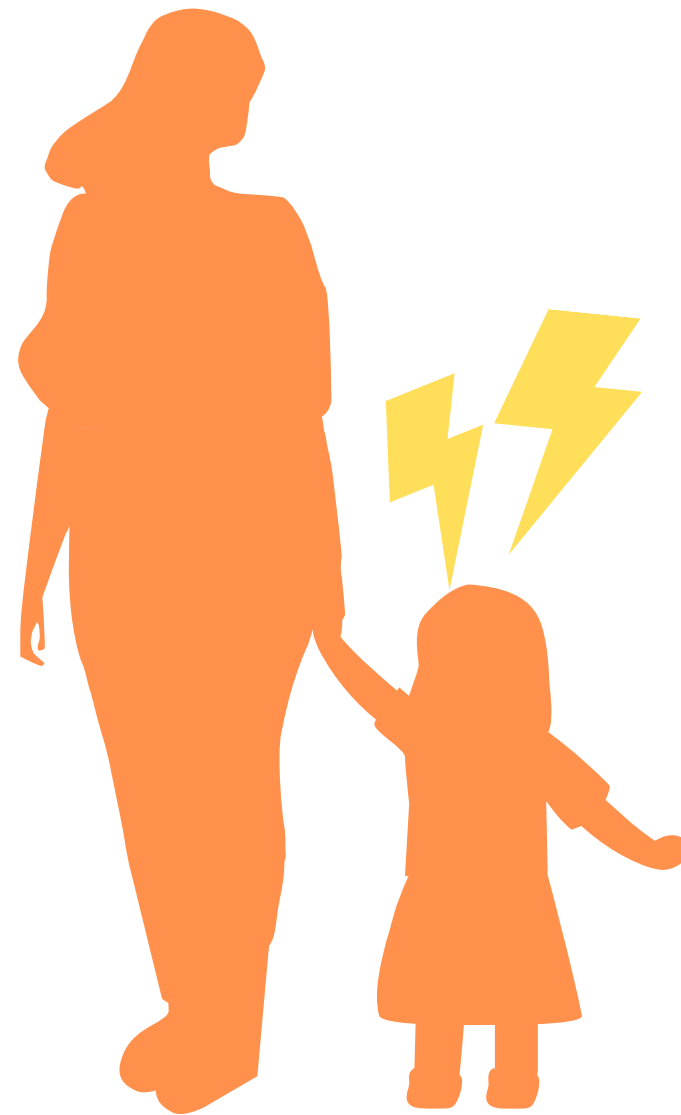


Diet

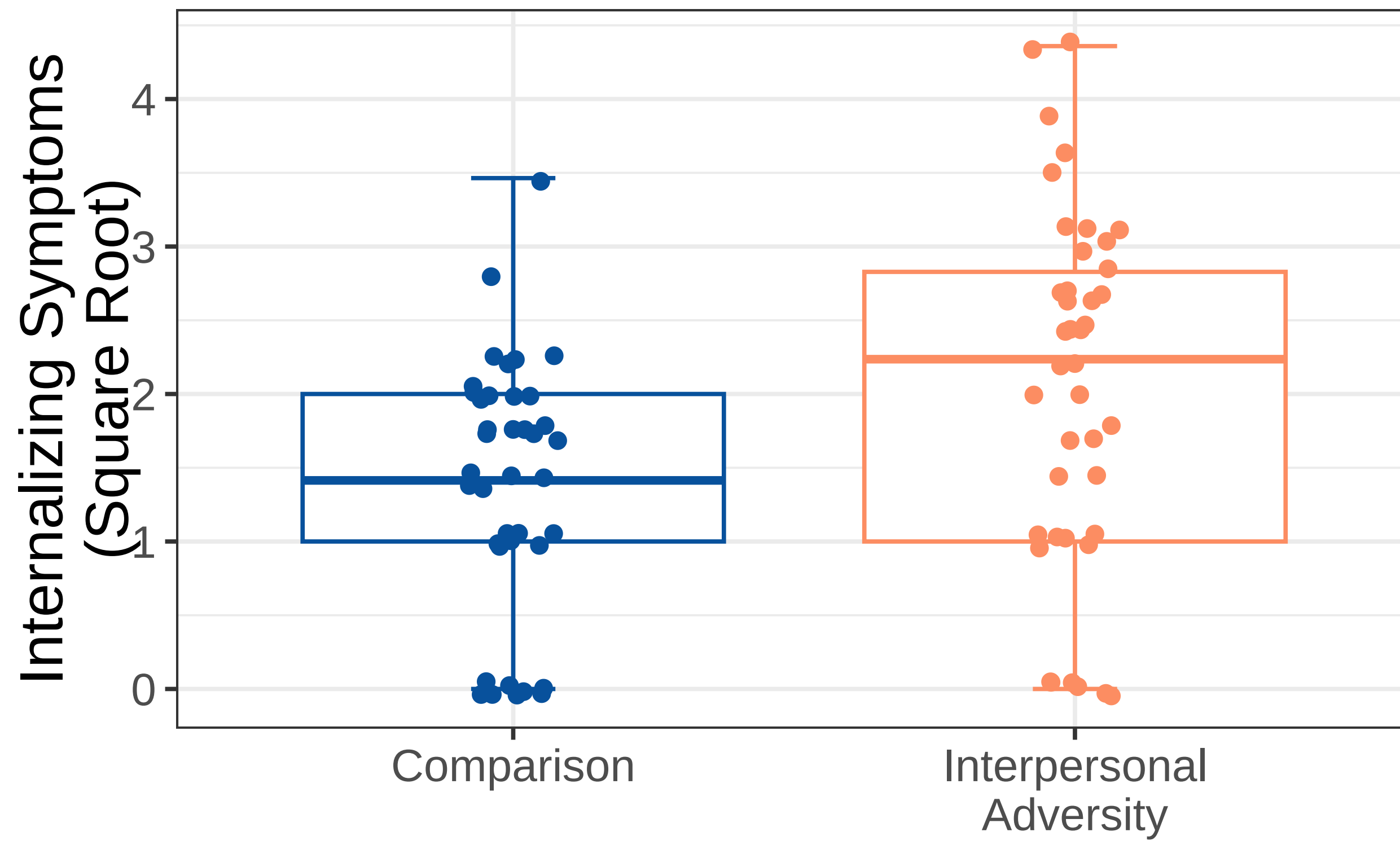


Internalizing Sx

N = 49

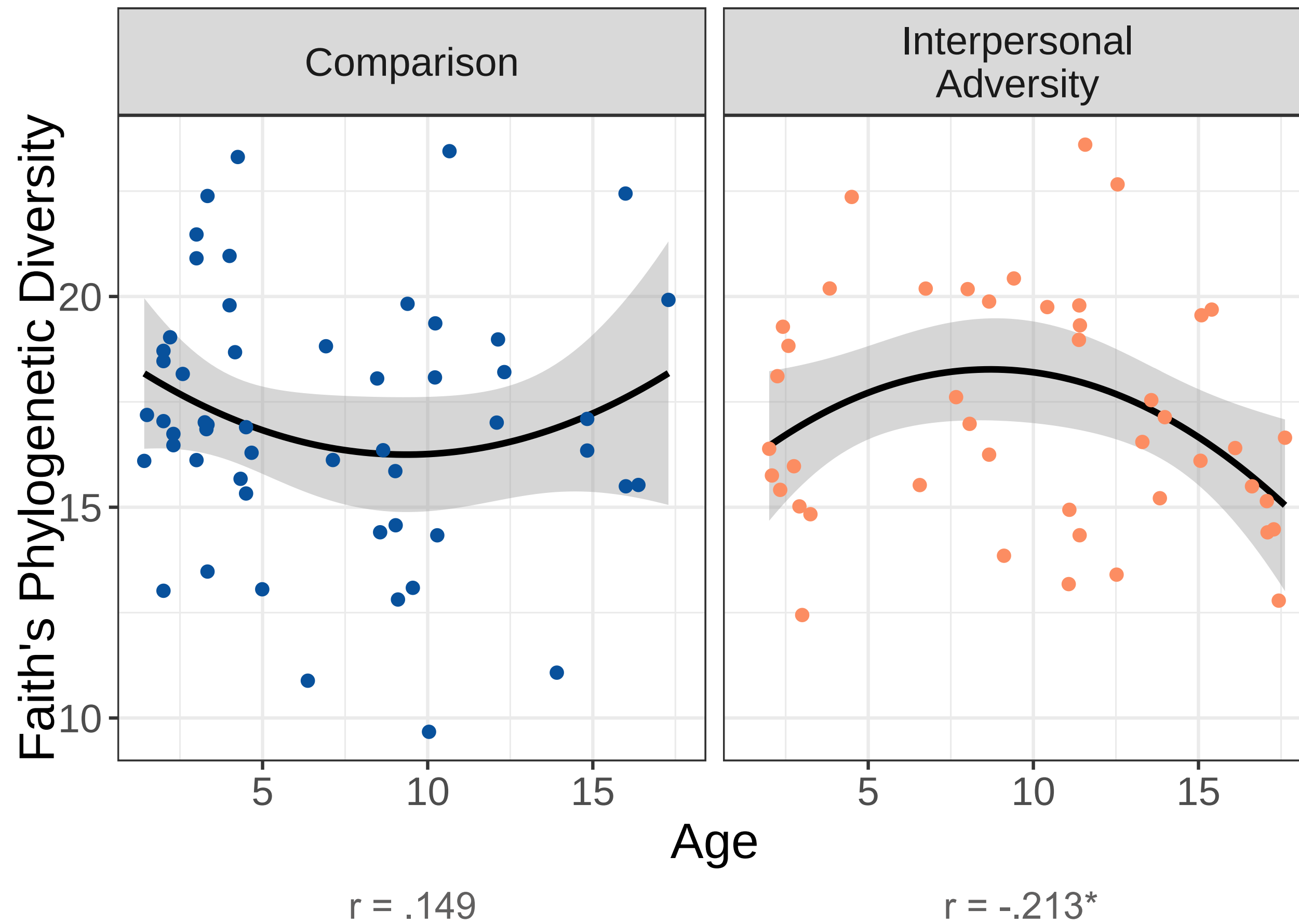


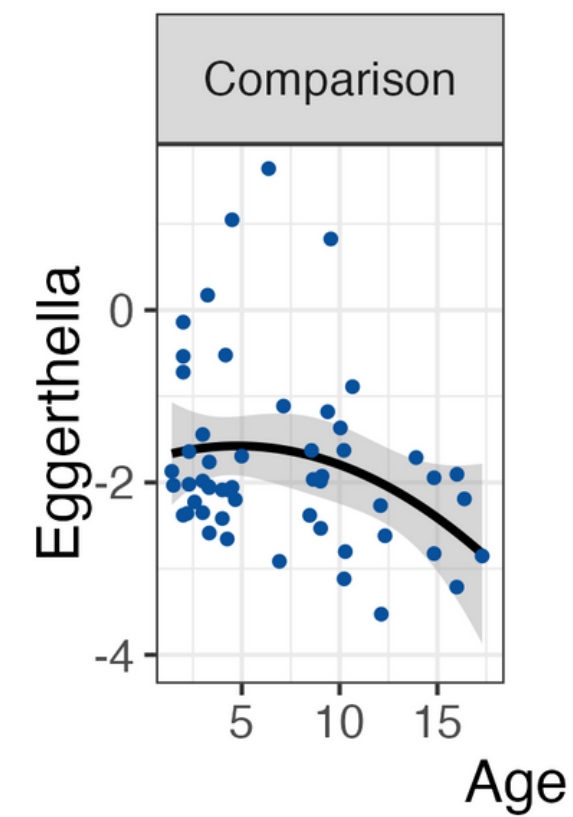
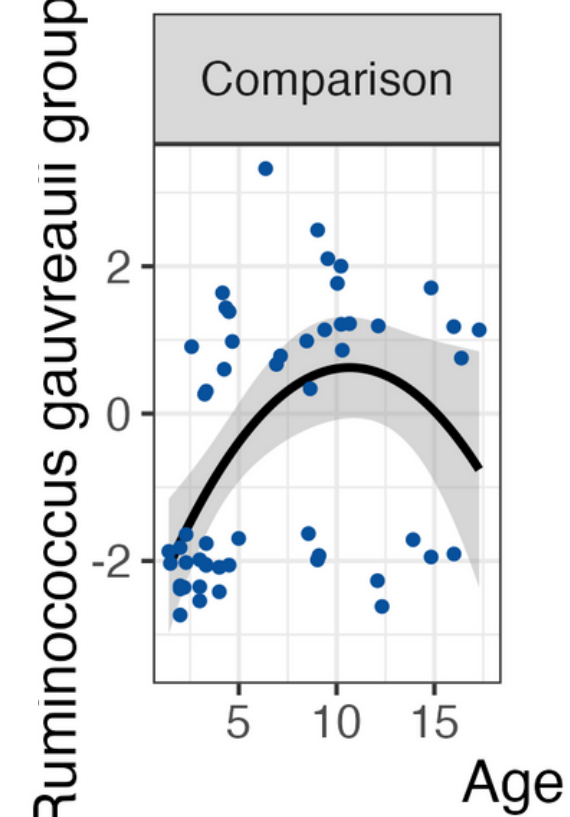
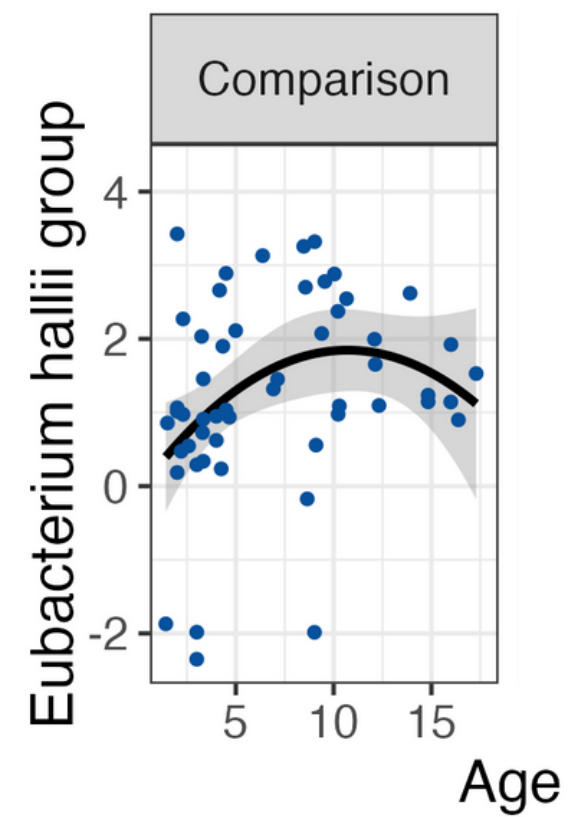
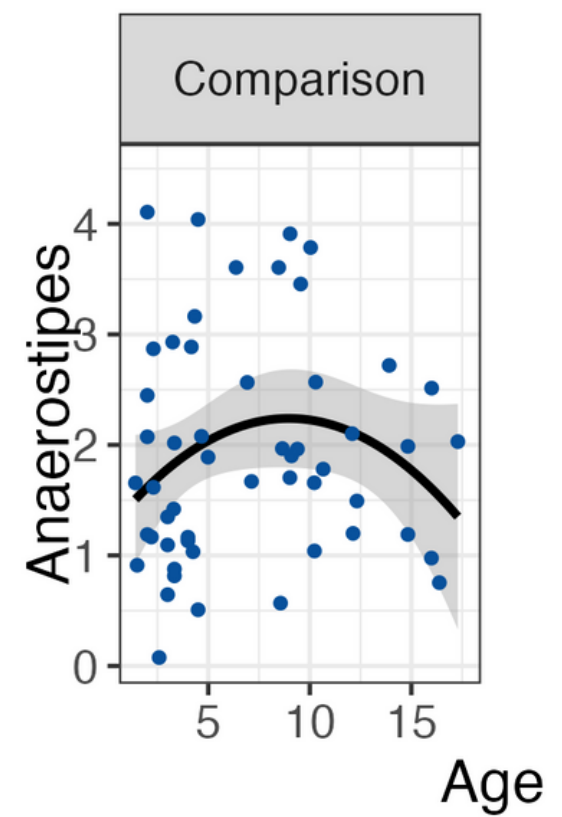
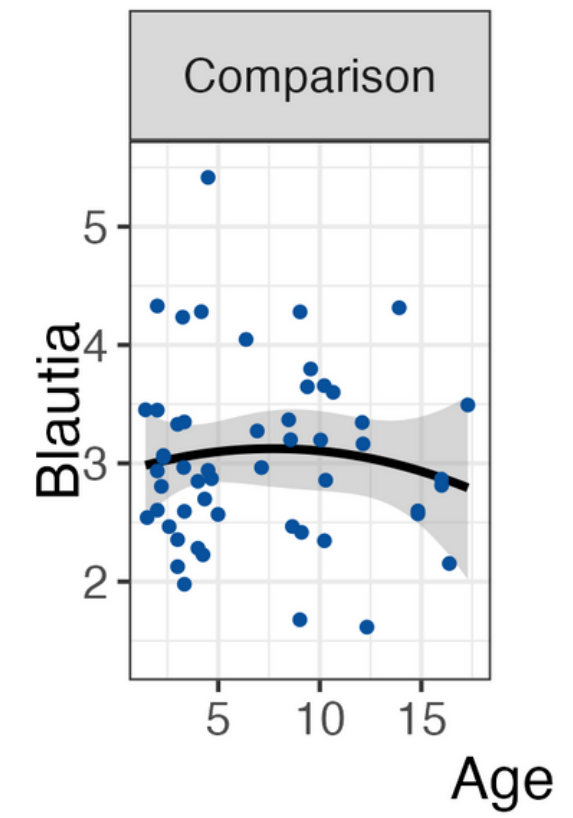
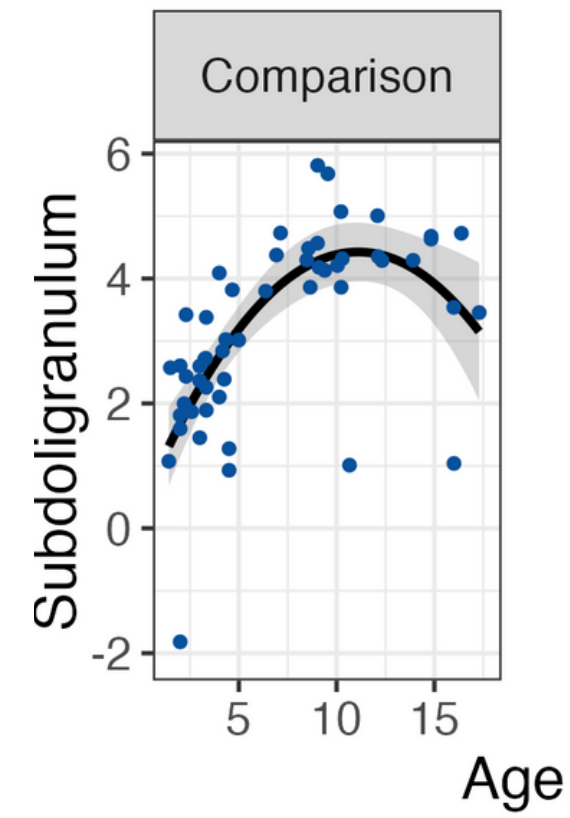
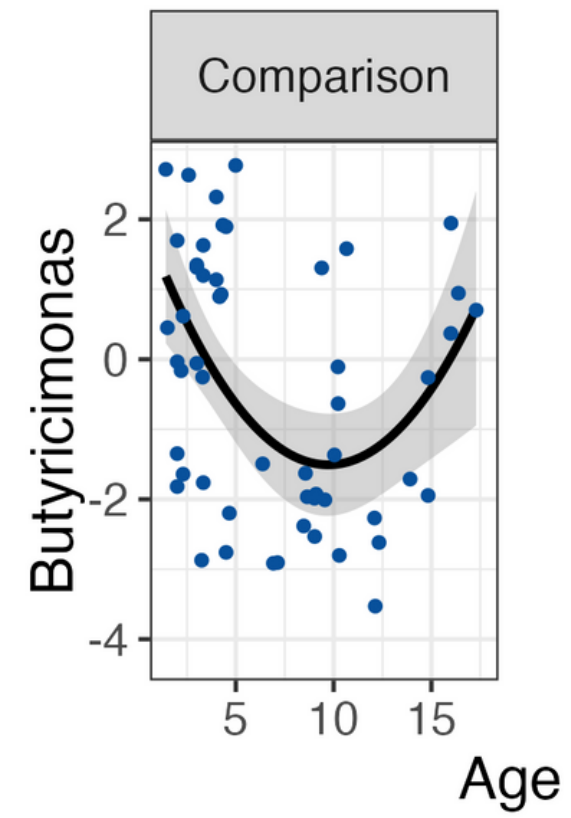
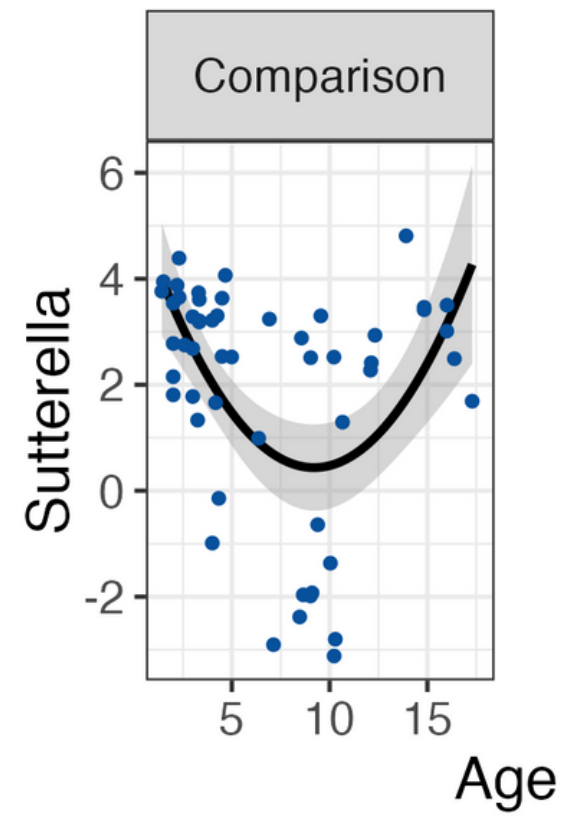
Interpersonal adversity
(Prior but not ongoing)



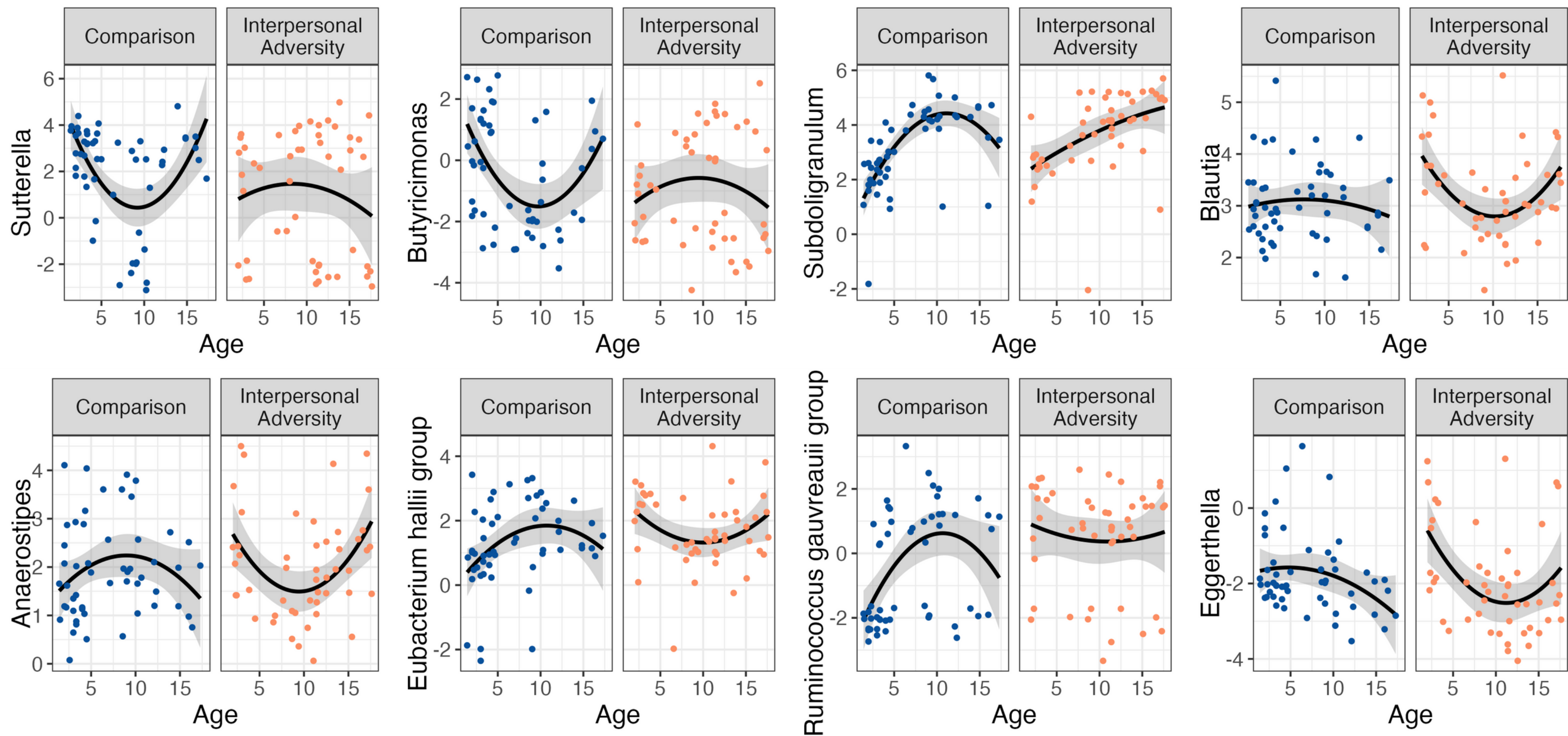
Microbiome differences?





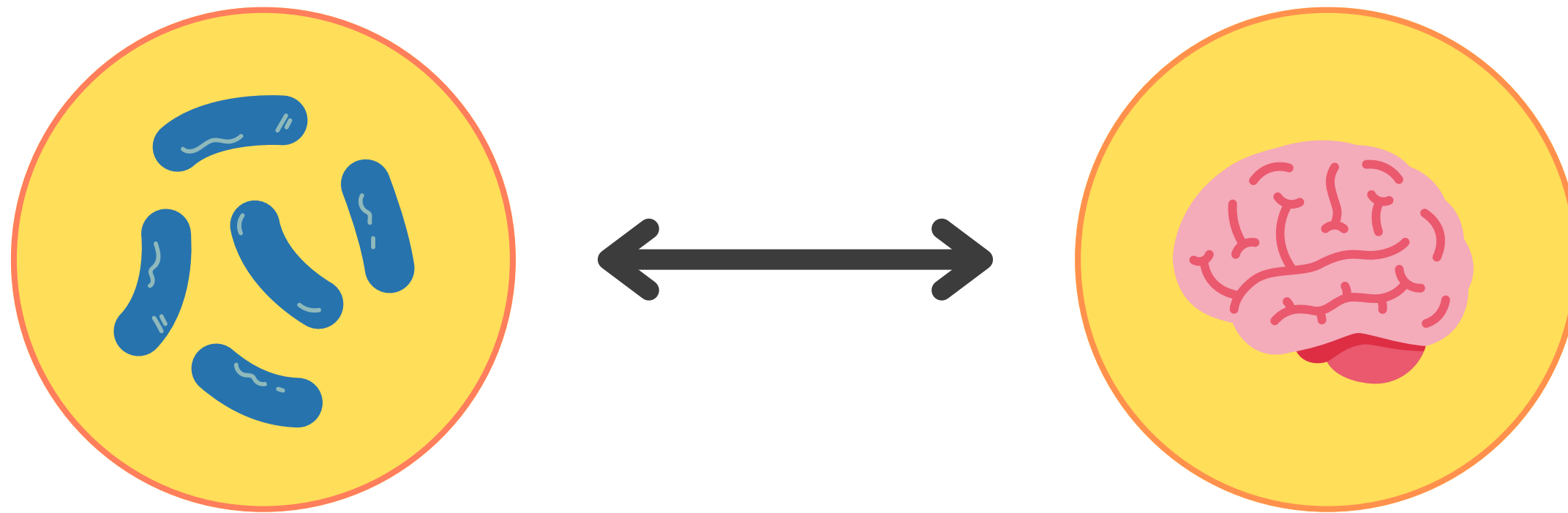


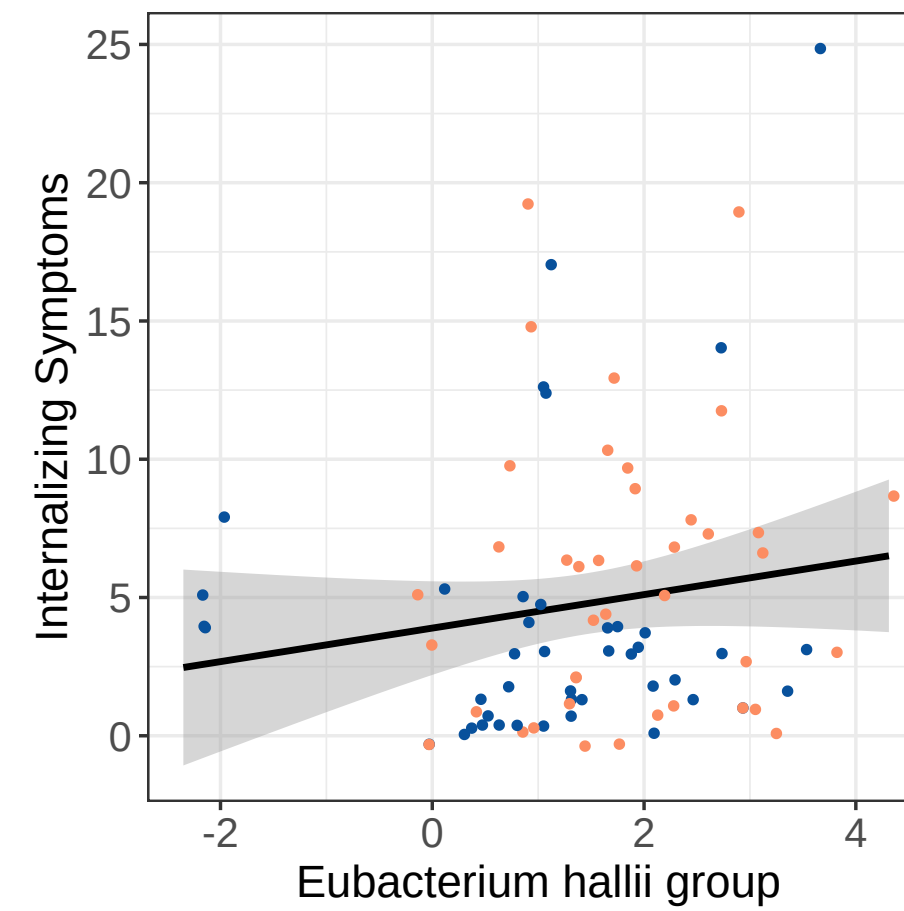
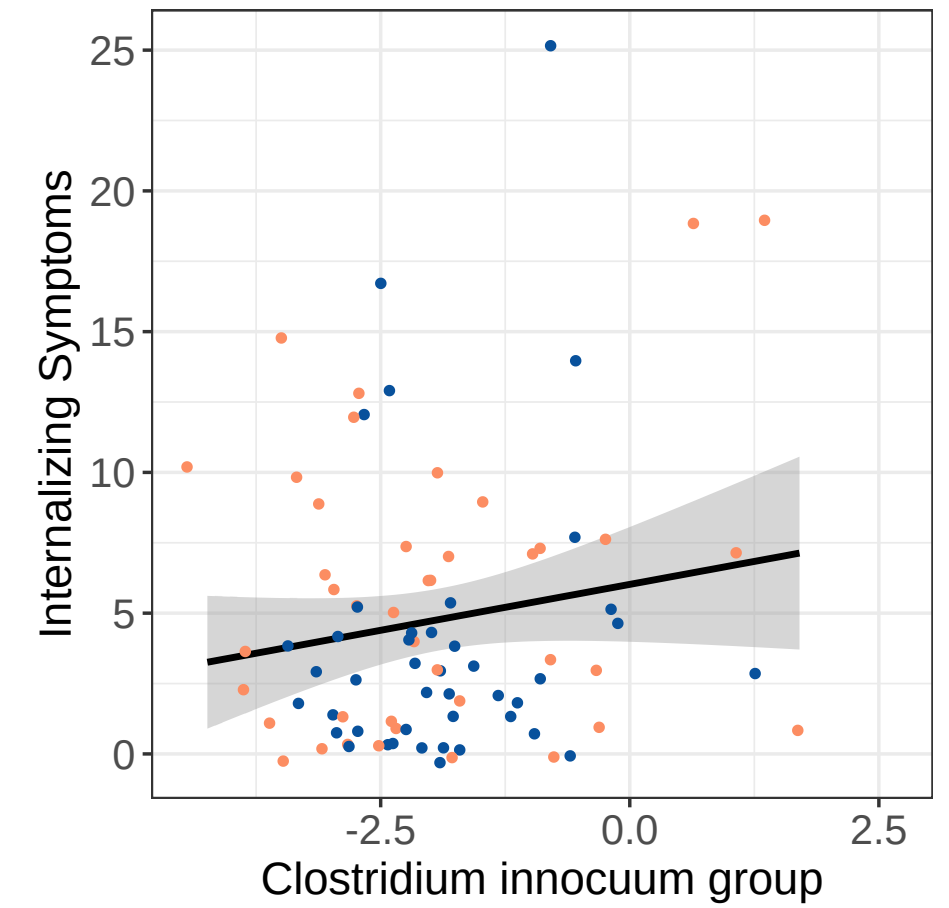
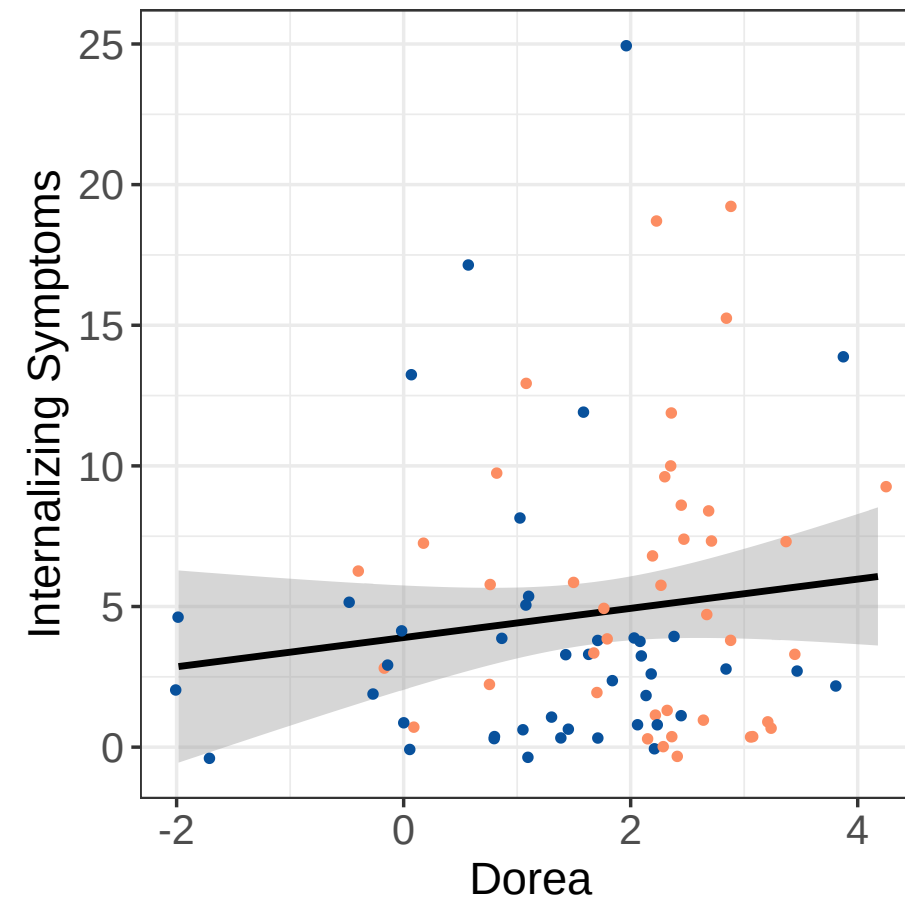
Microbiome remains age-dependent in middle childhood & adolescence

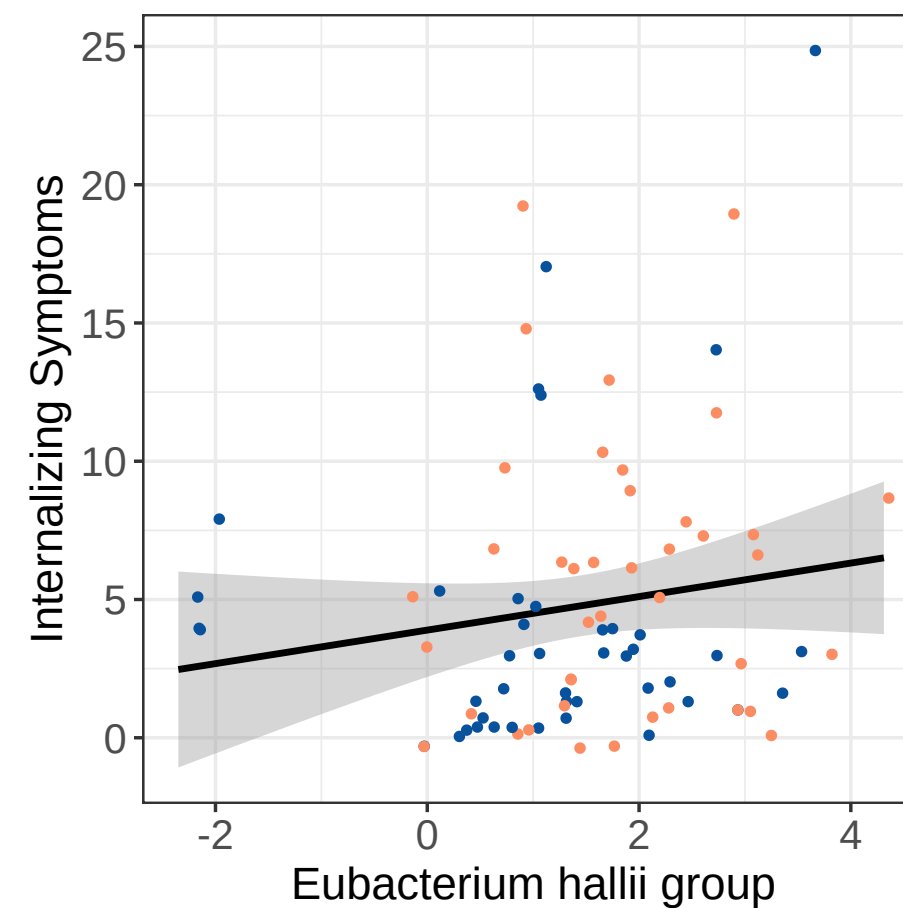
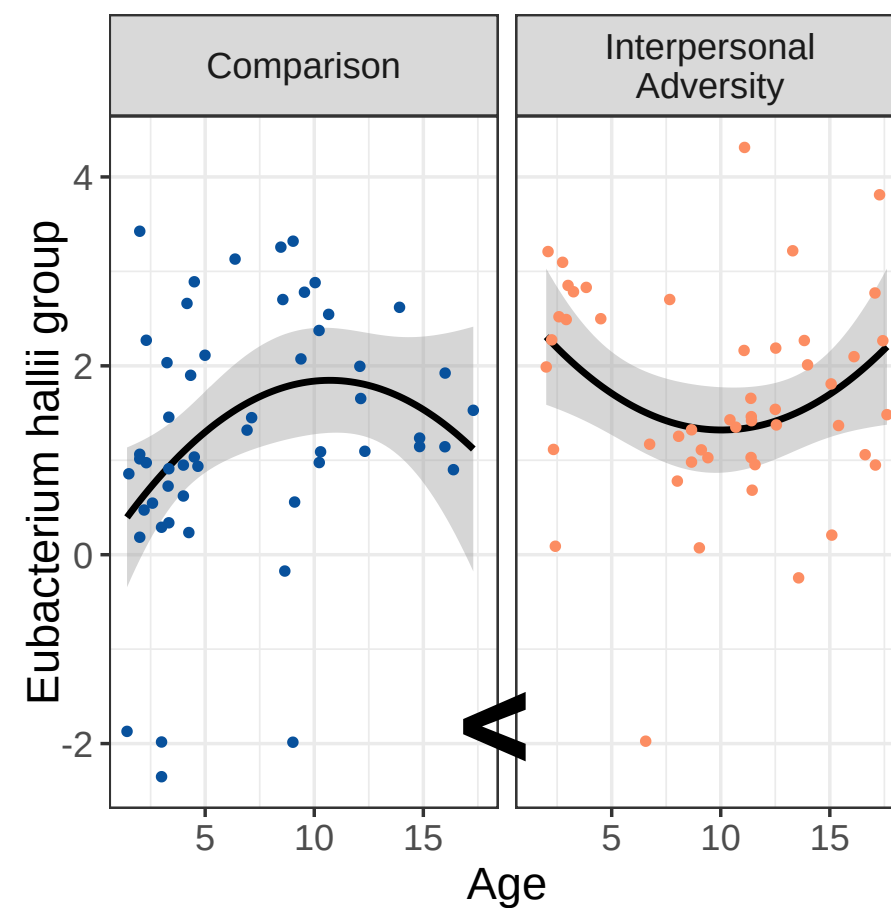
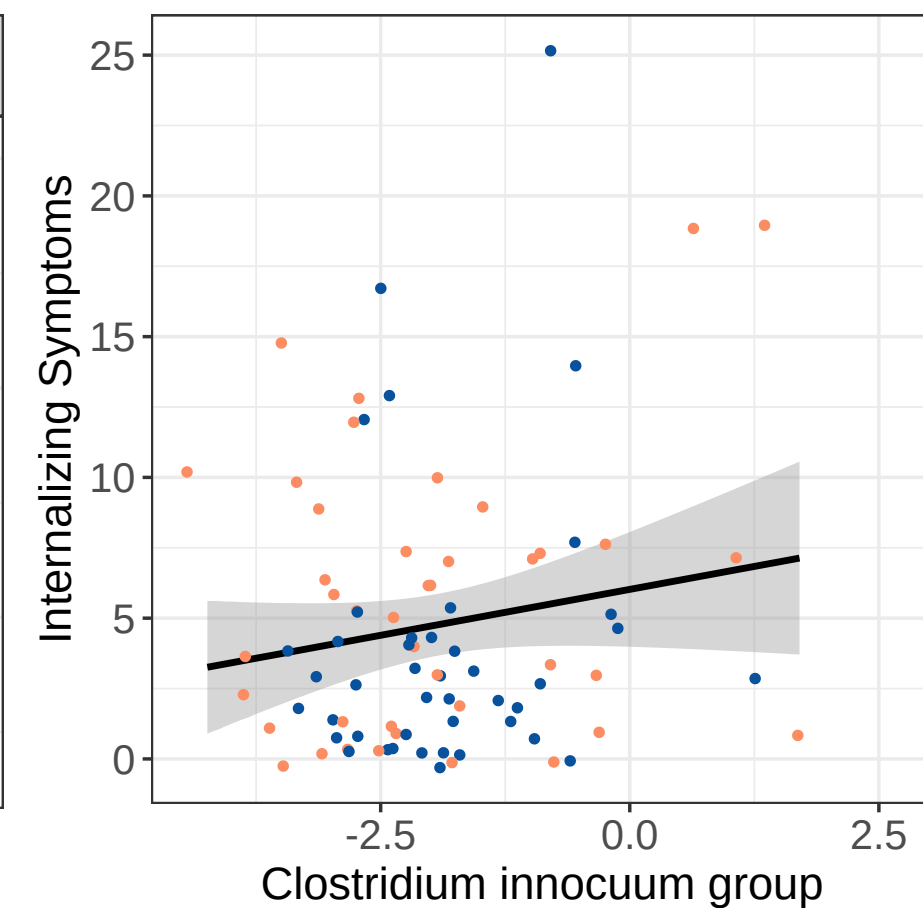
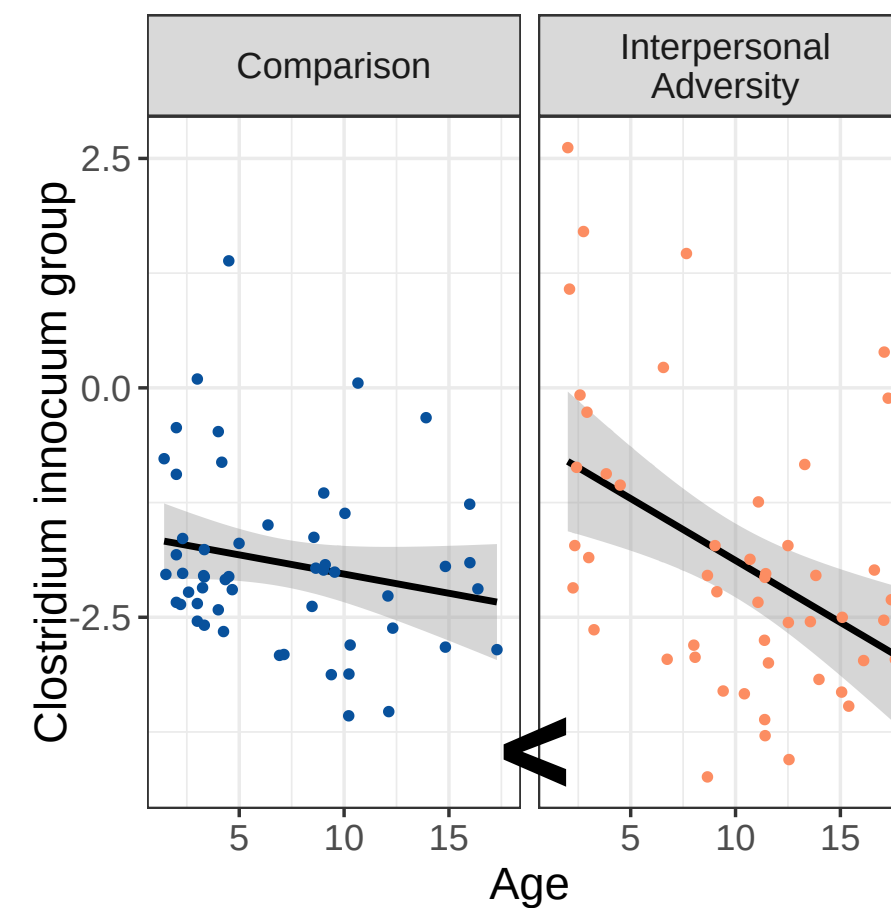
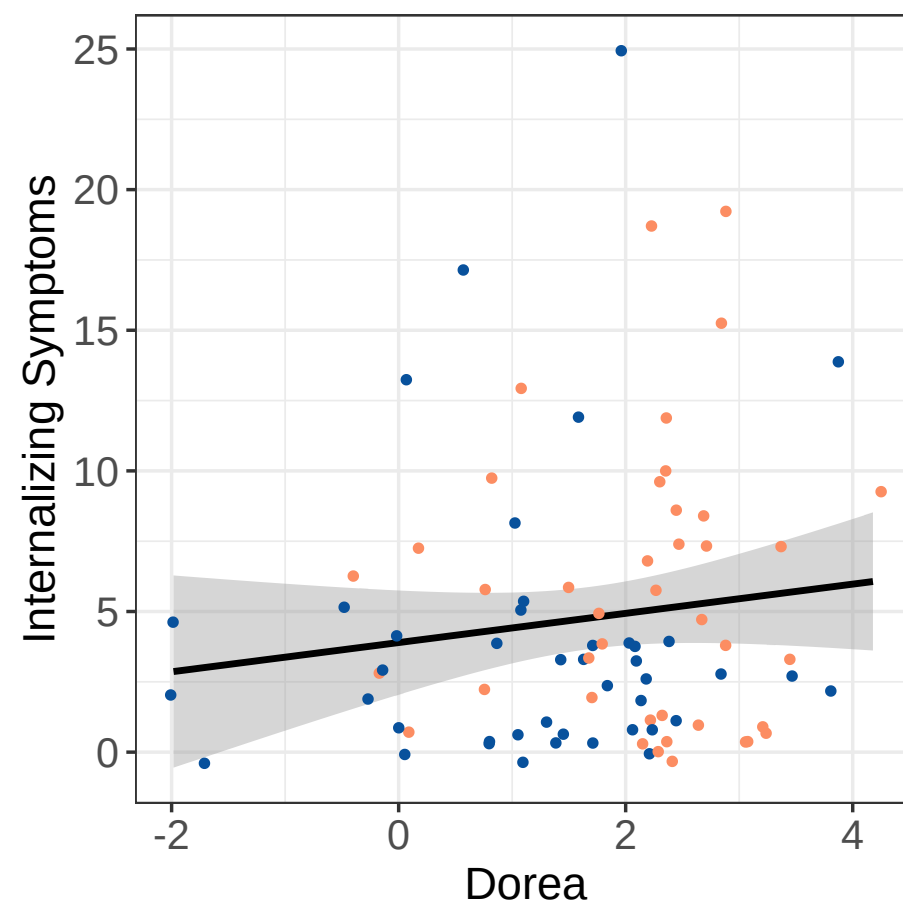
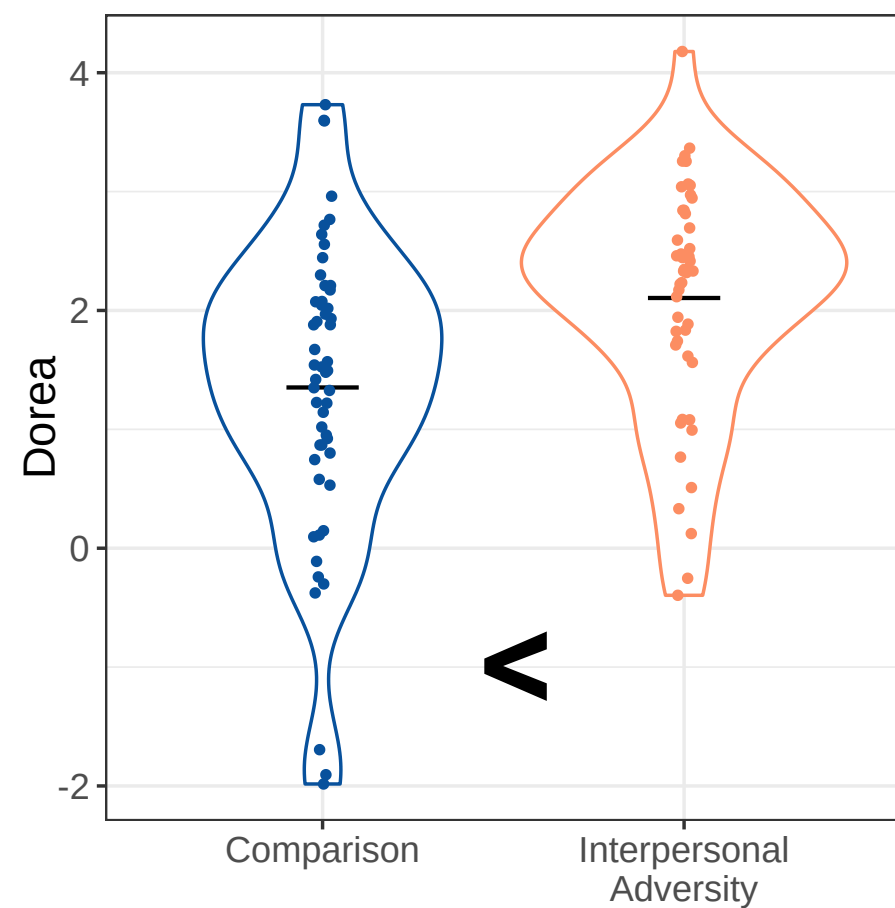


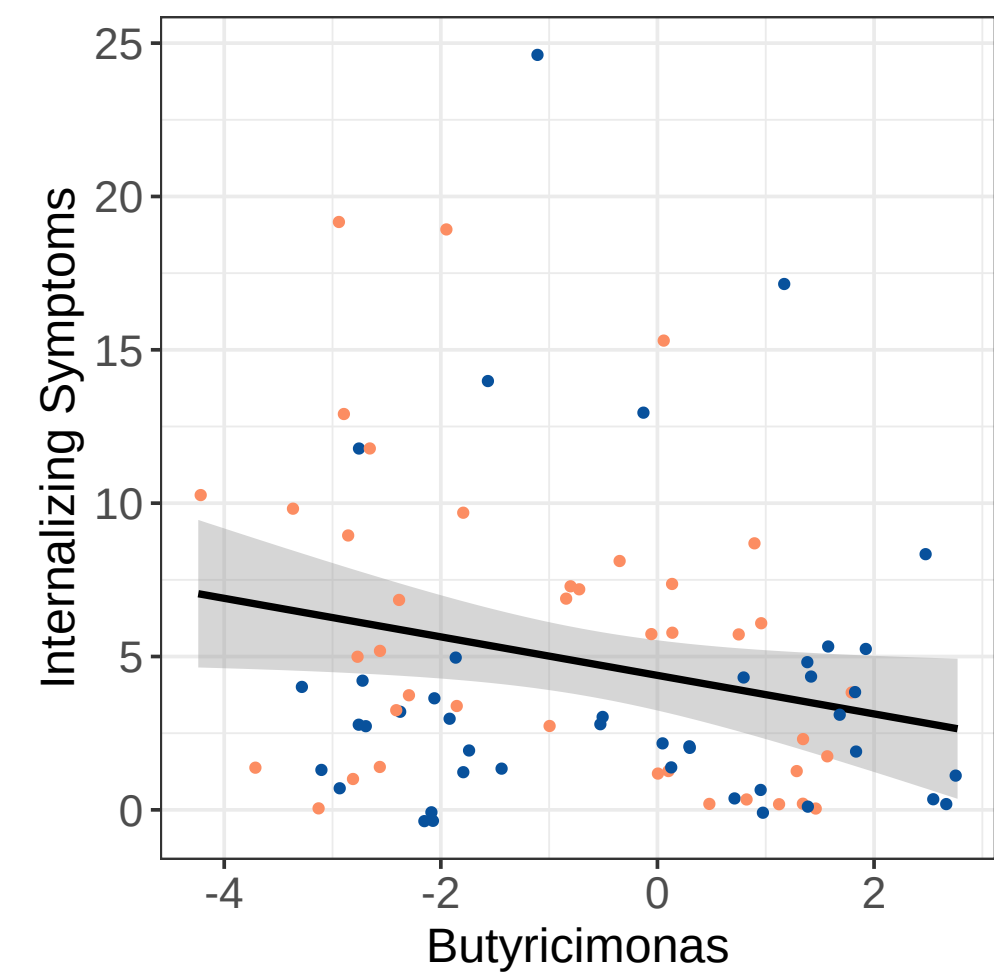
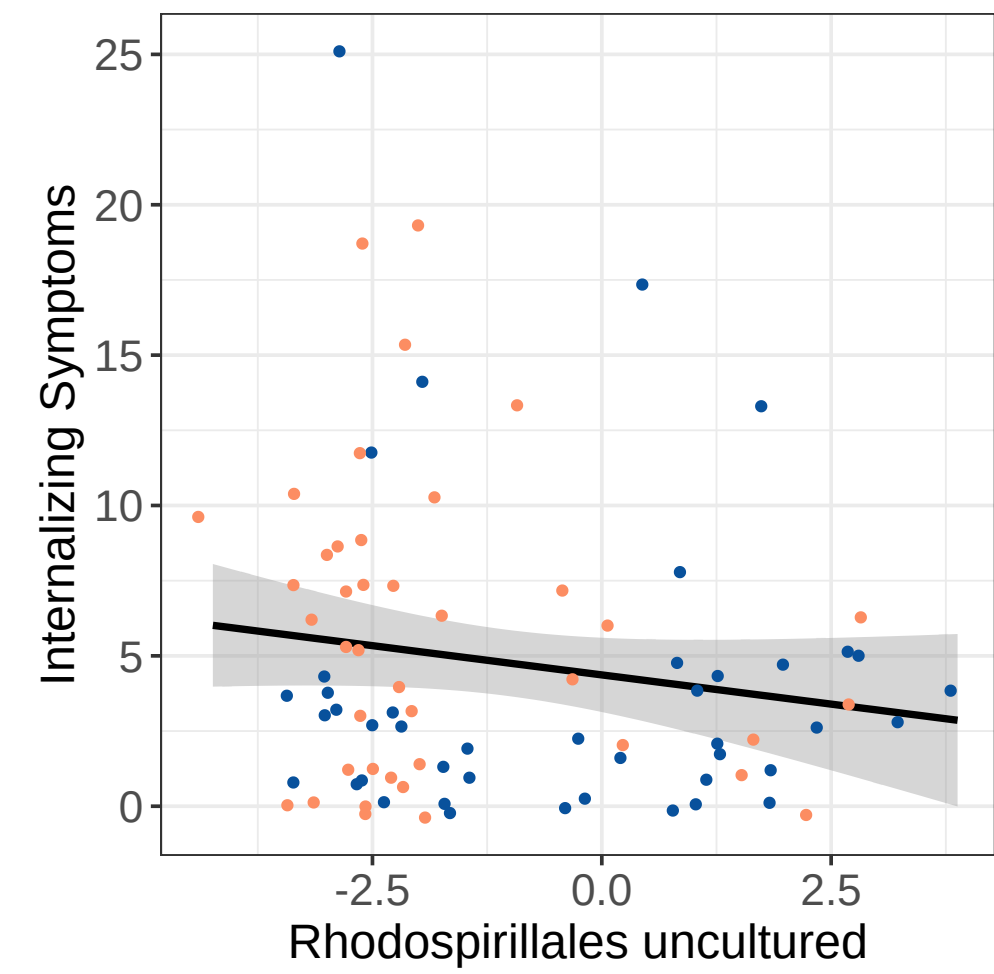
Distribution across age is modified by adversity exposure

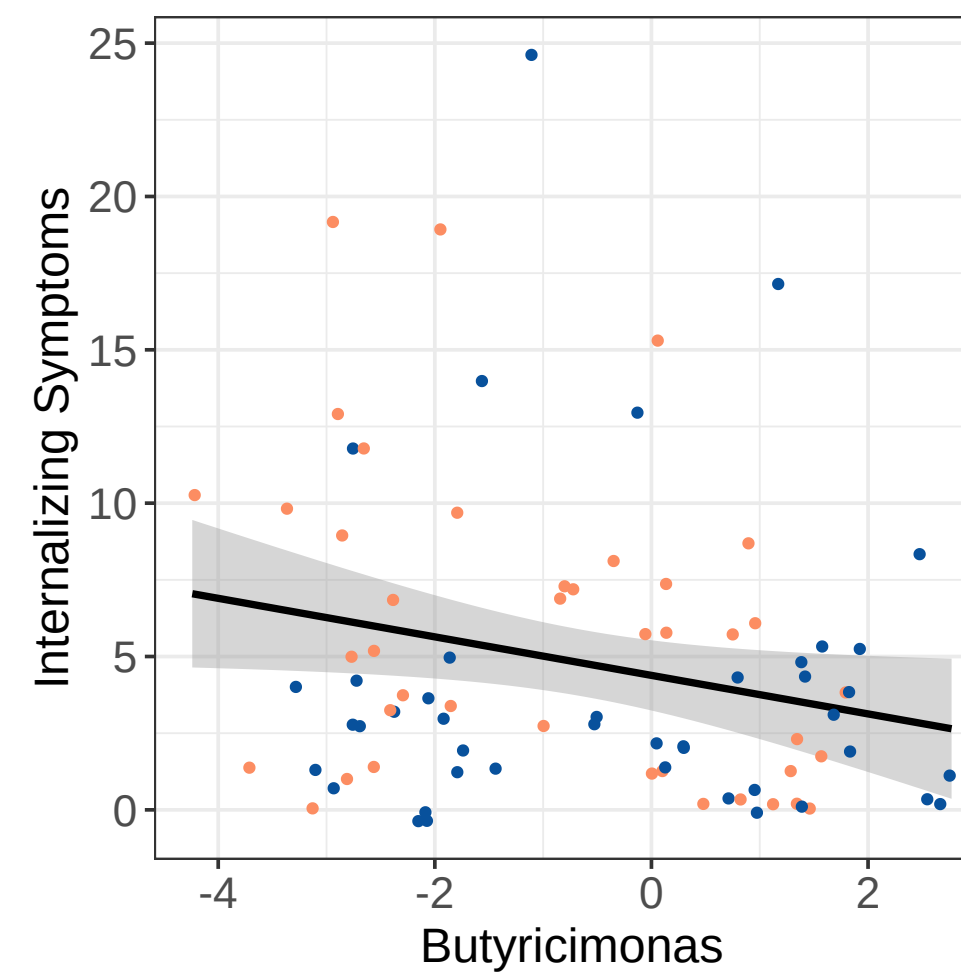
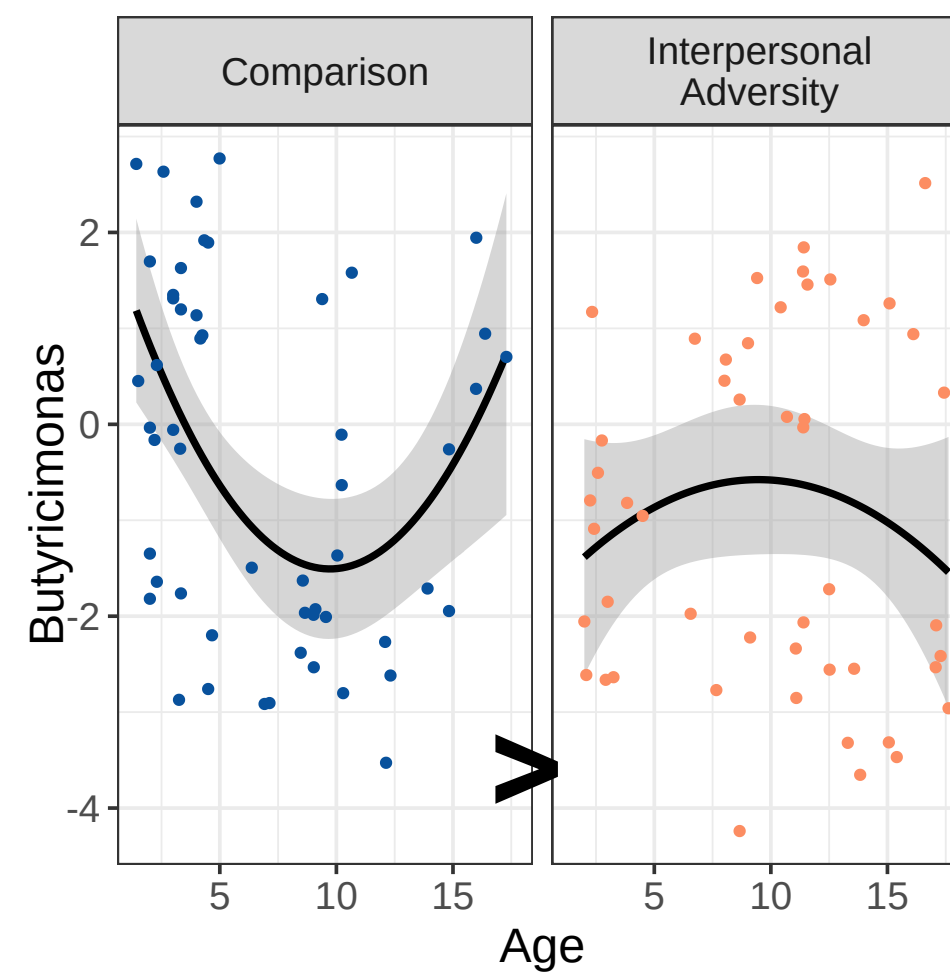
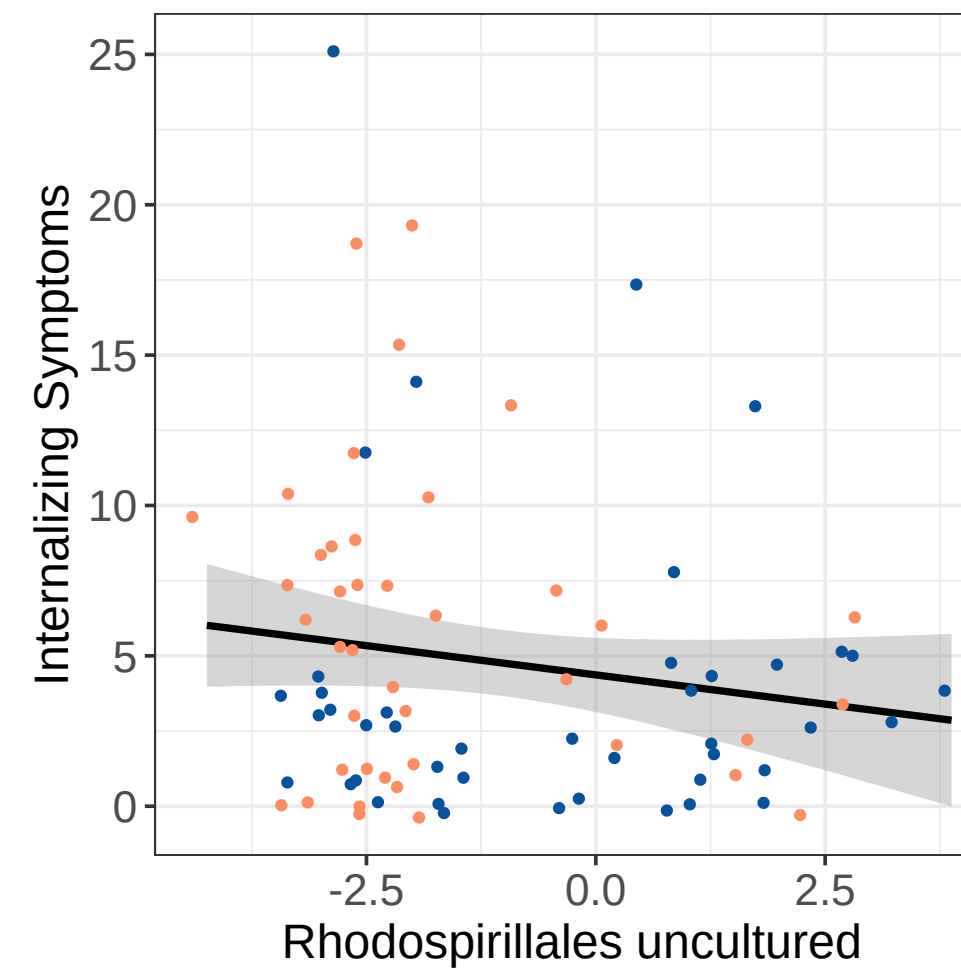
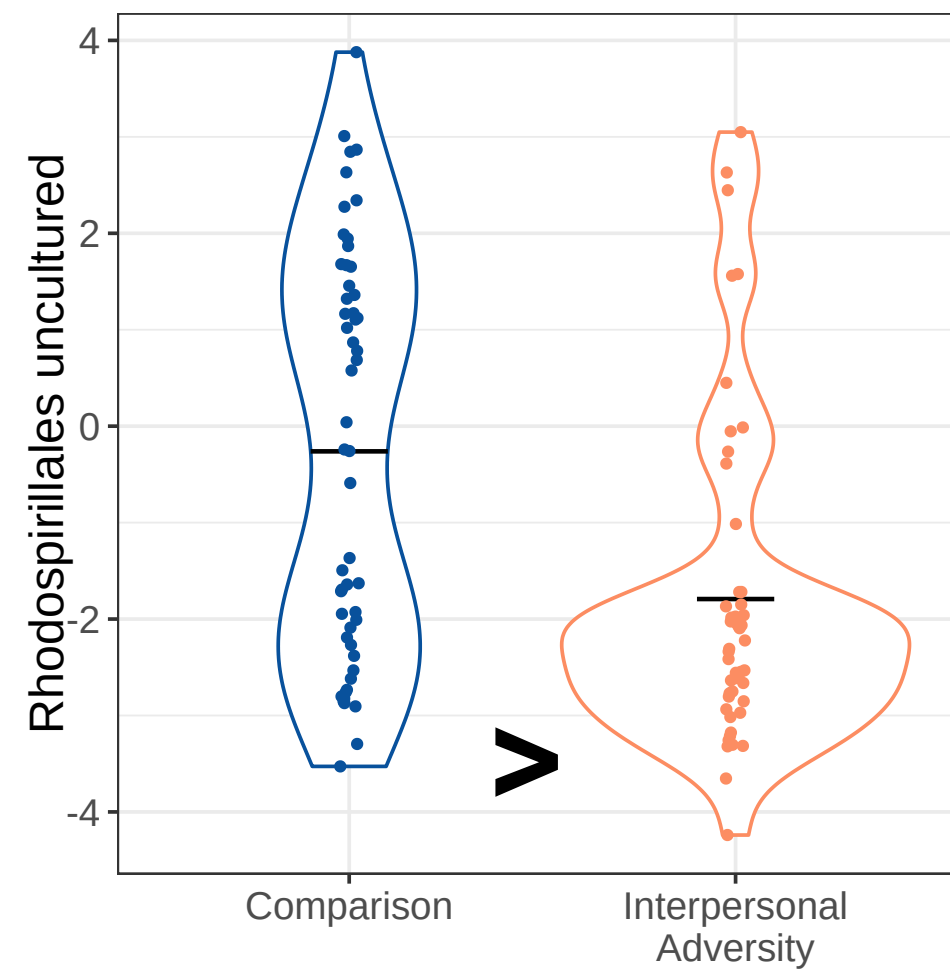
Are these differences related to internalizing symptoms?

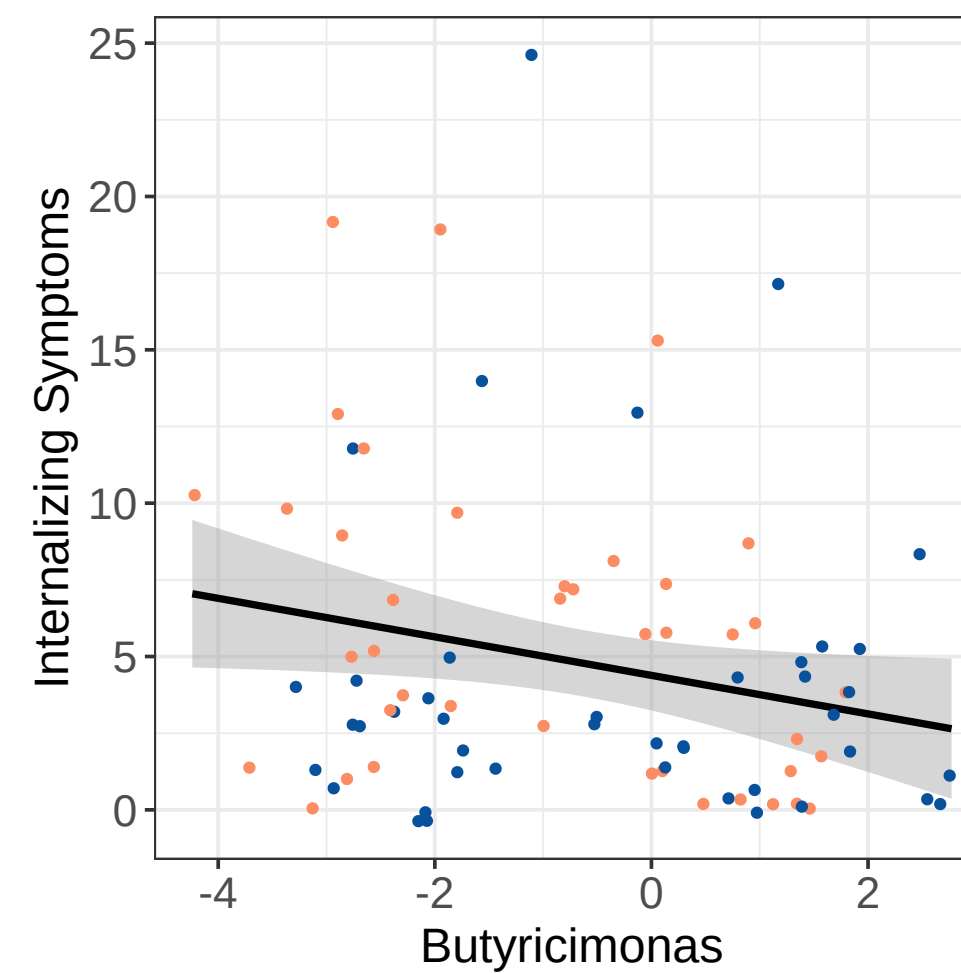
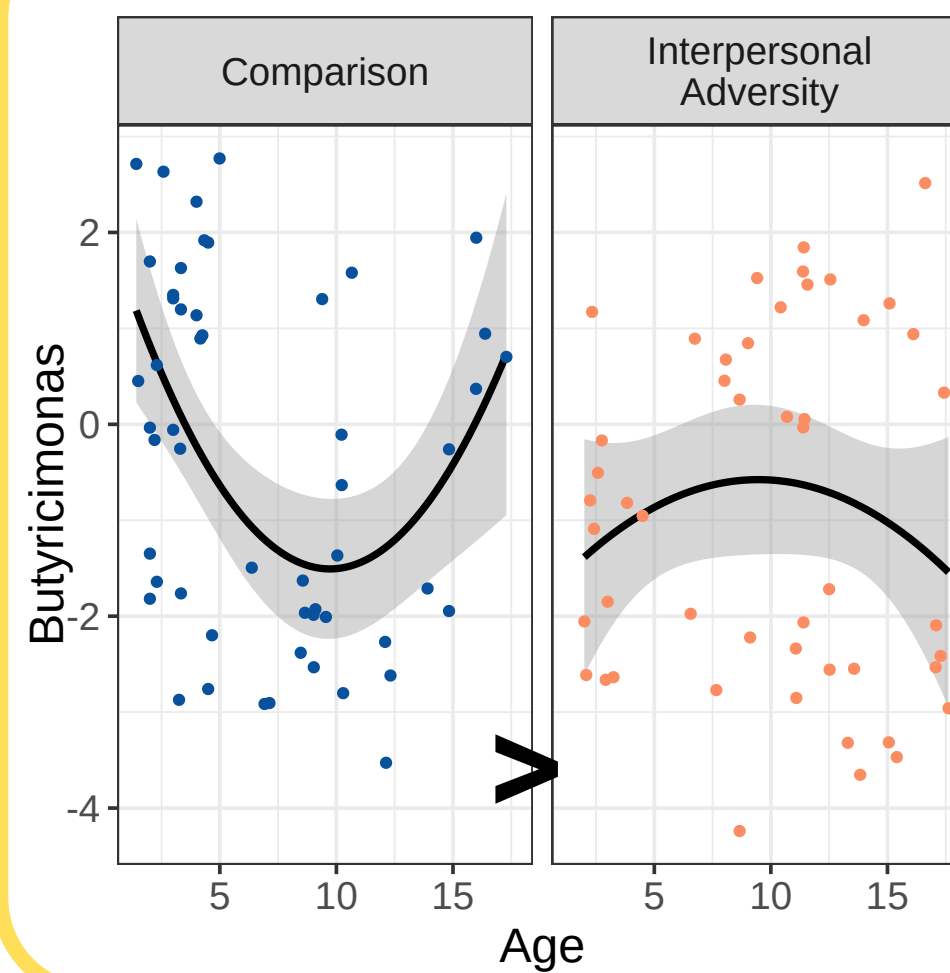
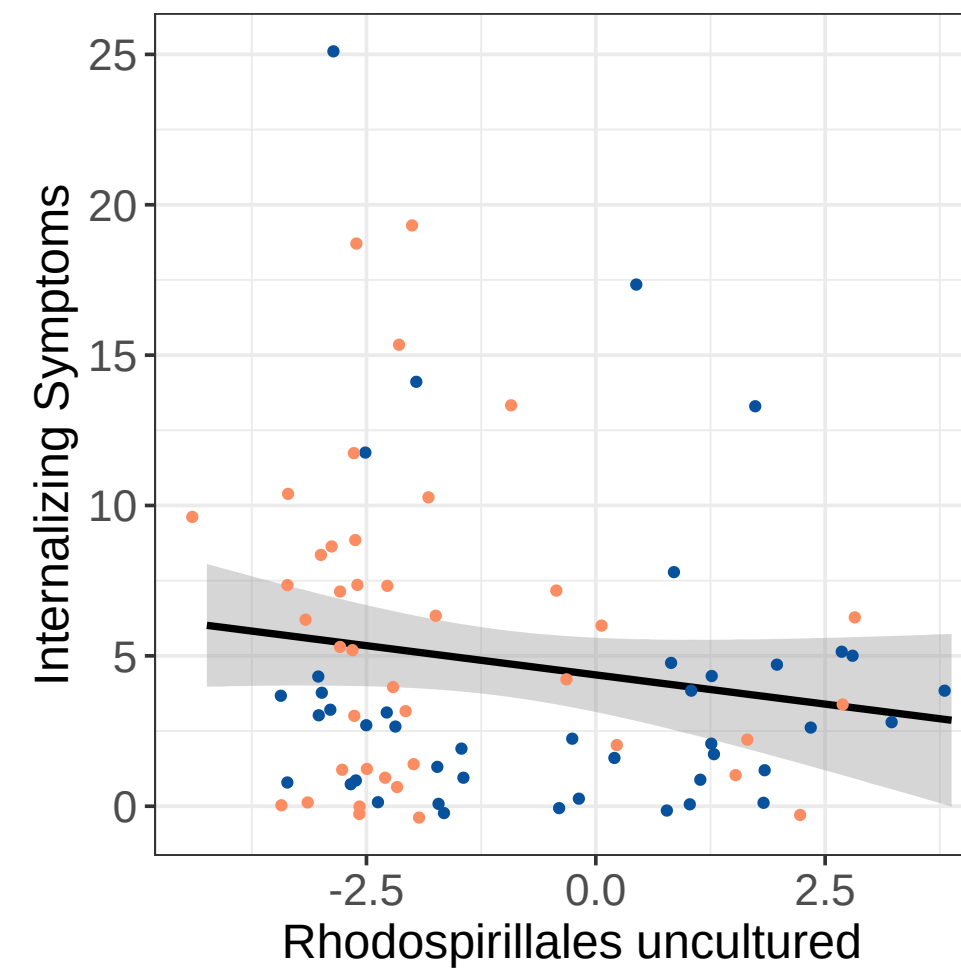
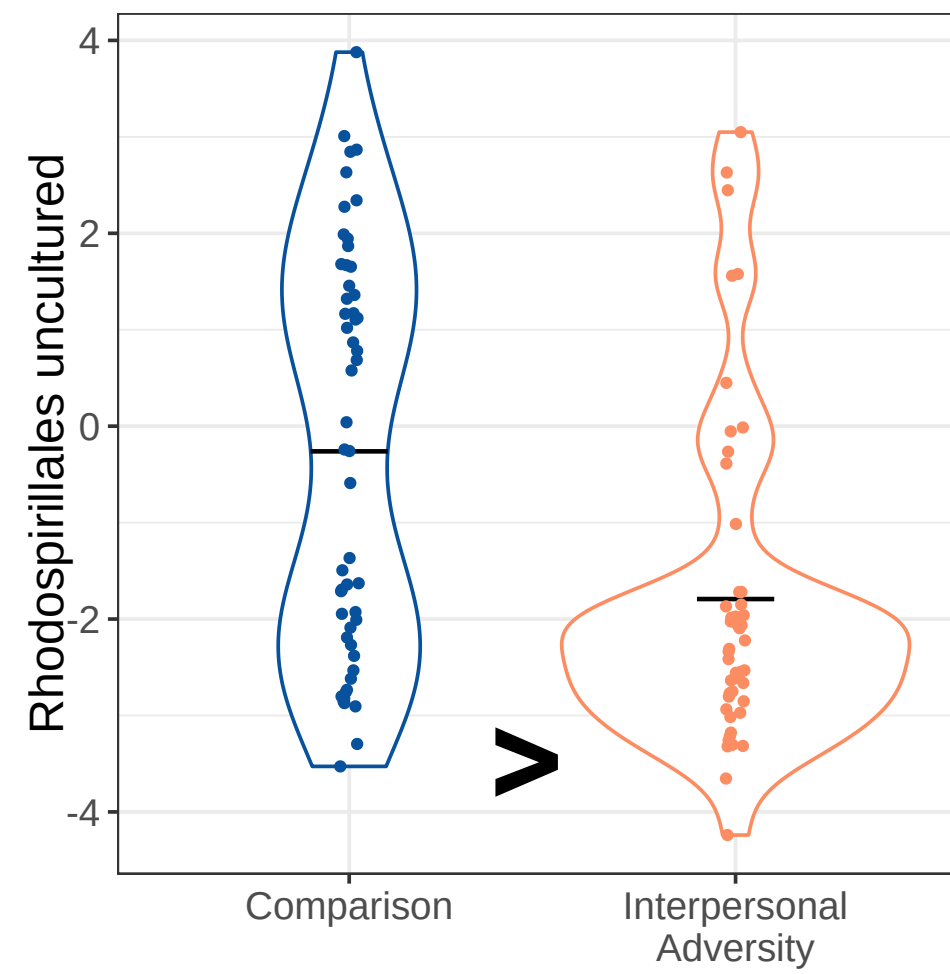




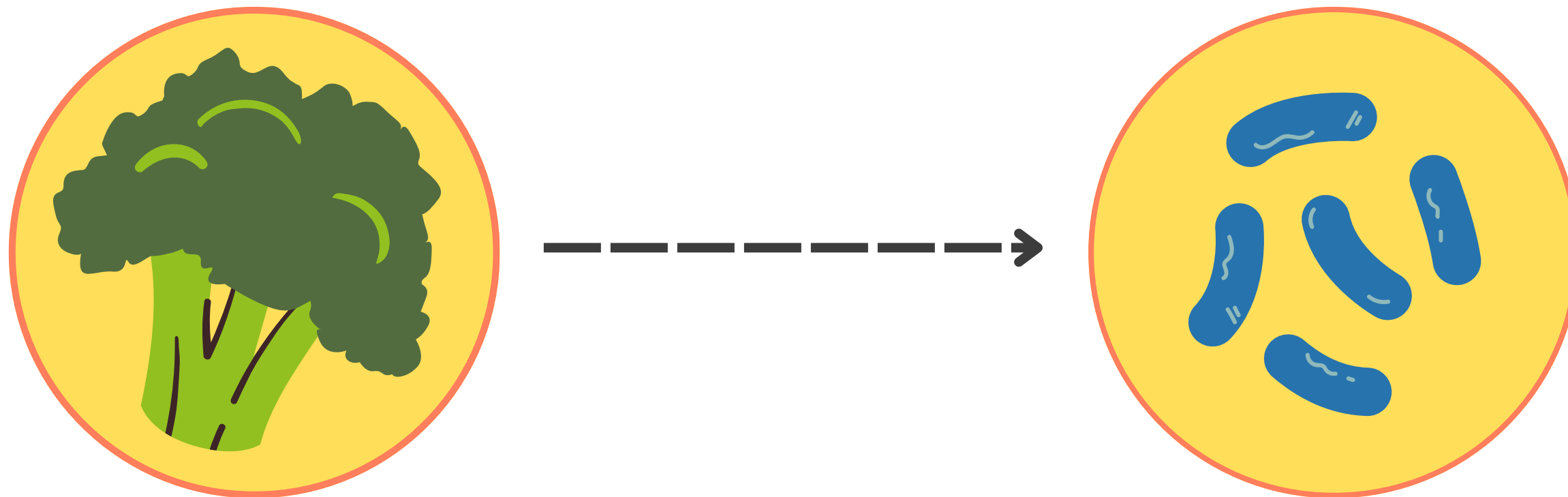


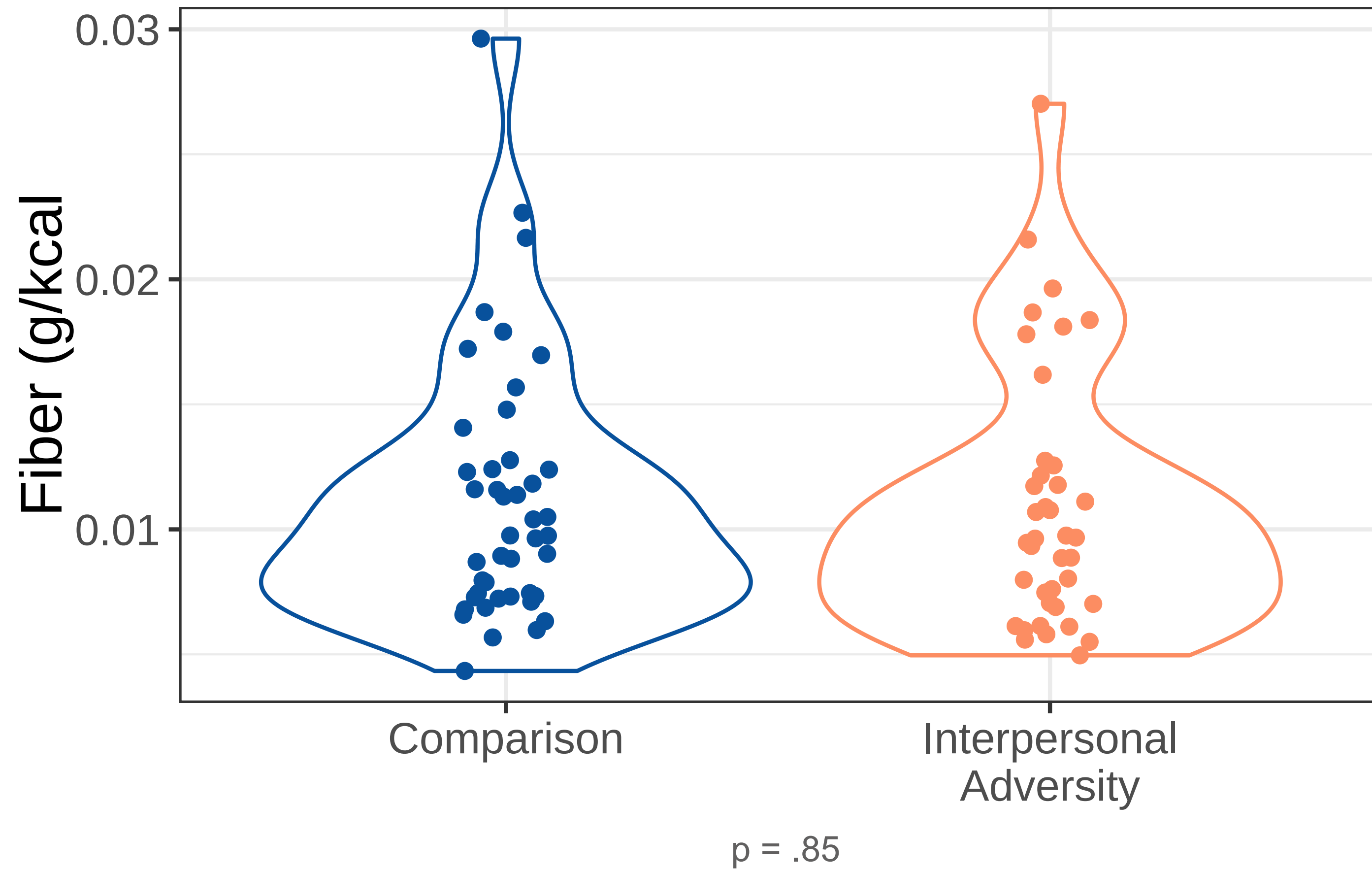


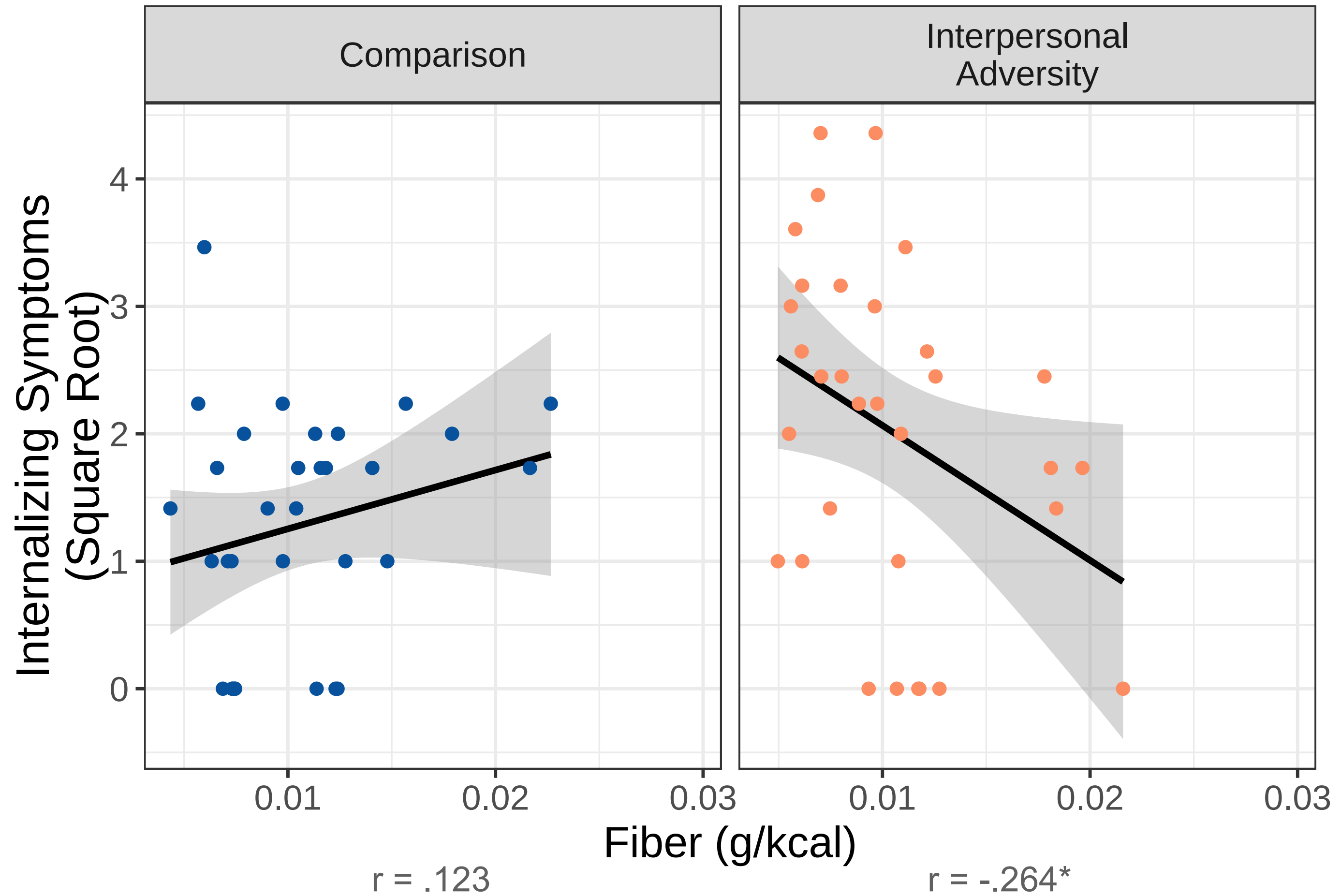


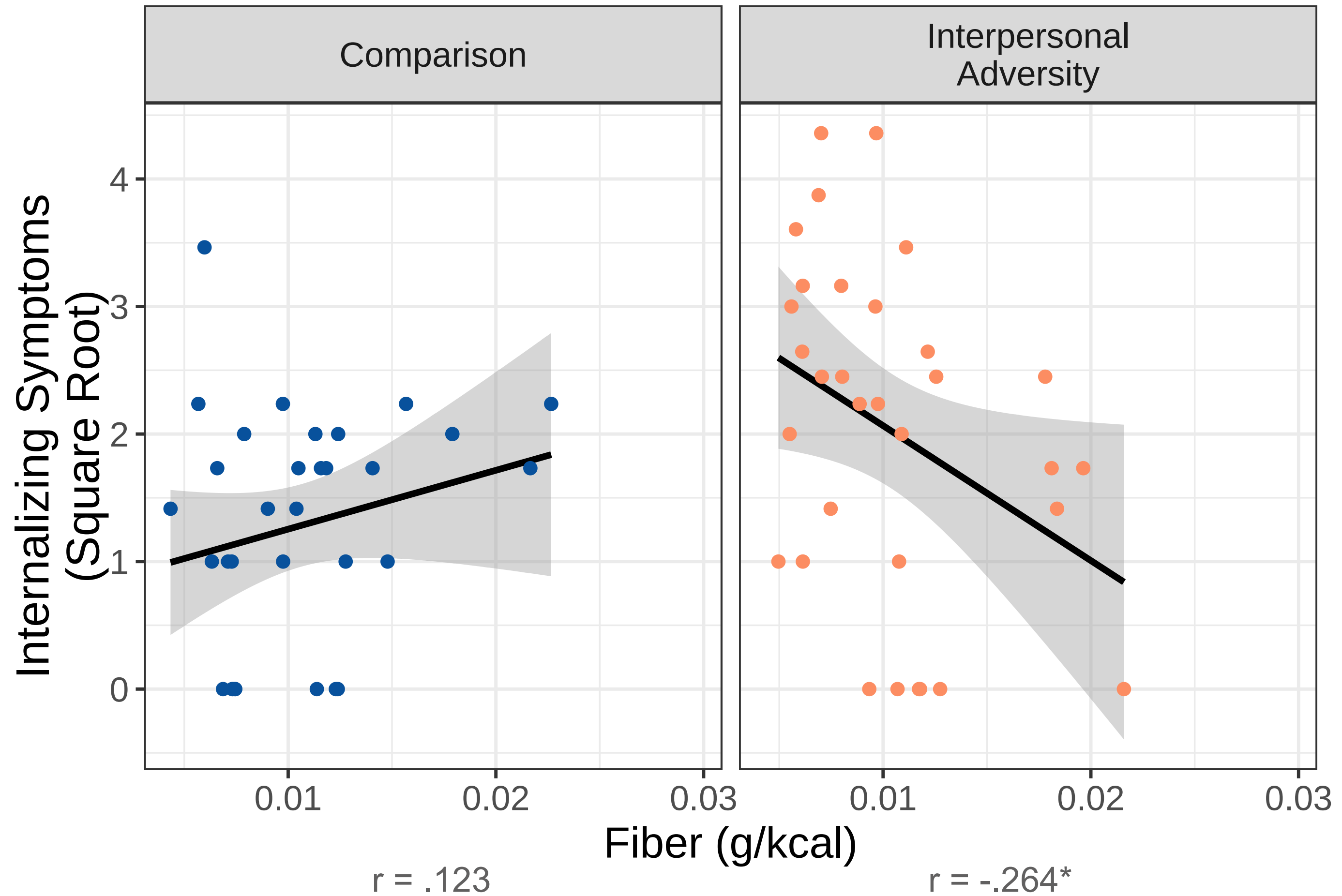


What is the role of diet?

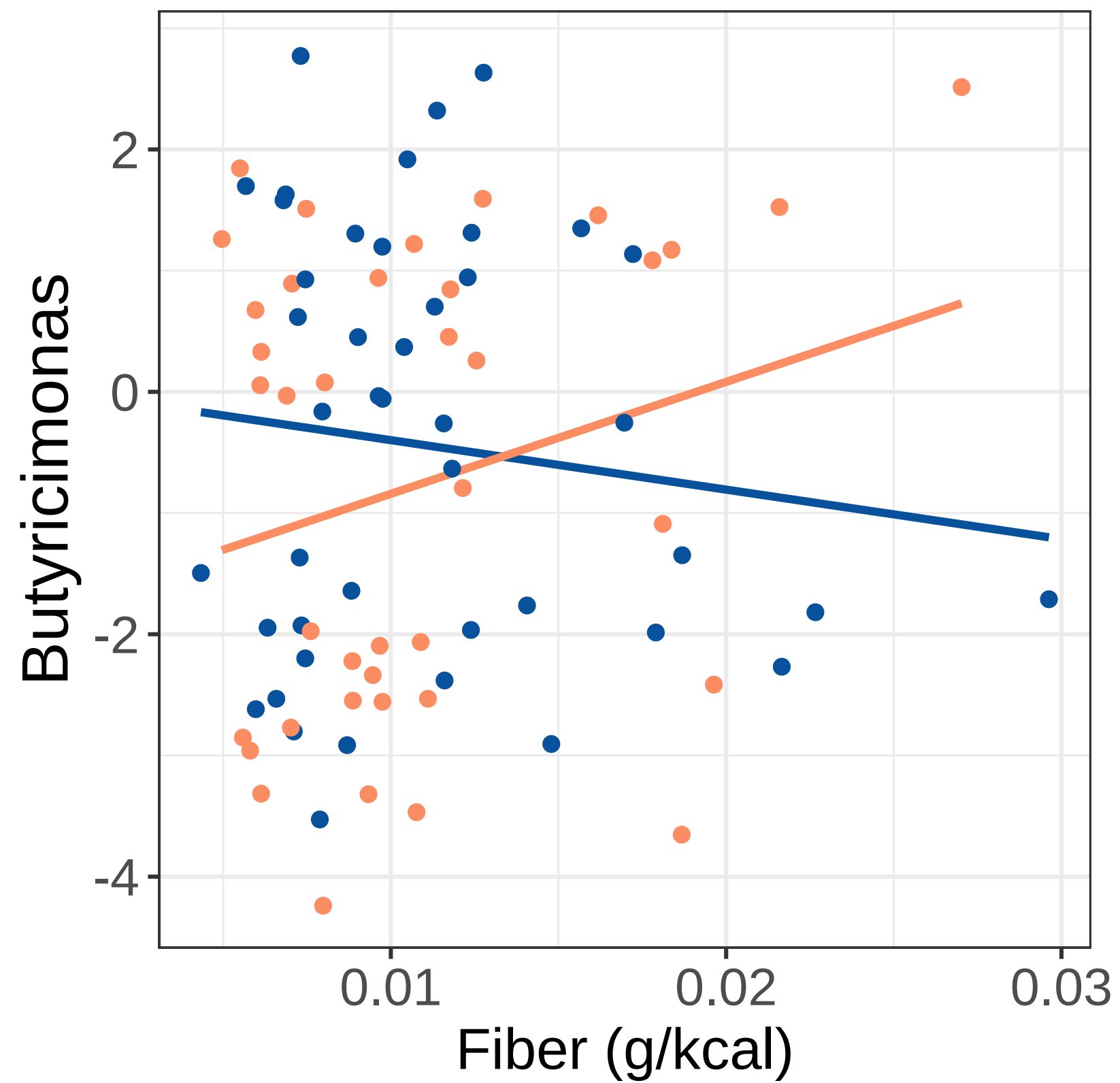




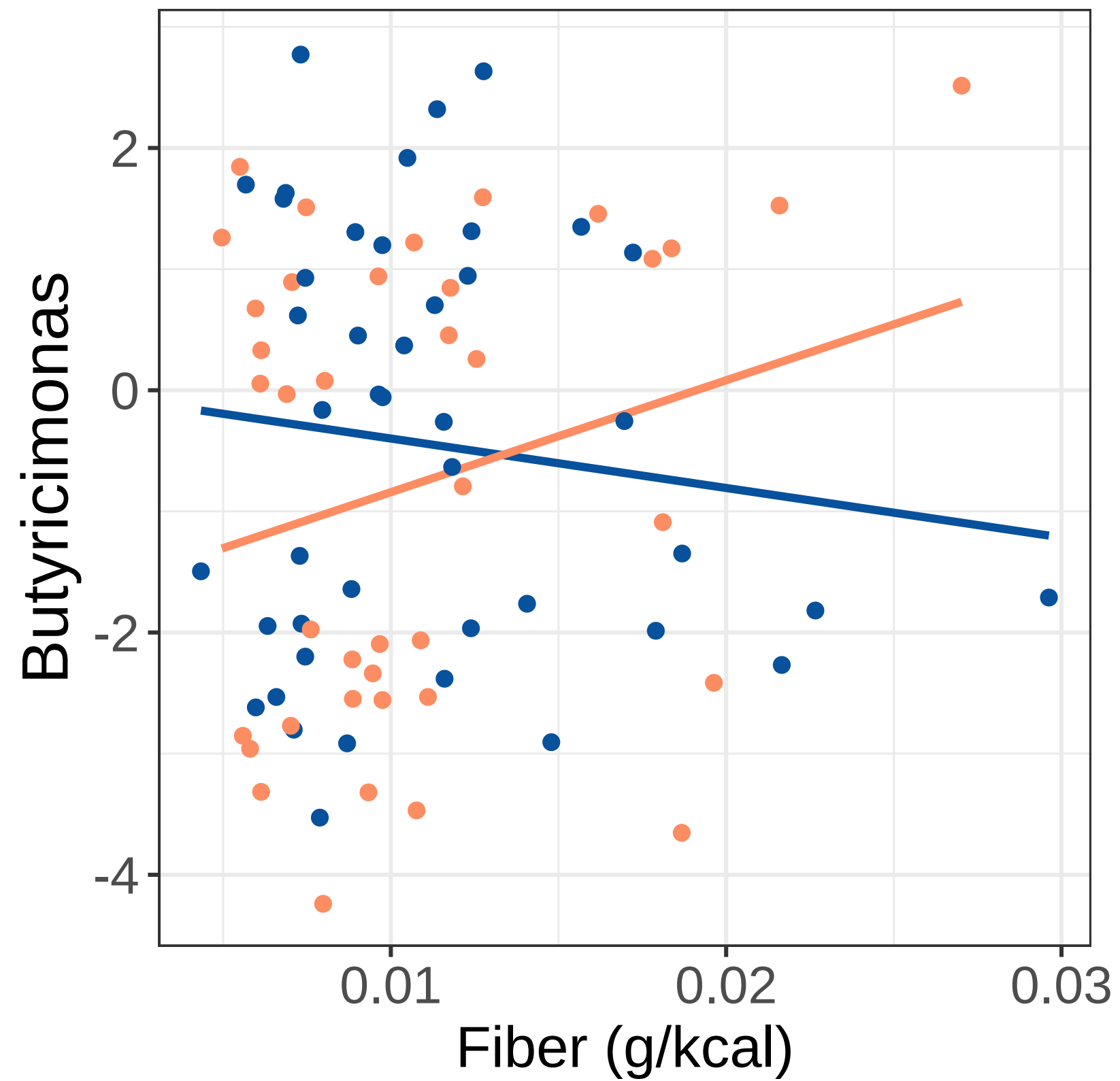




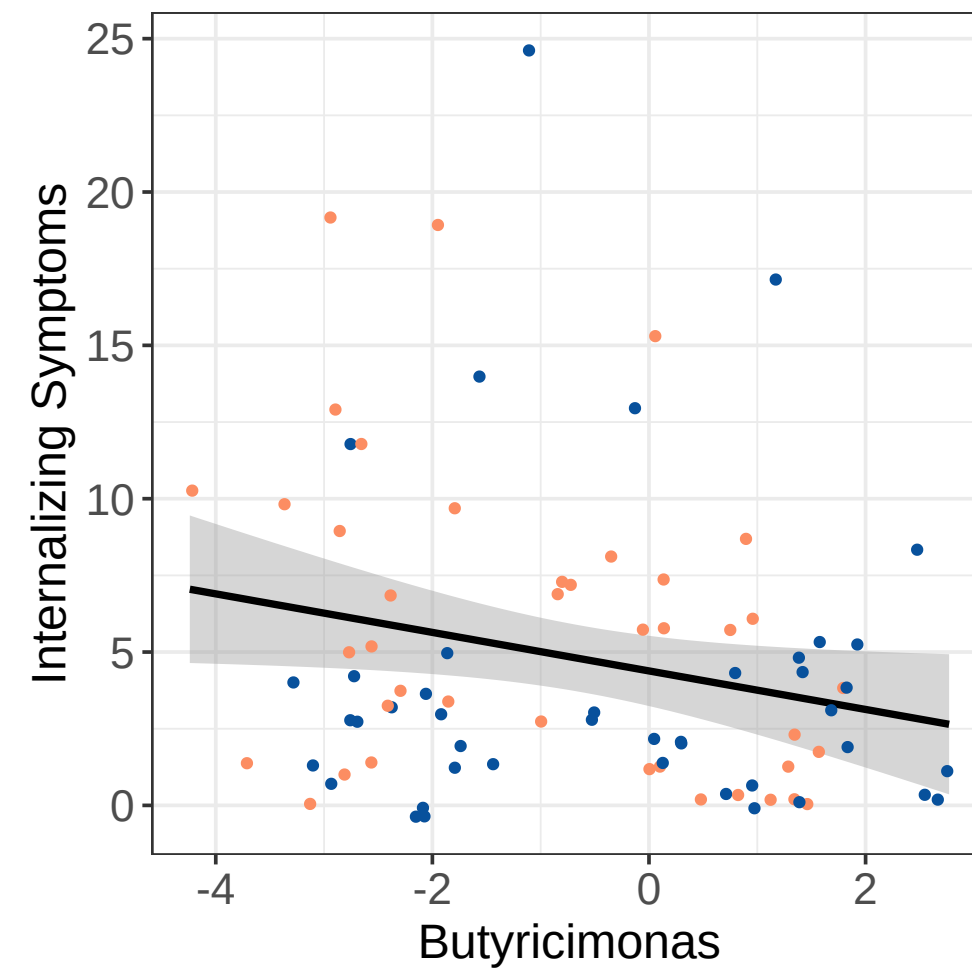
Is the gut microbiome responding differently?

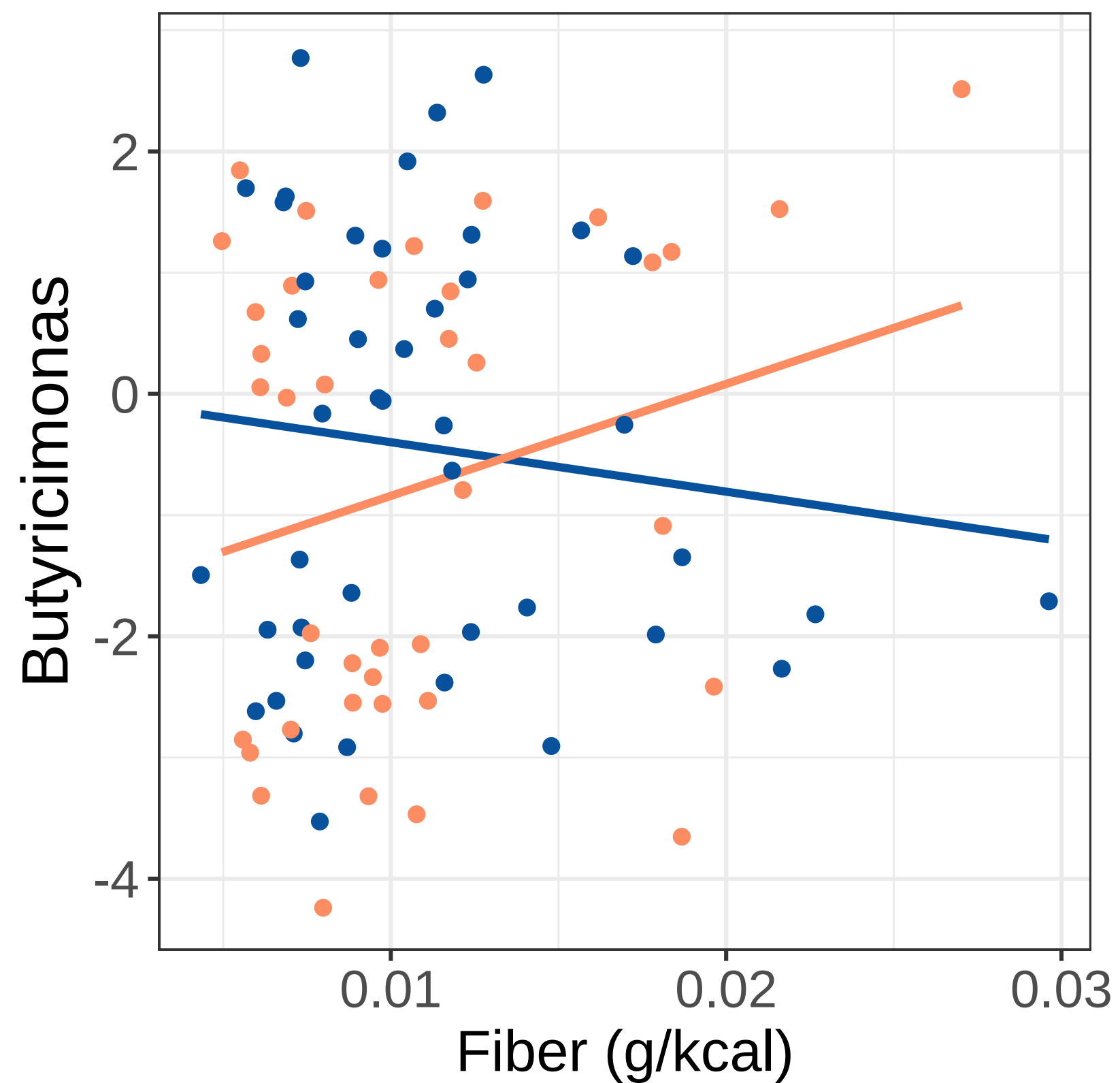


● Comparison ● Interpersonal Adversity



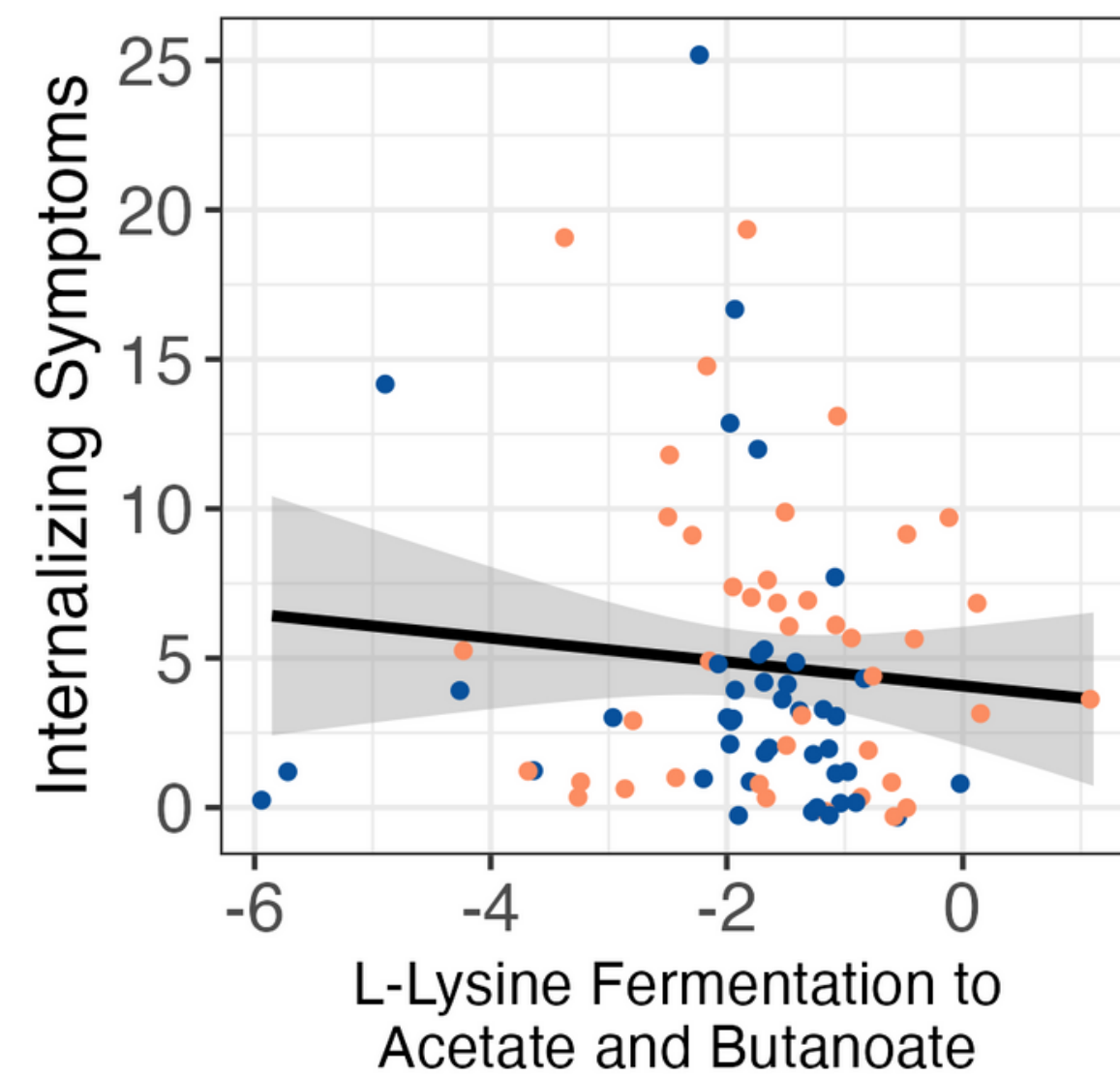
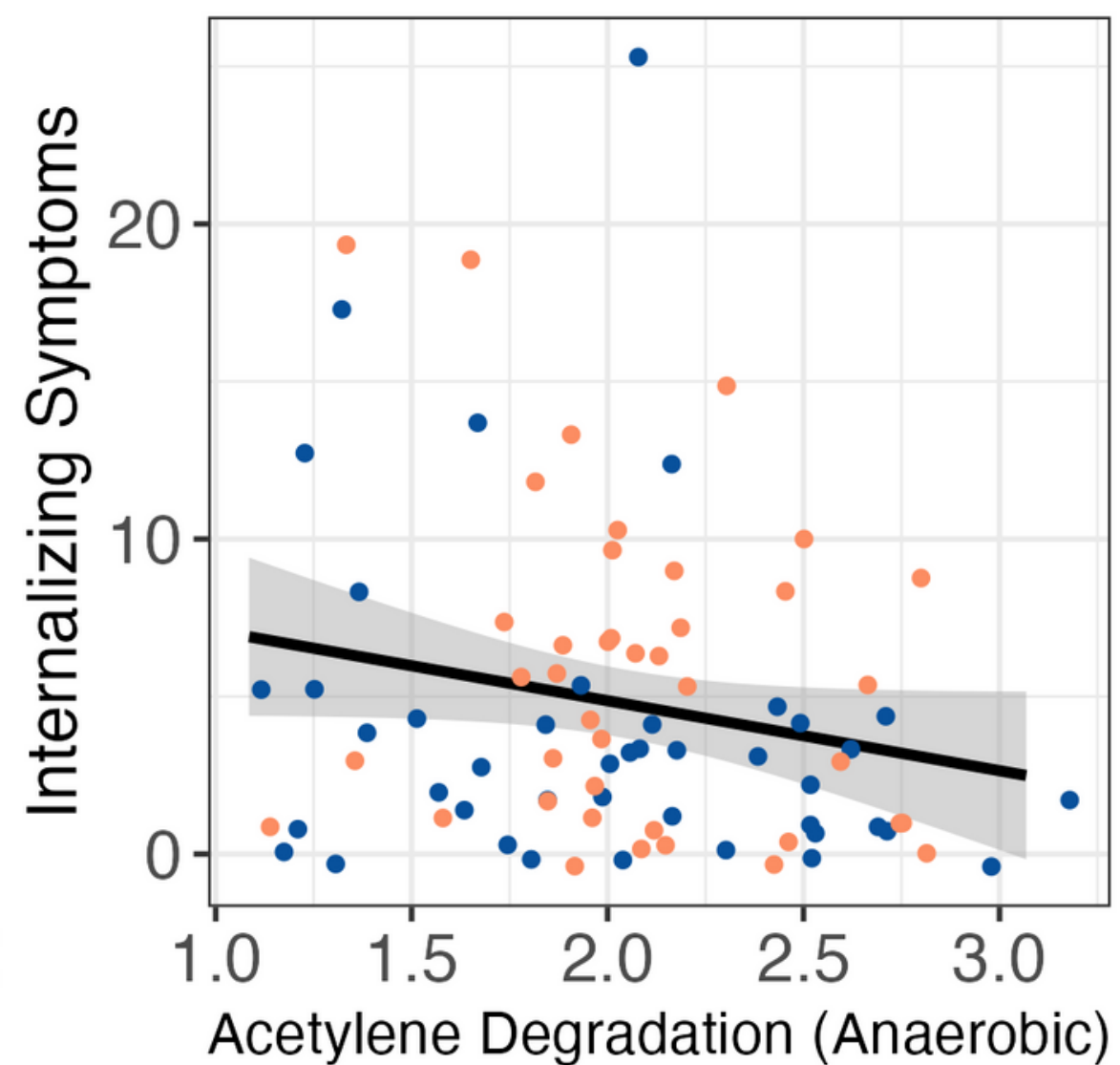
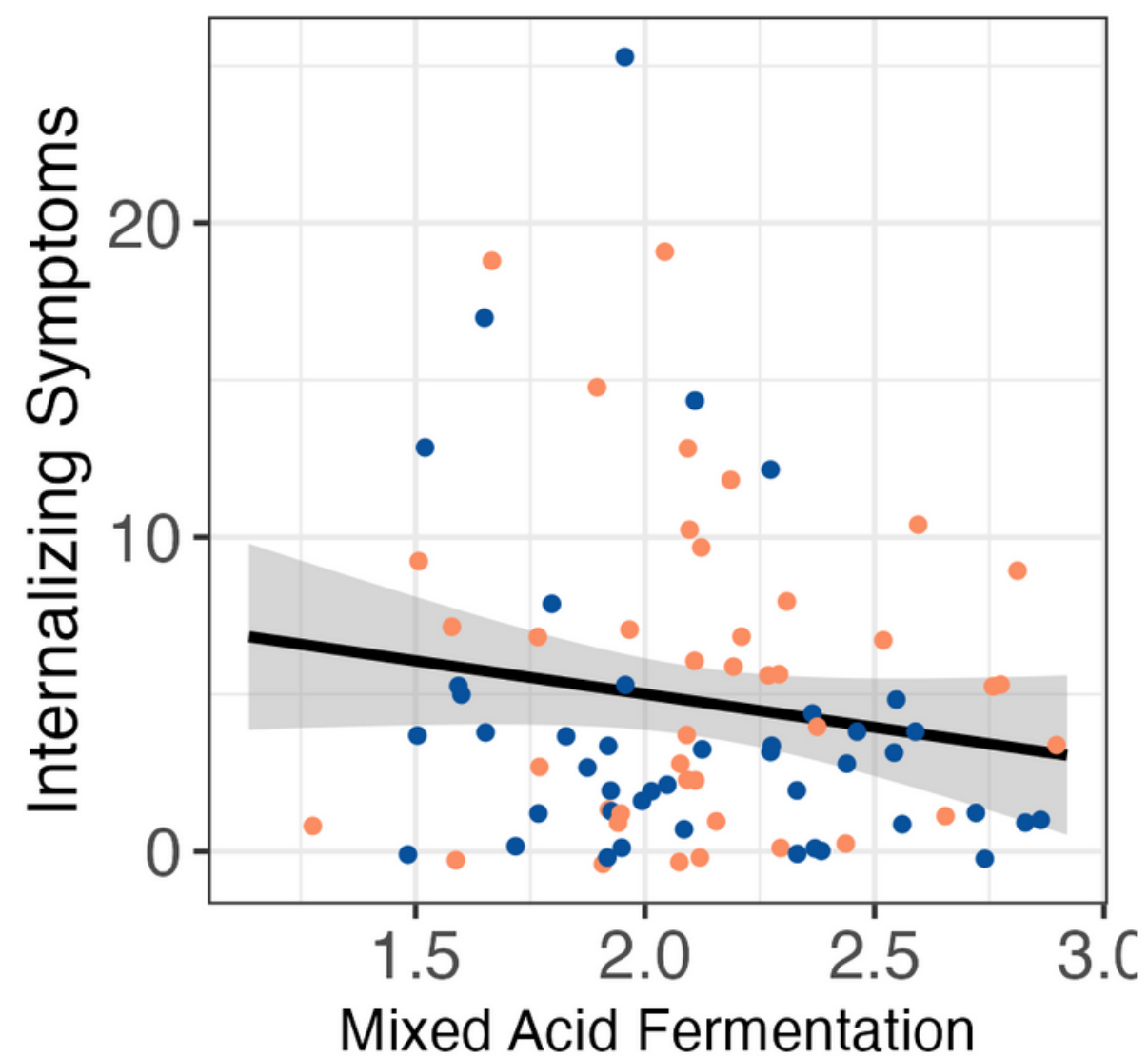
● Comparison ● Interpersonal Adversity



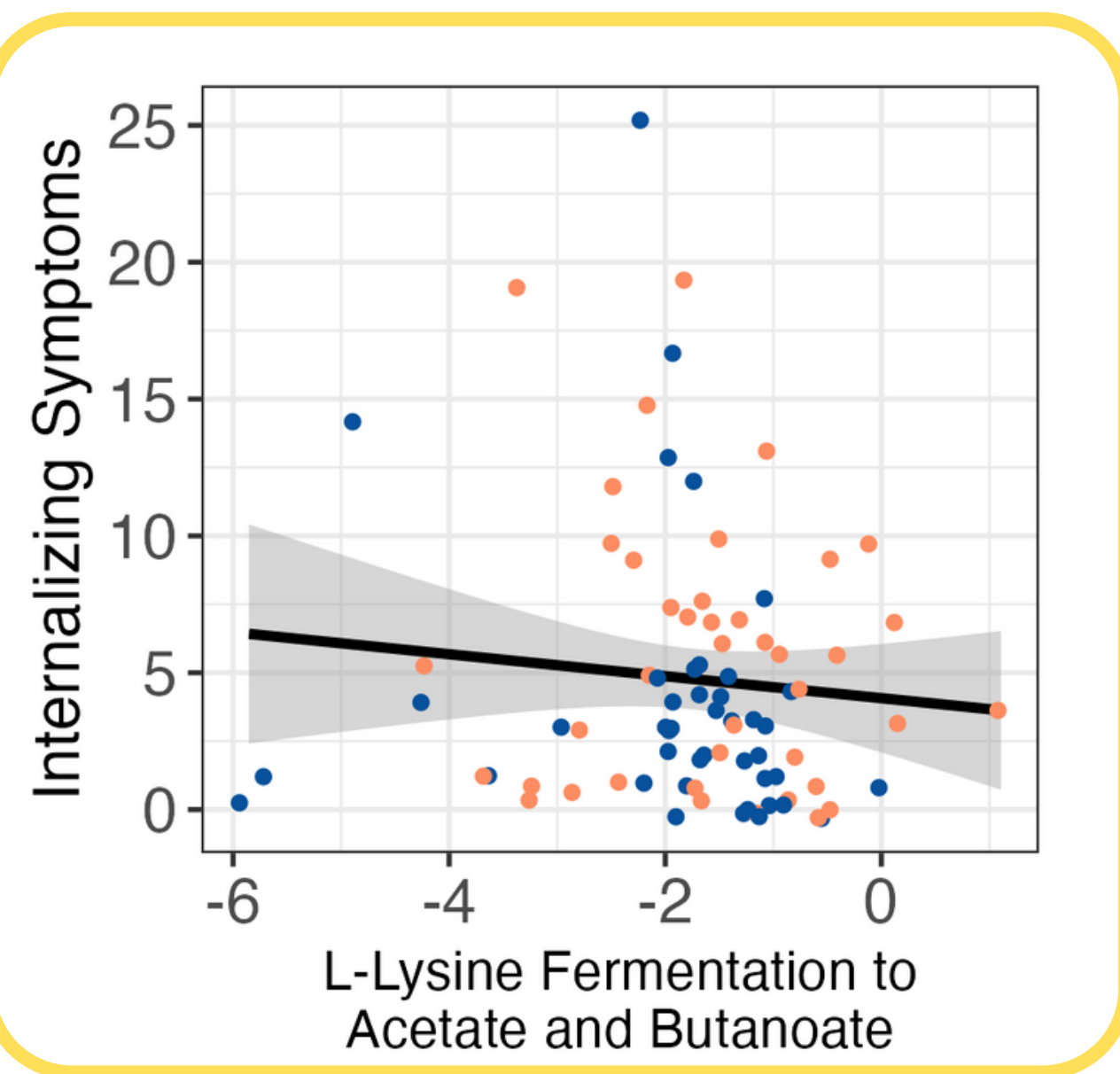
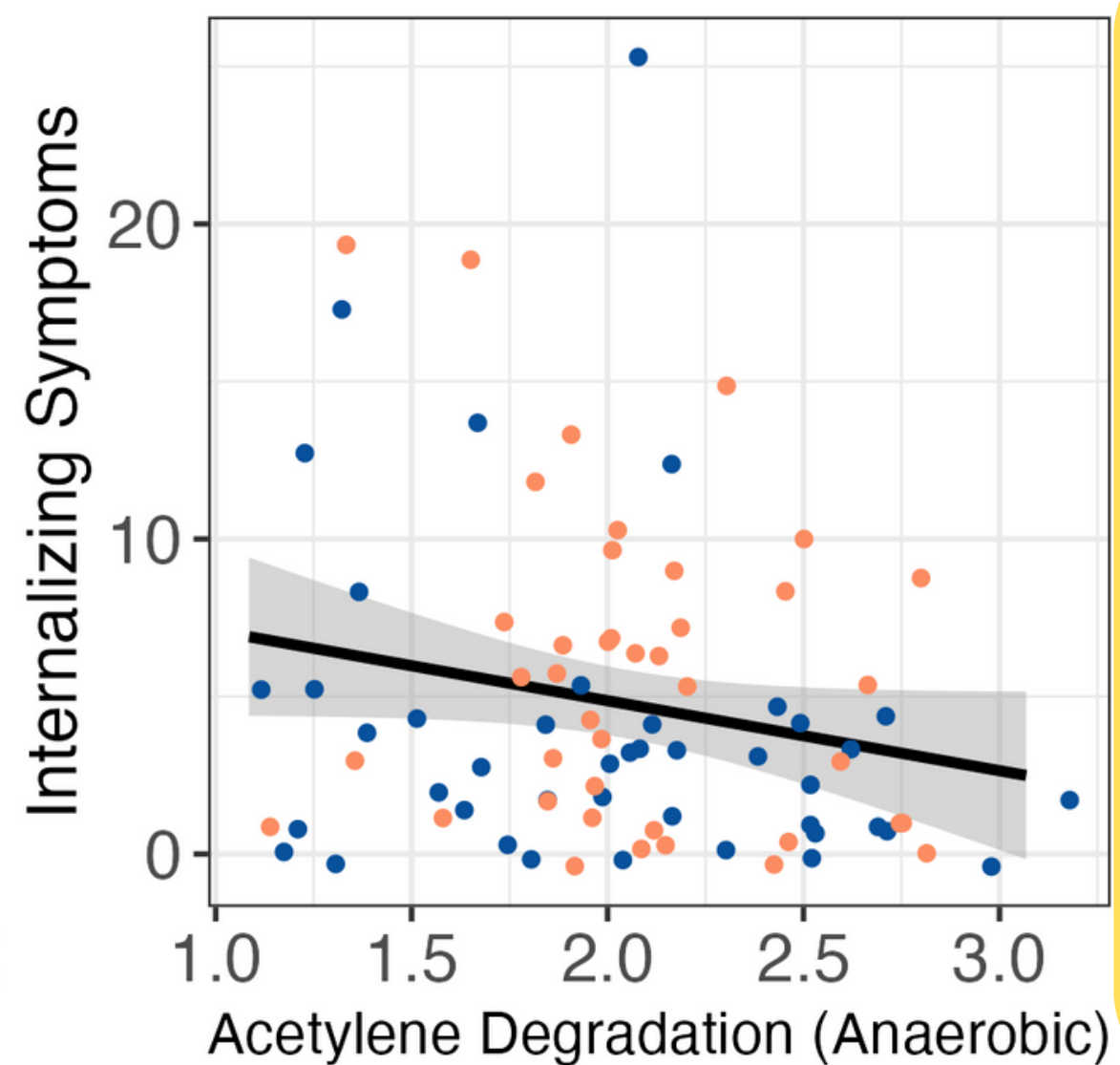
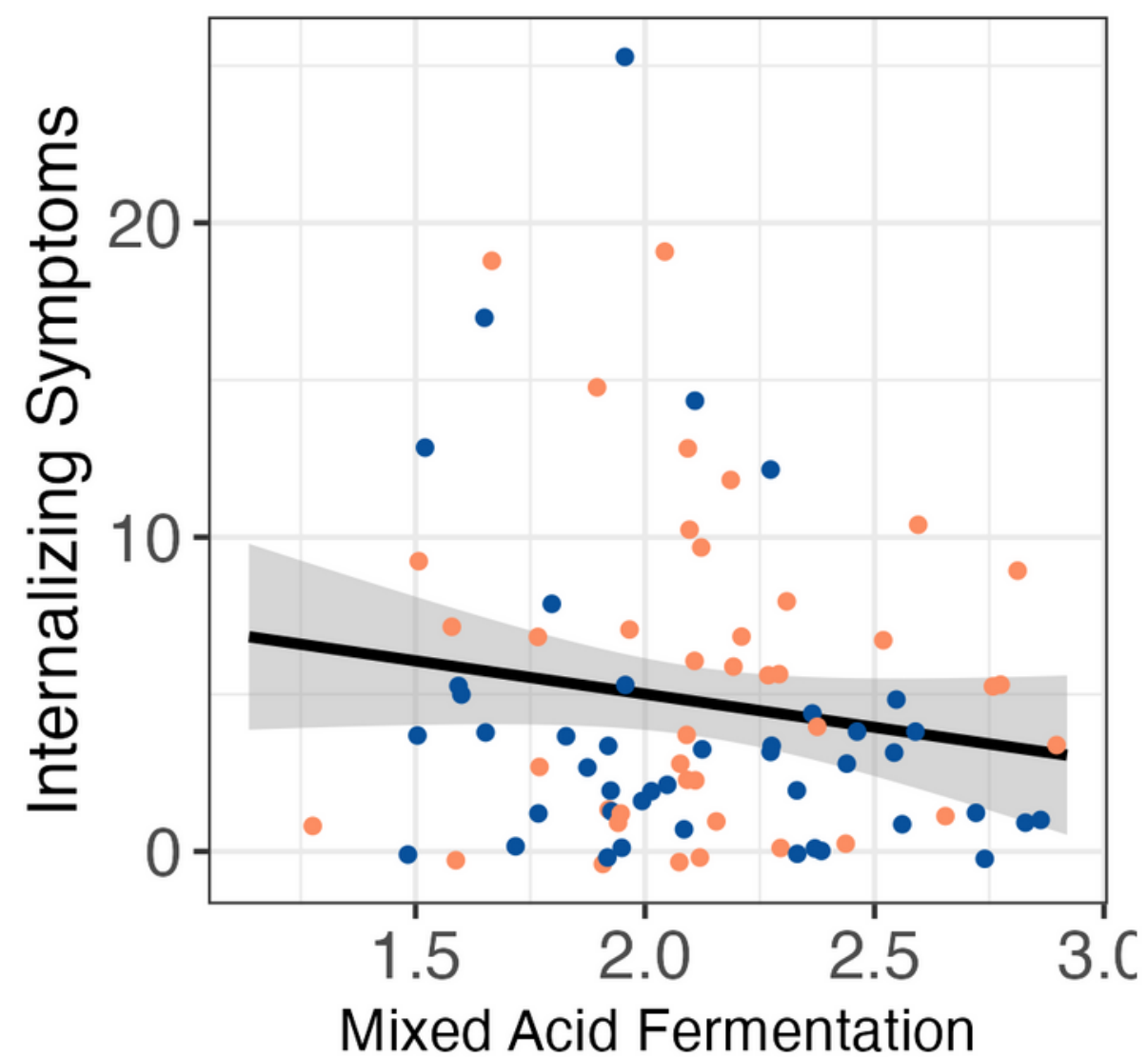


Short-chain fatty acids?

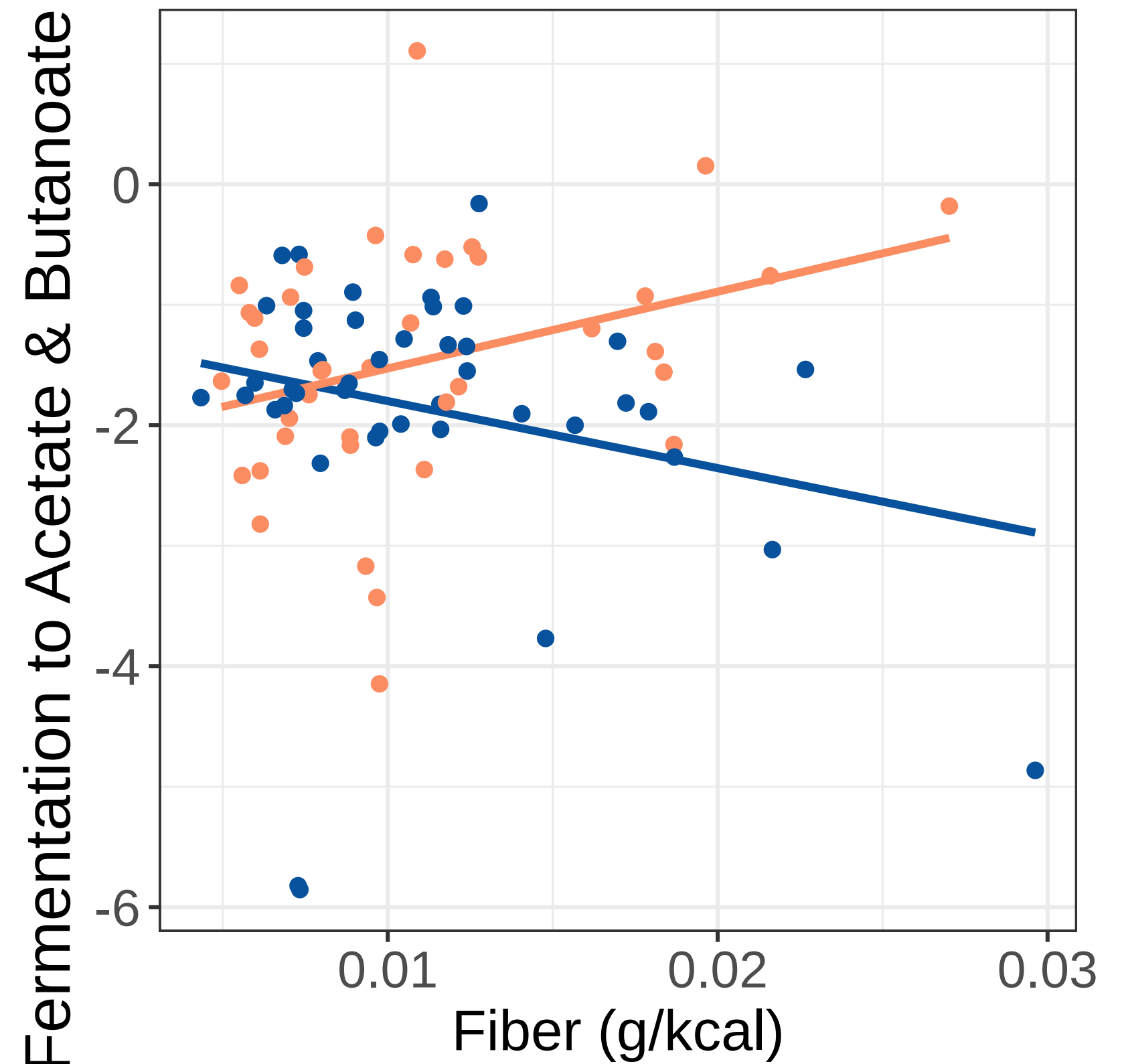
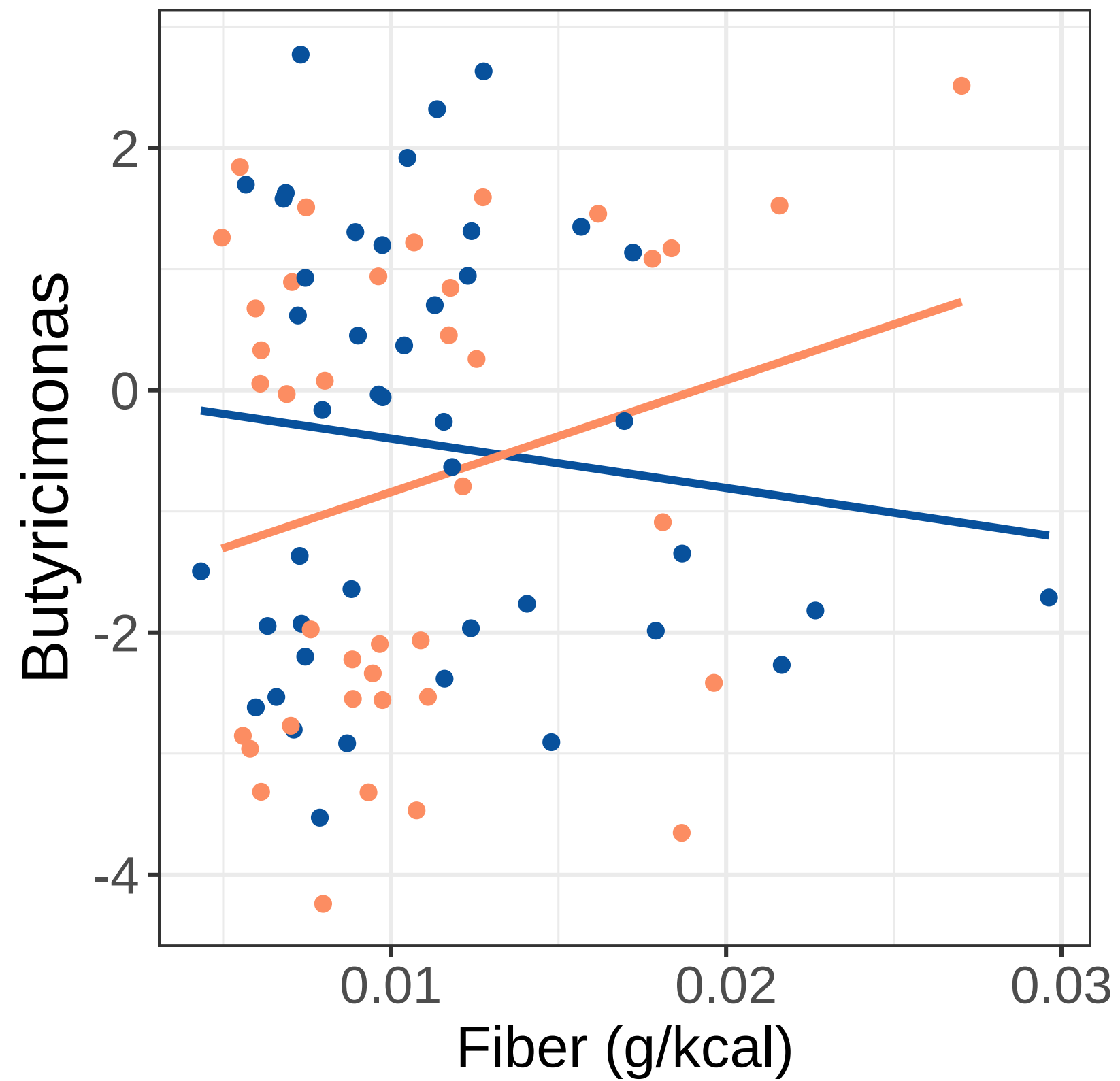
● Comparison ● Interpersonal Adversity



● Comparison ● Interpersonal Adversity



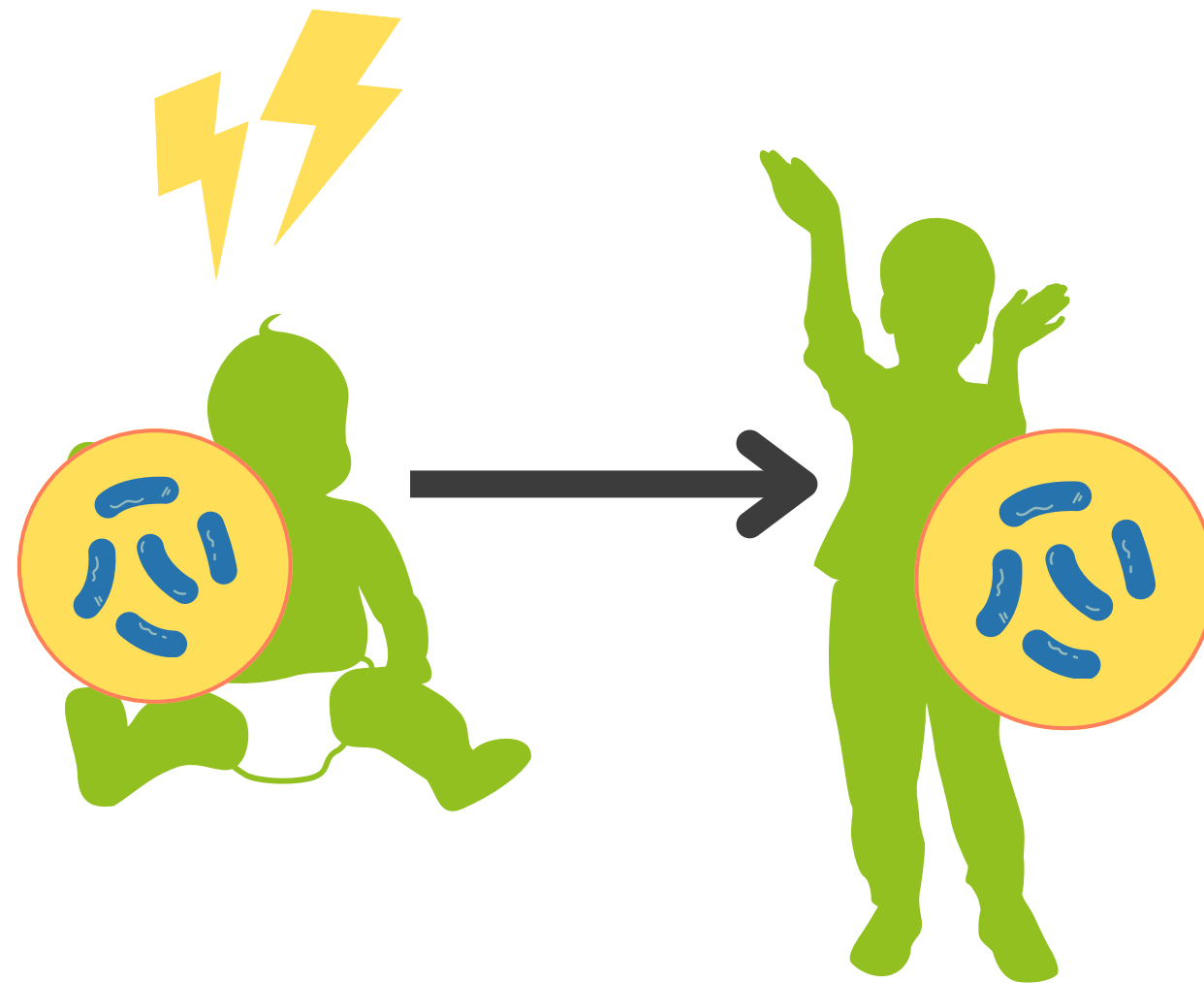
● Comparison ● Interpersonal Adversity



● Comparison ● Interpersonal Adversity

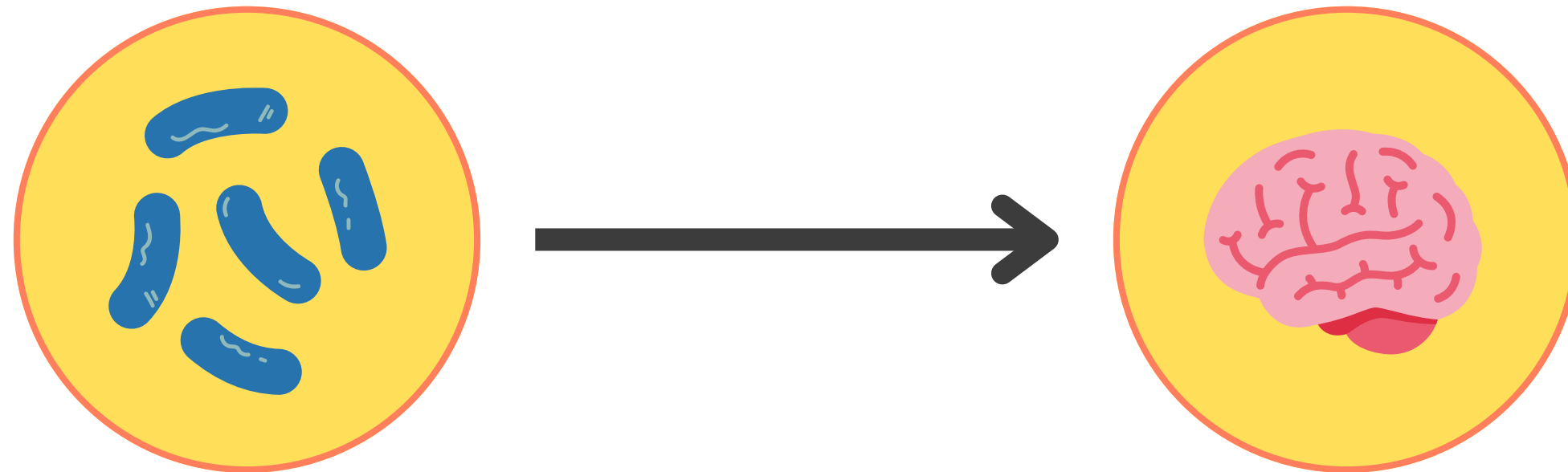
Takeaways:

- Adversity alters dynamic microbiome differences across age



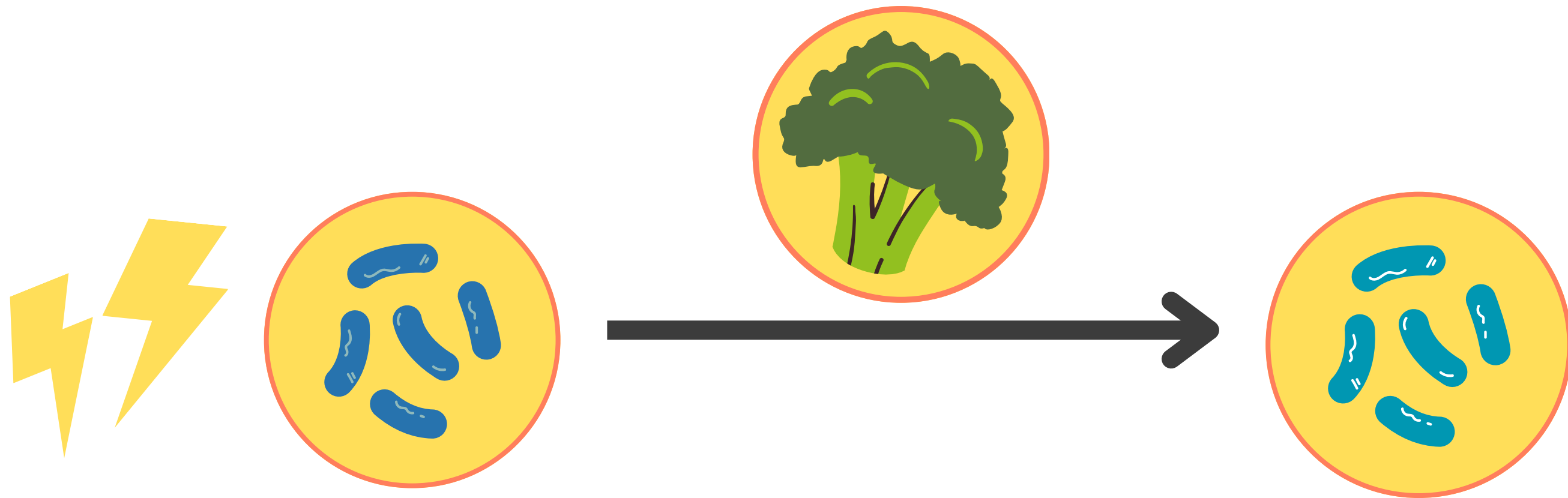
Takeaways:

- Adversity alters dynamic microbiome differences across age
- Gut bacteria and SCFAs are linked to internalizing symptoms



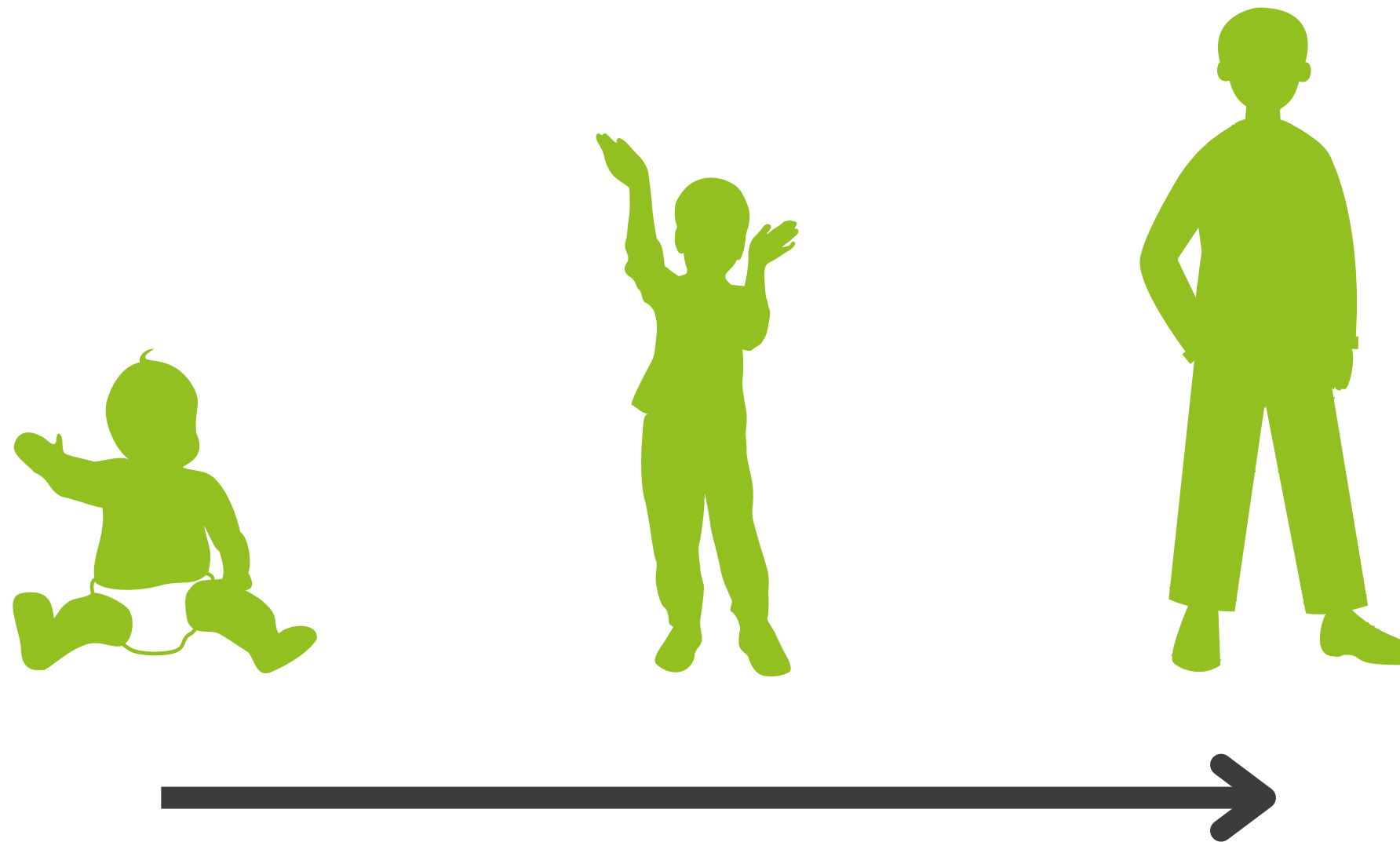
Takeaways:

- Adversity alters dynamic microbiome differences across age
- Gut bacteria and SCFAs are linked to internalizing symptoms
- Microbiomes of adversity-exposed are uniquely linked with diet



Future Directions:

- Longitudinal data



Future Directions:

- Longitudinal data
- Higher-resolution measures



Future Directions:

- Longitudinal data
- Higher-resolution measures
- Multiple data types



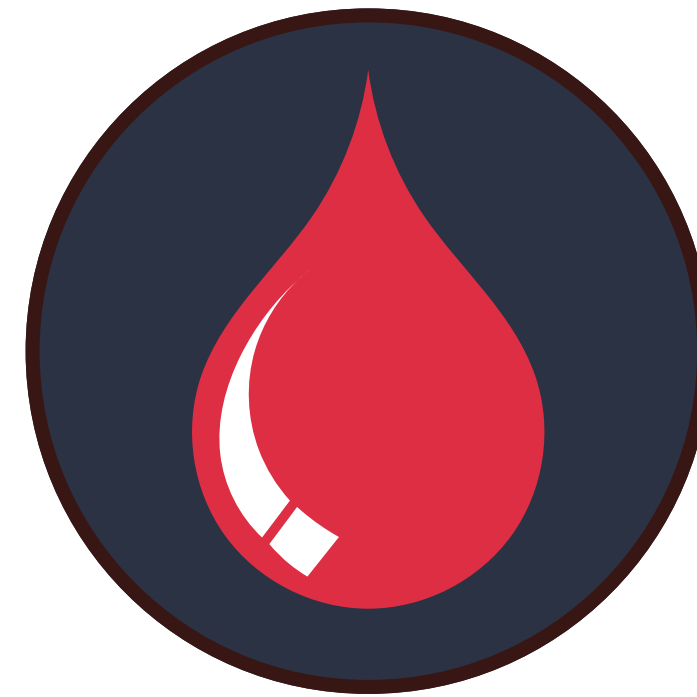
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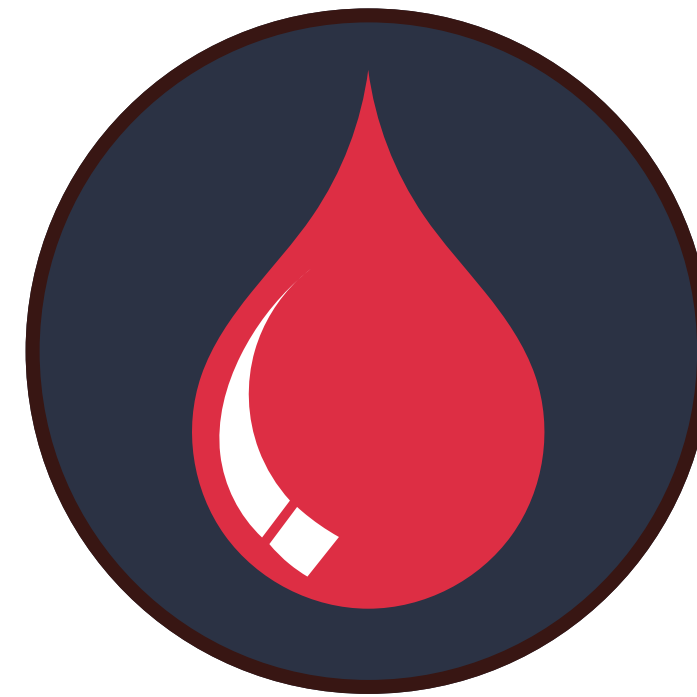
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Future Directions:

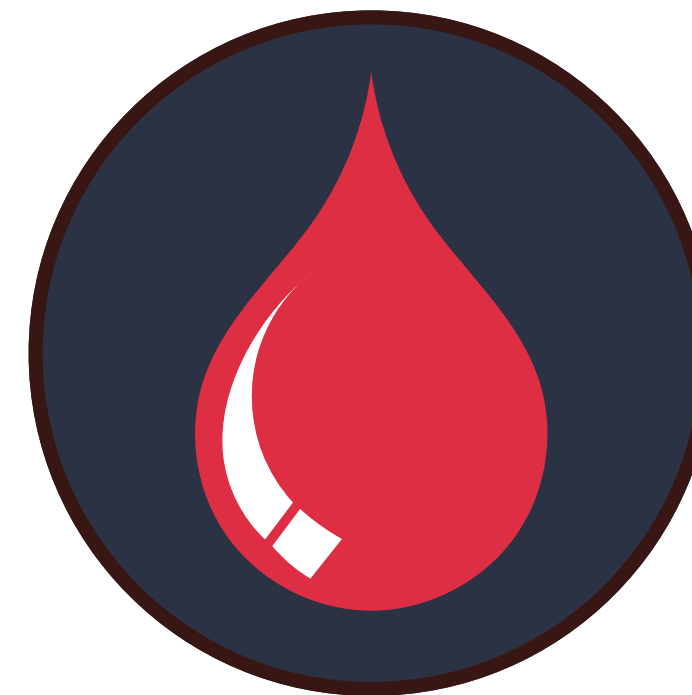
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Characteristics of the oral microbiome in youth exposed to caregiving adversity

Naomi N. Gancz  , [Francesca R. Querdasi](#), [Kristen A. Chu](#), [Emily Towner](#), [Eason Taylor](#), [Bridget L. Callaghan](#)

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P2-99



Thank you

Mentors

Bridget Callaghan

Collaborators

BABLab

Nim Tottenham

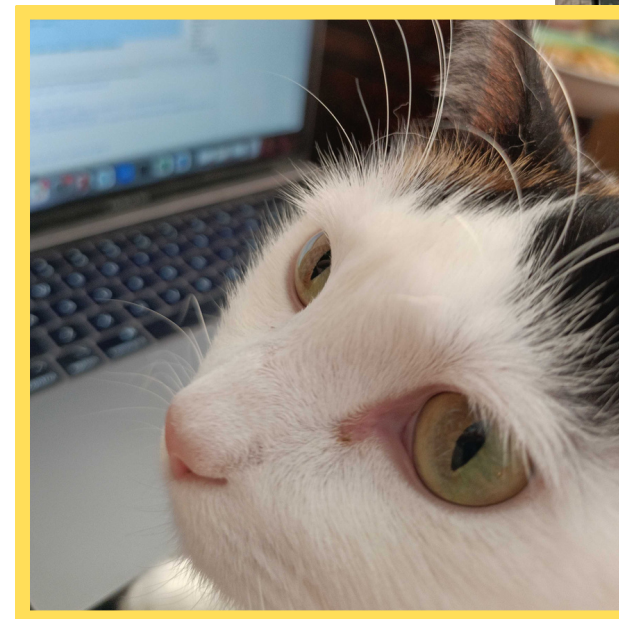
Funding Sources

NIMH

Goodman-Luskin

Microbiome Center

UCLA Grad Division



Get in touch!

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