Caregiving Adversity & Internalizing Symptoms in Youth: Role of Gut Microbiome Functional Potential

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Goodman-Luskin Microbiome Center Symposium

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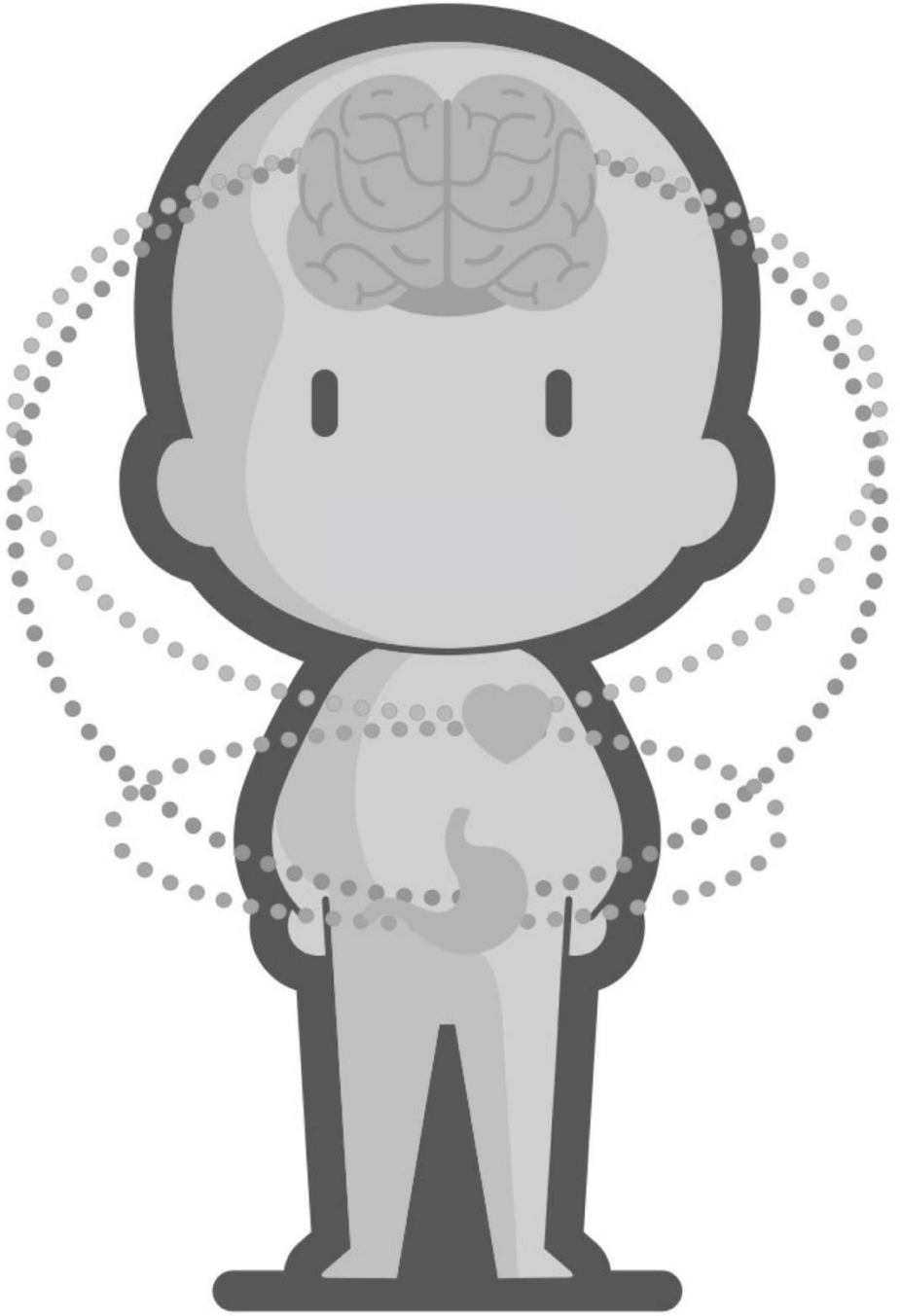
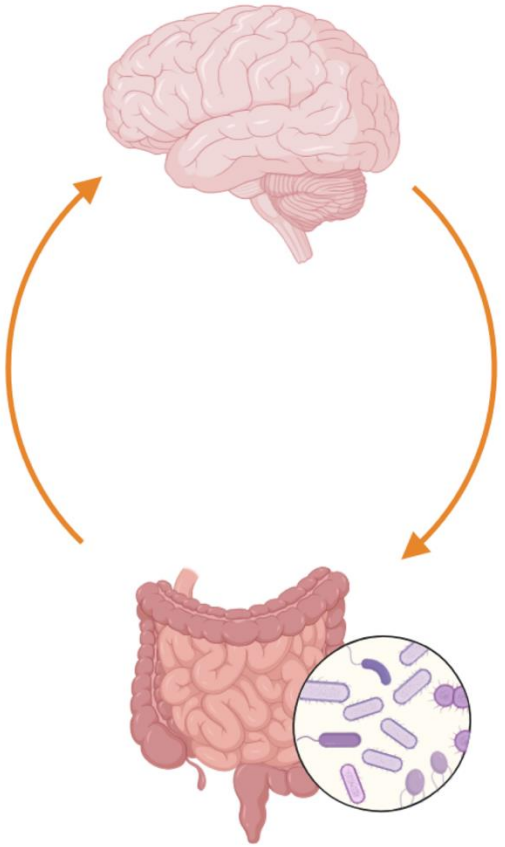
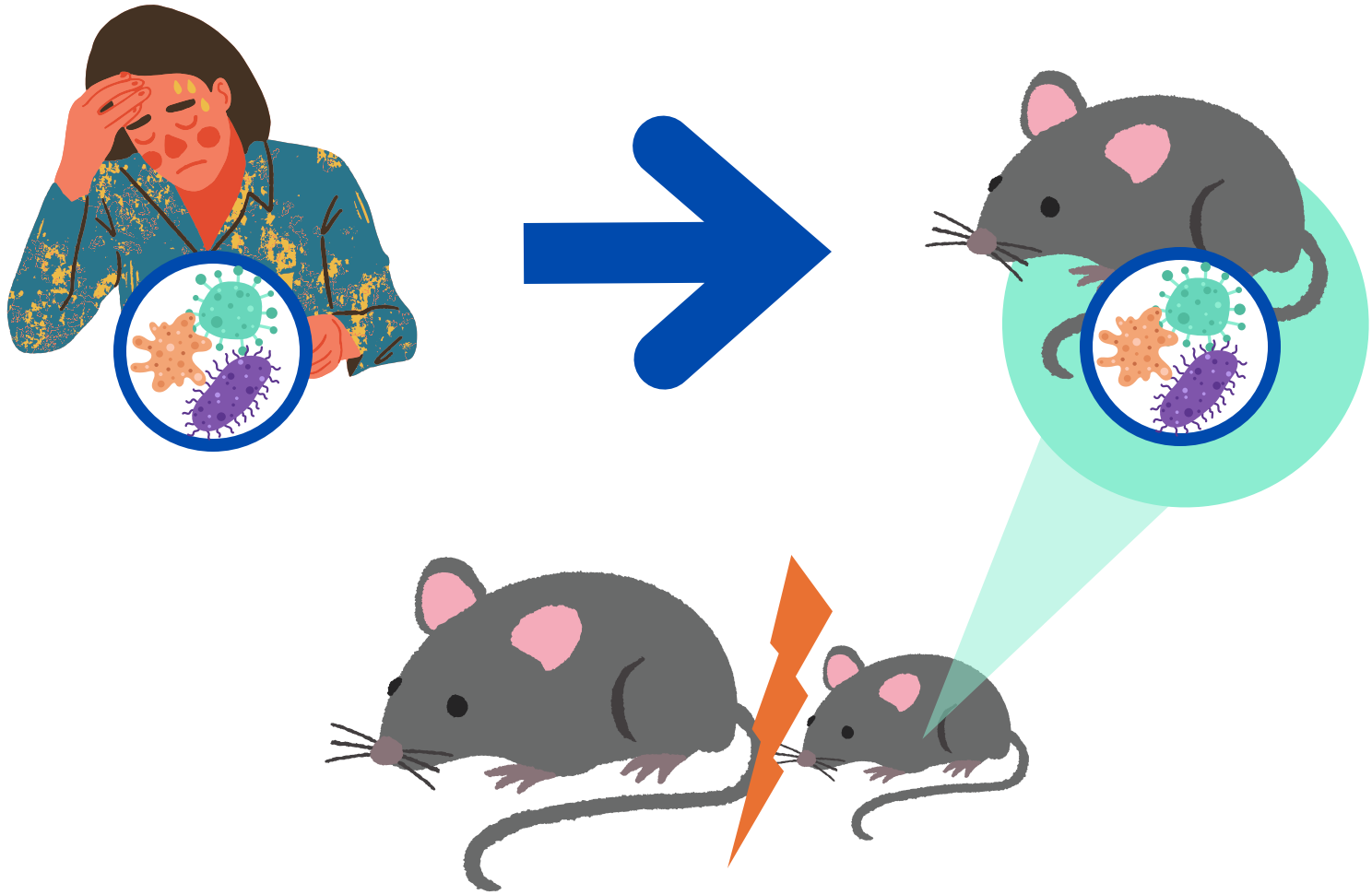


Introduction



U.S. Children's Bureau (2022); O'Donnell & Meaney (2017); Juffer et al (2005); Eckshtain et al. (2020); Cuijpers et al. (2021)

Introduction



- Short-chain fatty acids
- Amino acid metabolism

Kelly (2016); Zheng (2016); Querdasi et al. (2023); Callaghan et al. (2019)

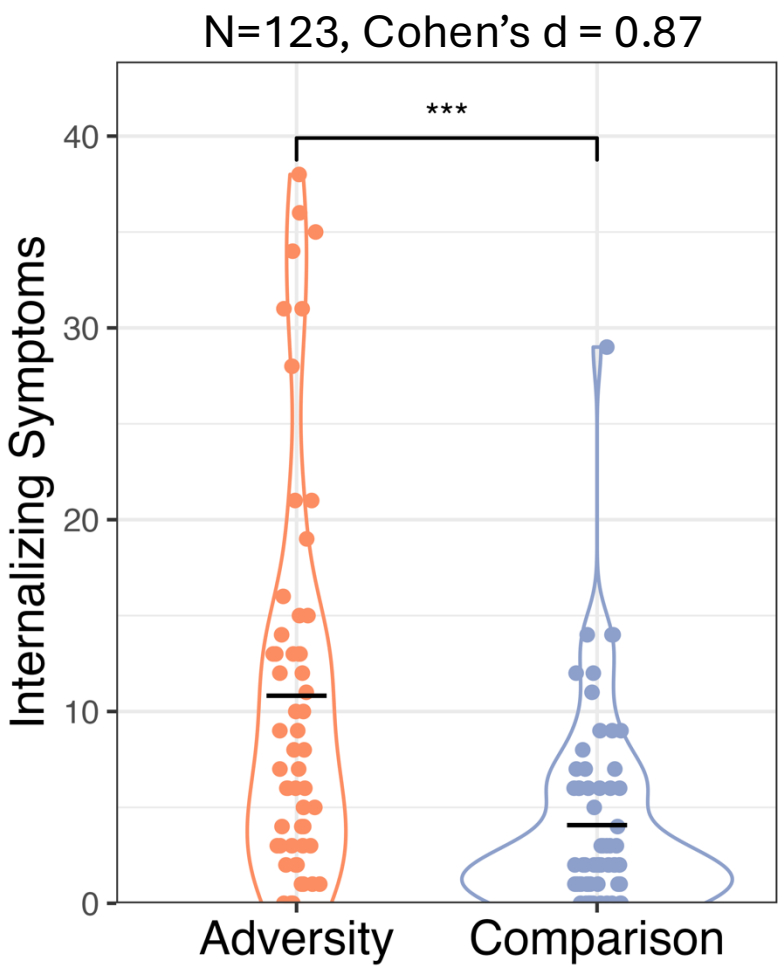
Methods

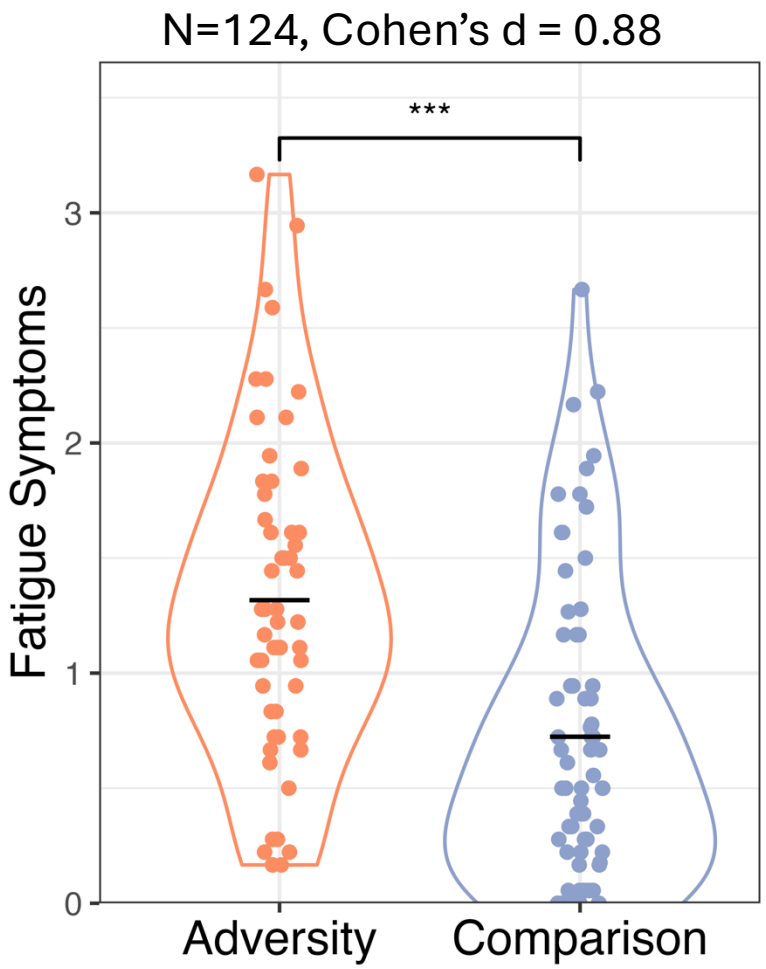
N=57
Caregiving Adversity

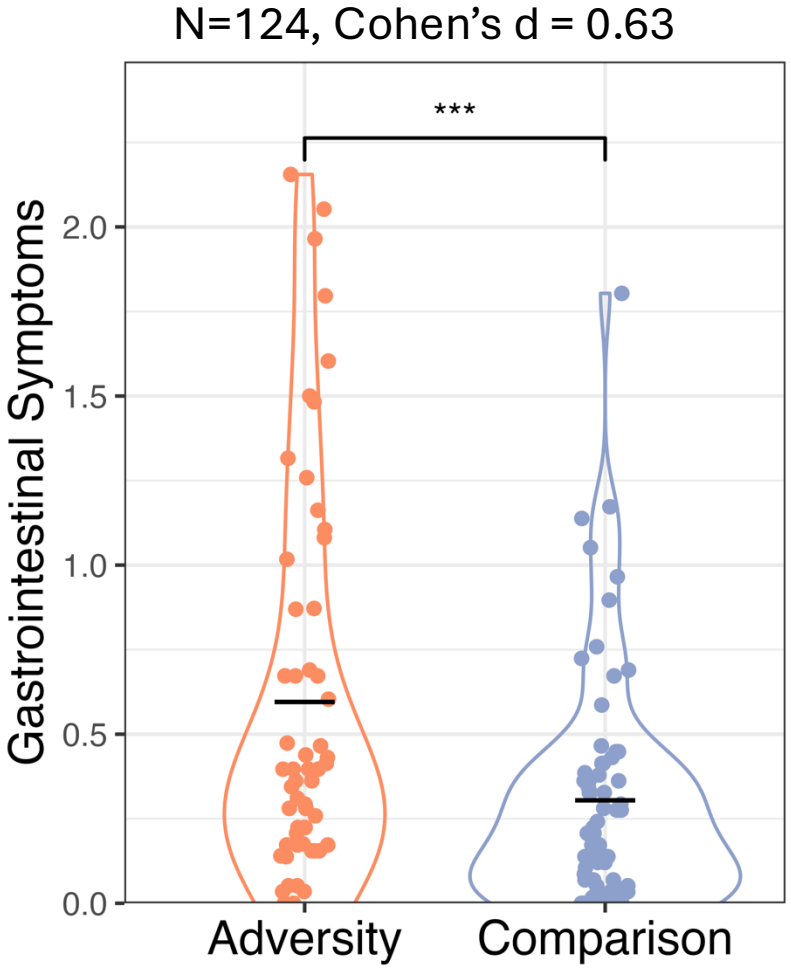
Age 6-16

N=68
Comparison

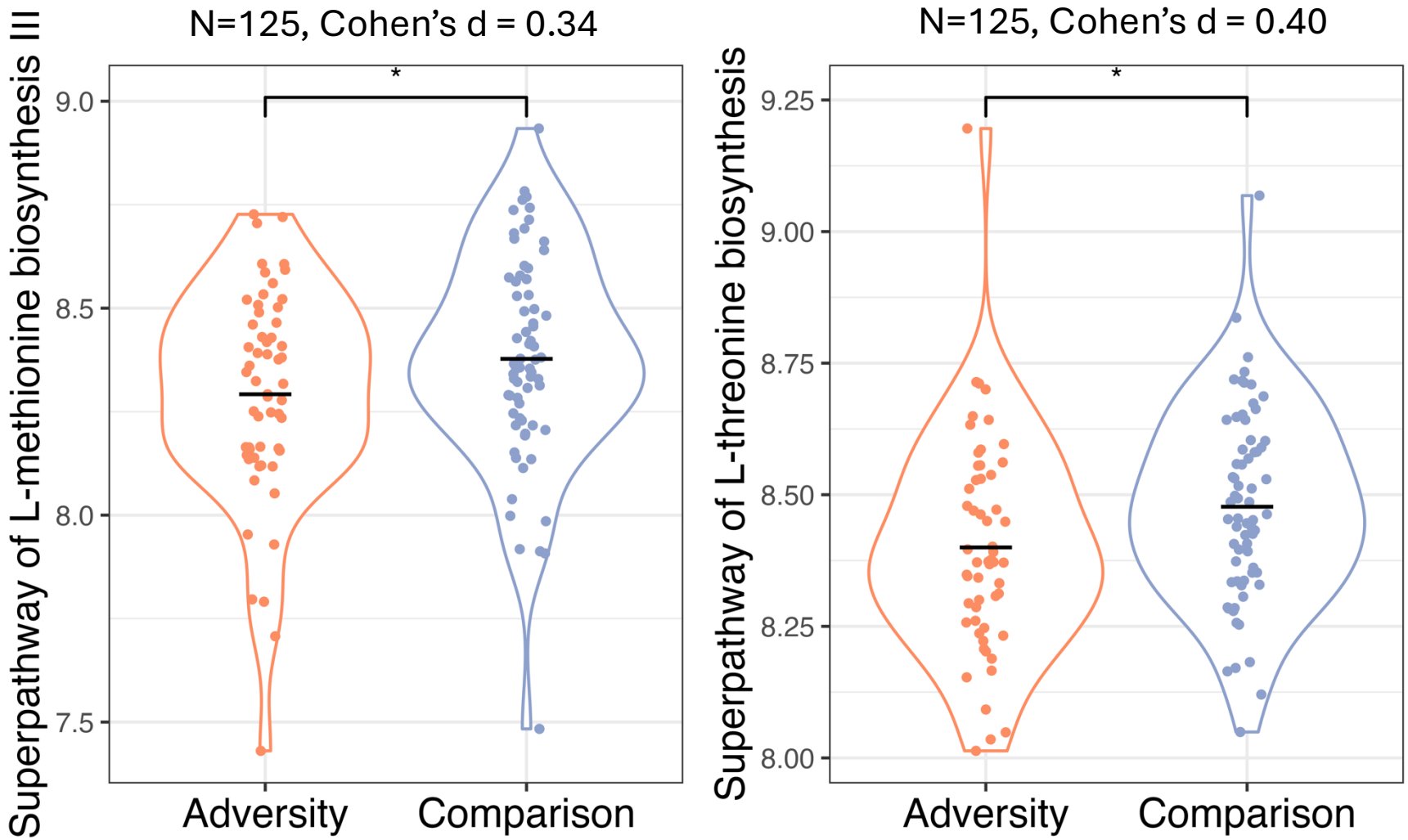
Caregiving Adversity Group Had More Symptoms



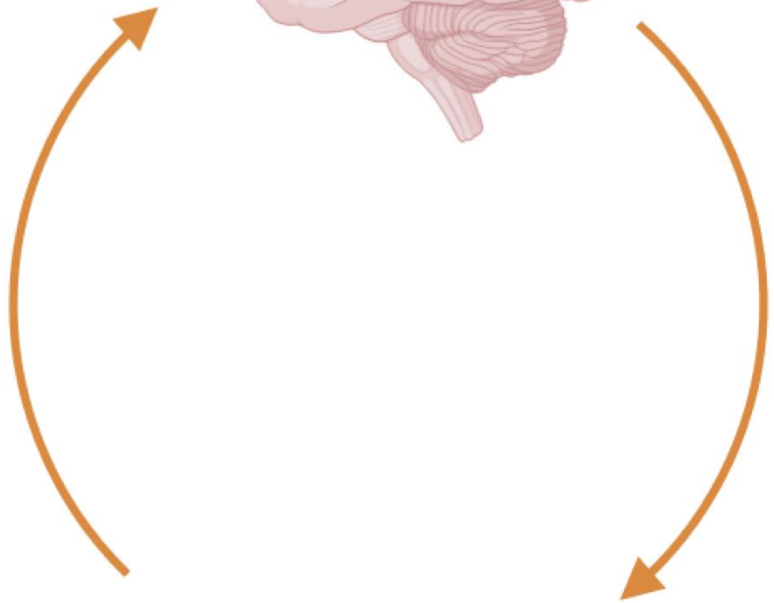




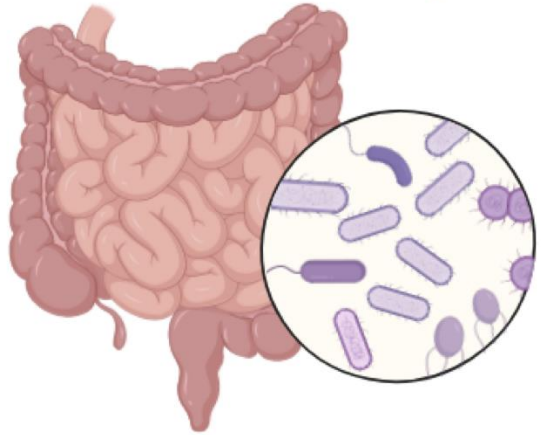
Caregiving Adversity Group Had Lower Potential for Amino Acid Synthesis Superpathways



Development



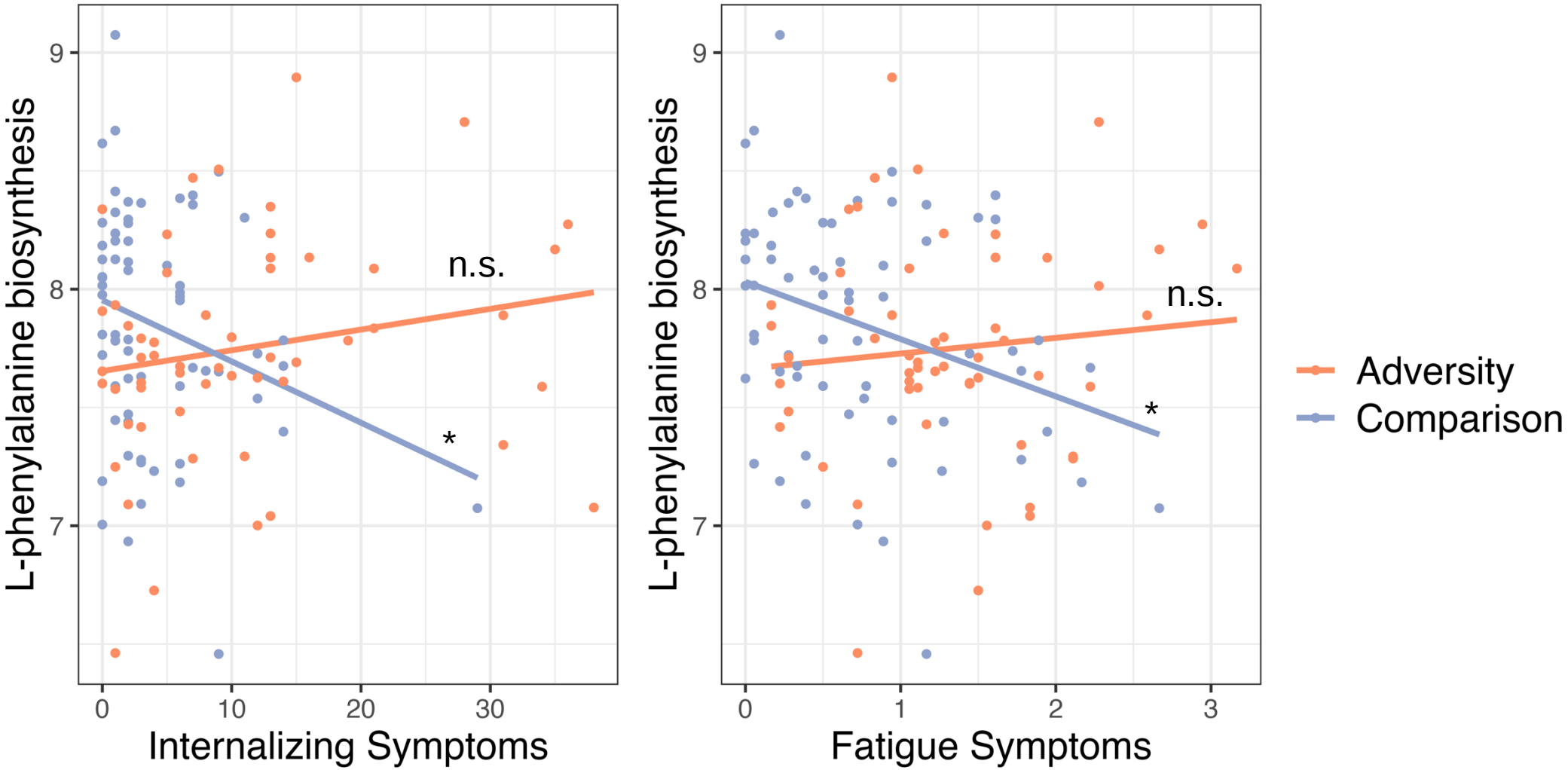
L-threonine
L-methionine



vs.

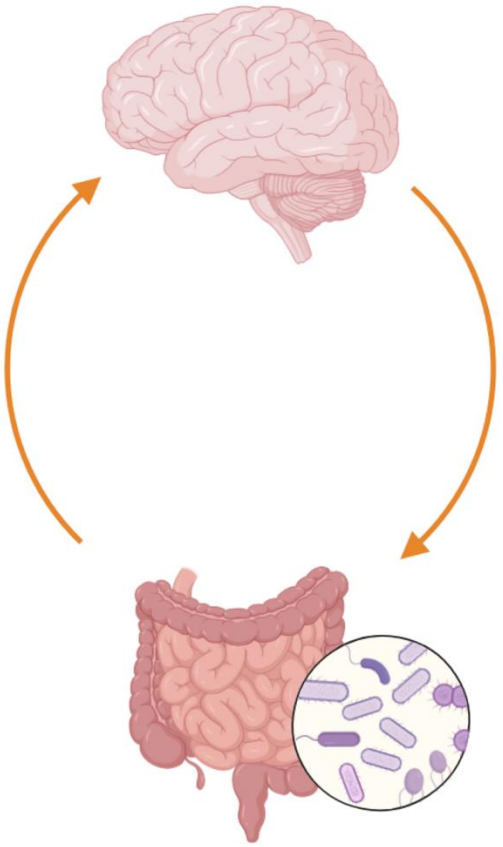
Xie et al. (2021); Averina et al. (2020); Hollister et al. (2015); Slyshenkov et al. (2002); Peterson et al. (2022)

Relationship between Phenalynine Biosynthesis and Symptoms Only Present in Comparison Group



Take-home Messages

- Adversity group has lower potential for synthesis of amino acids which play a role in brain development & functioning
- Adversity-associated pathways were not related to symptoms
- Adversity may alter communication between the brain and gut microbiome
- Future directions: brain data, longitudinal trends



Acknowledgements

- Brain and Body Lab
- Mind, Brain, Body Study Research Team
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Thank you!

QR code to poster with full results