

ISLC – PAIS CONFERENCE

AMSTERDAM | 26-29 AUGUST 2026

Joining forces of symptoms and the epigenome: a comprehensive characterization of ME/CFS and fibromyalgia

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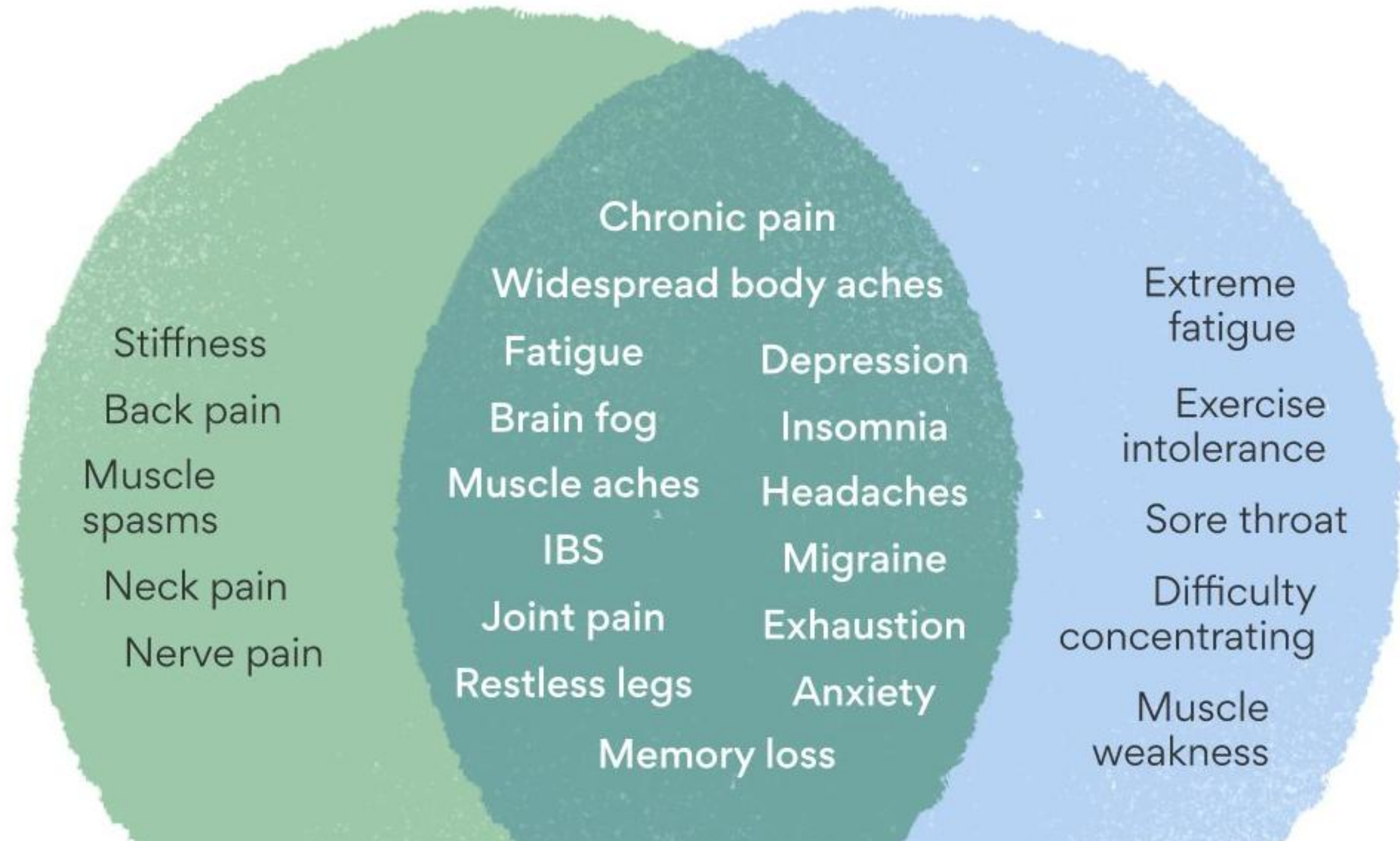
PAIN IN MOTION 

fwo

KU LEUVEN

Fibromyalgia

ME/CFS



EPIGENETICS

→ readability of DNA



SYMPTOMS — EPIGENETICS



CROSS – SECTIONAL ANALYSES OF 2 STUDIES



74 HC



44 FM



74 ME



Blood
withdrawal



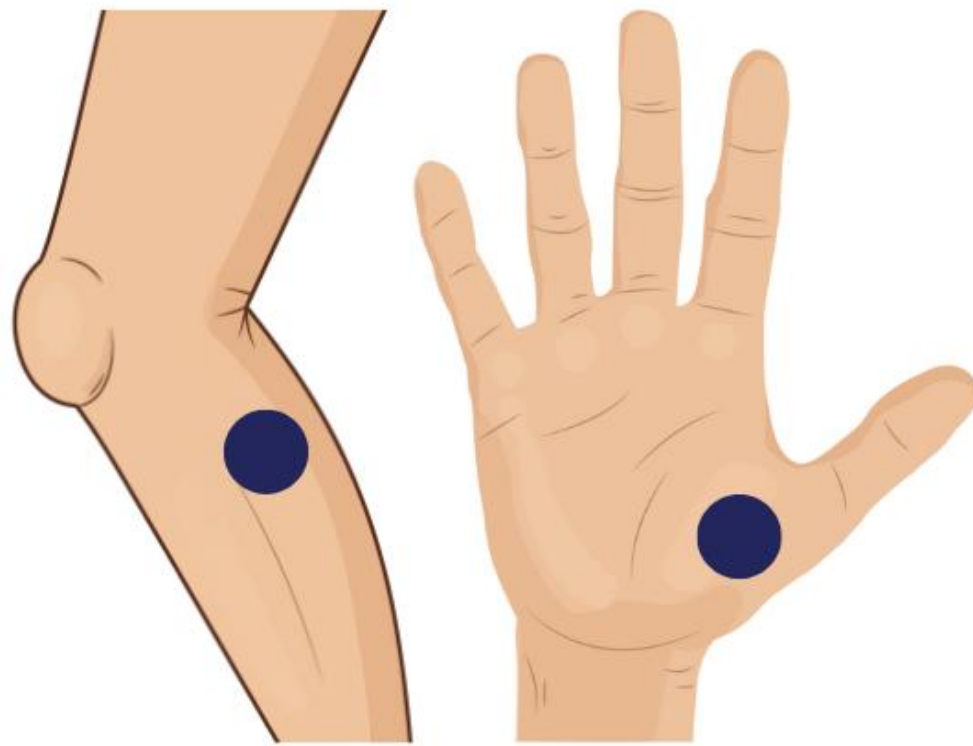
Questionnaires



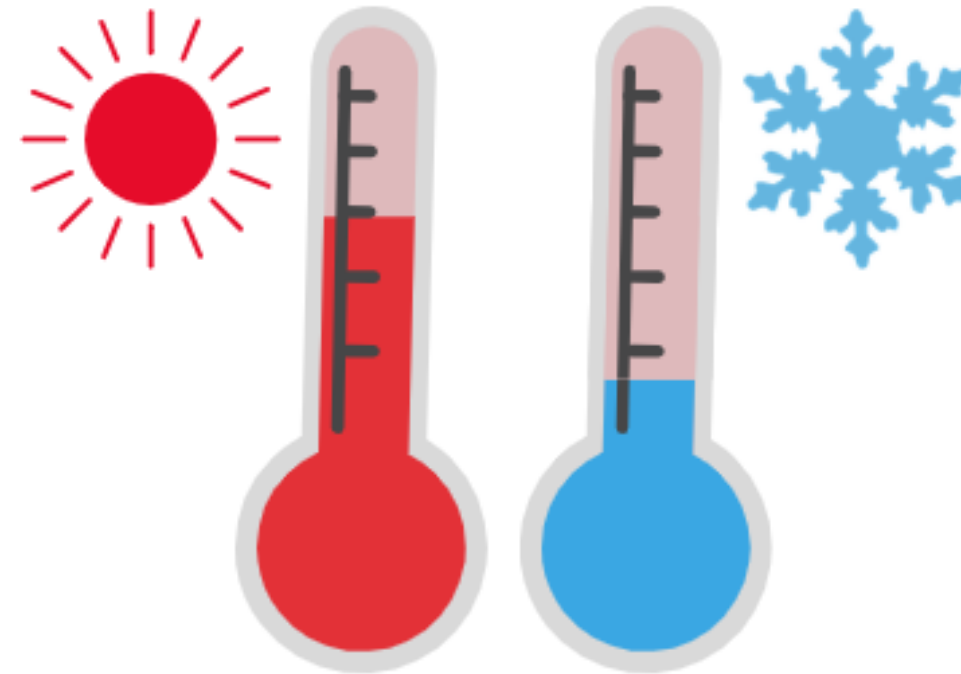
Quantitative
sensory testing



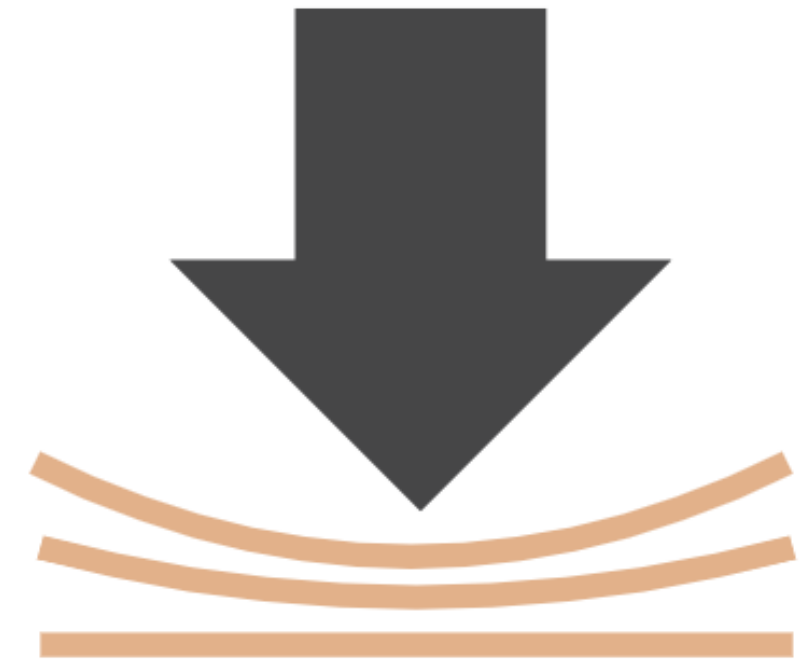
QUANTITATIVE SENSORY TESTING



→ Pooled into one
measure



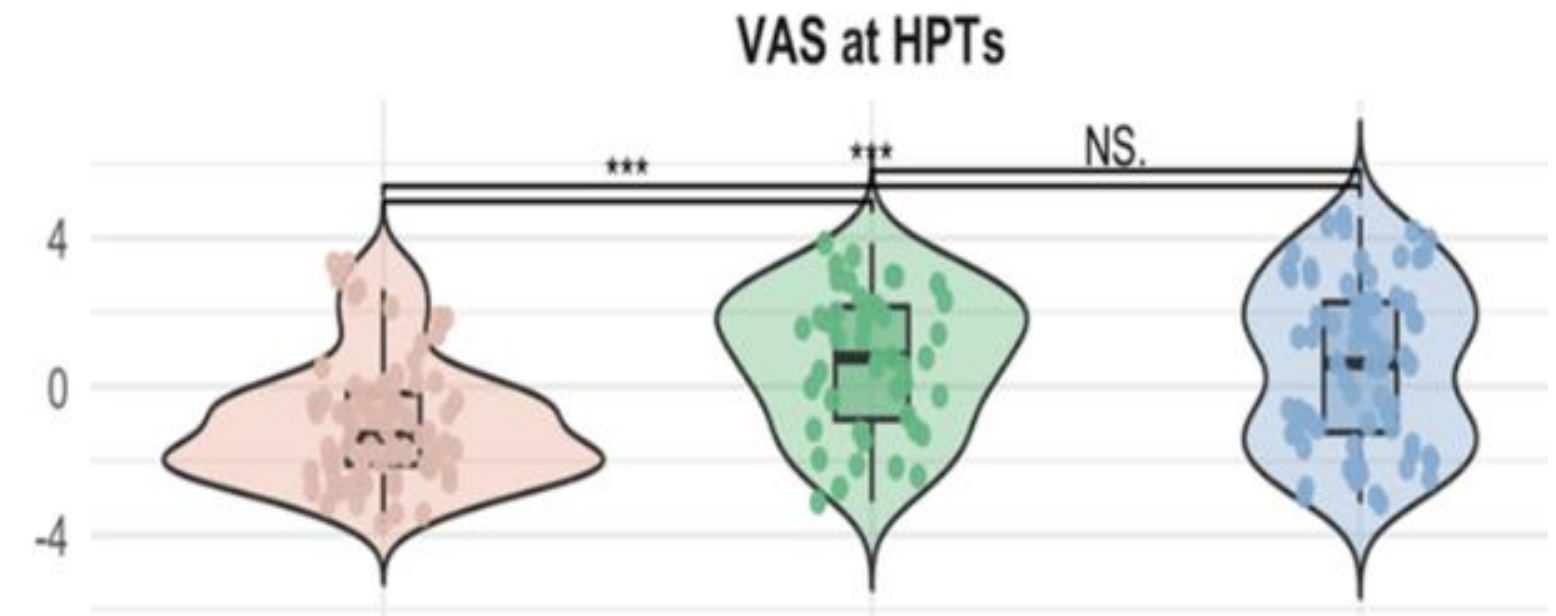
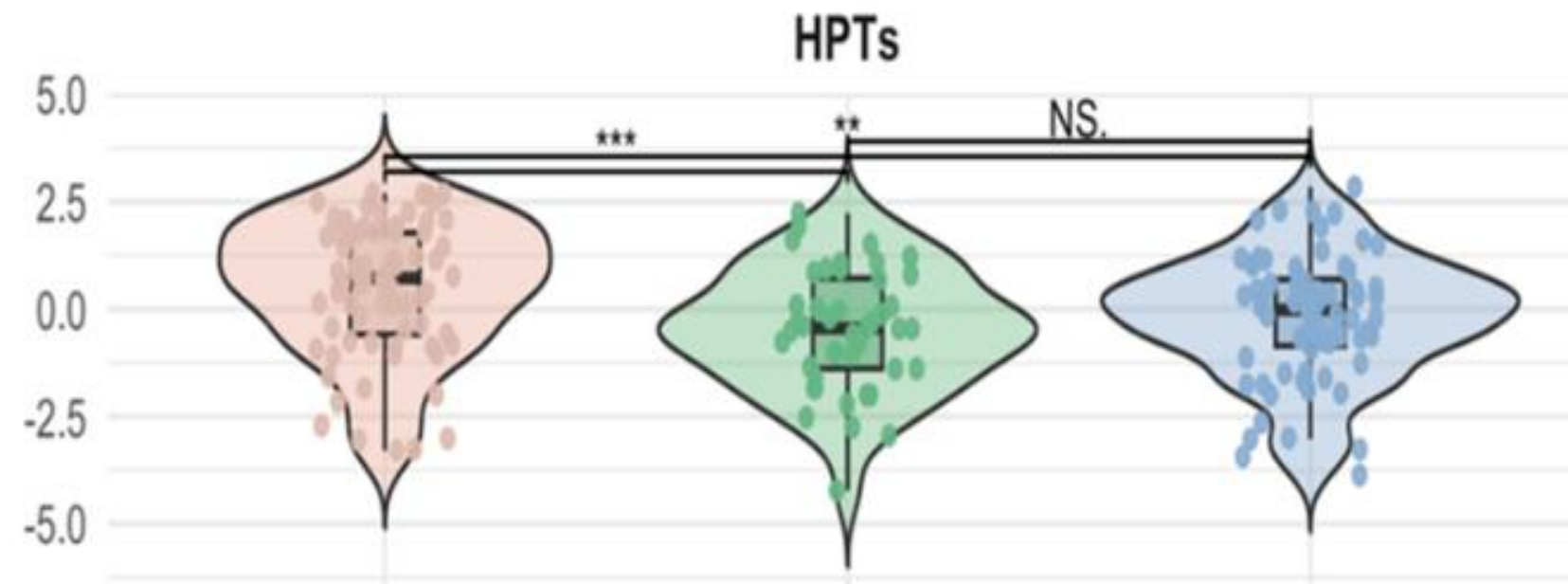
TSA II
Medoc



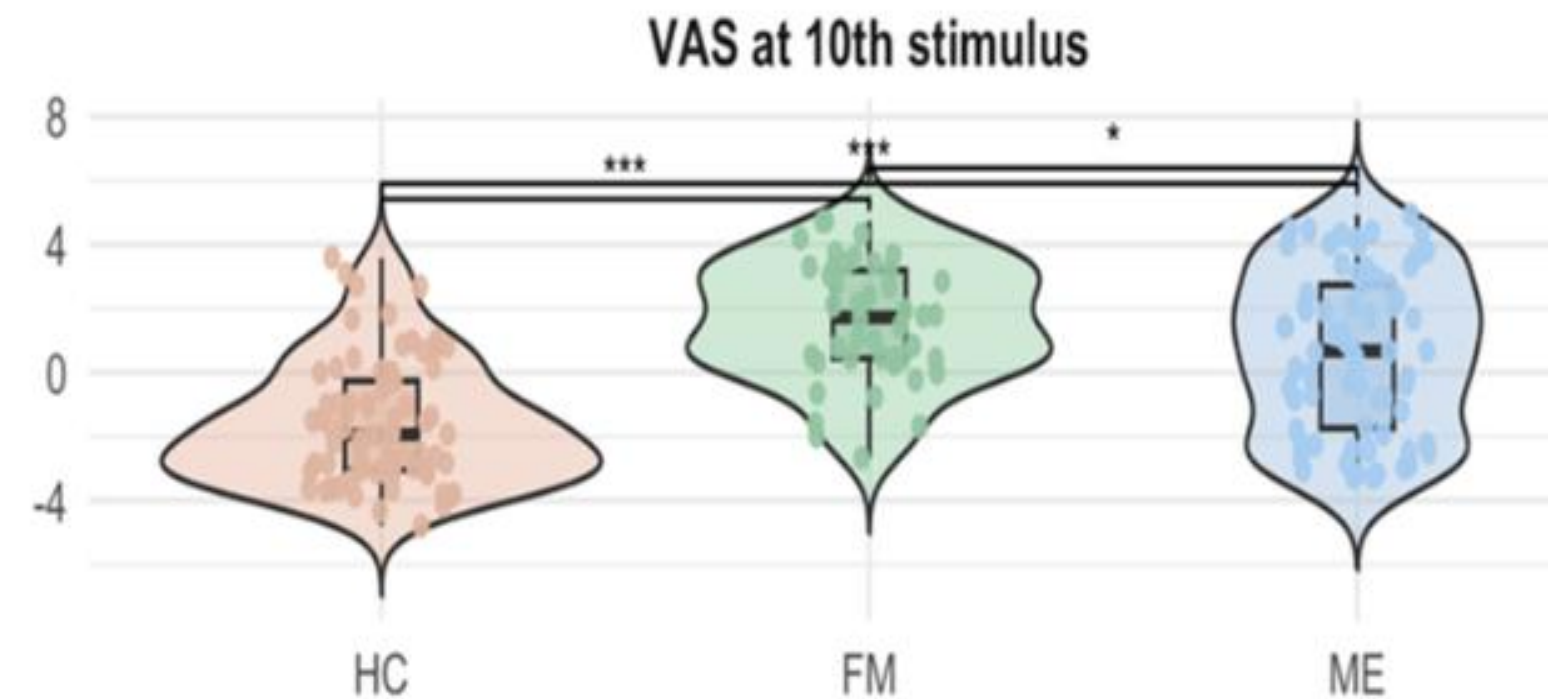
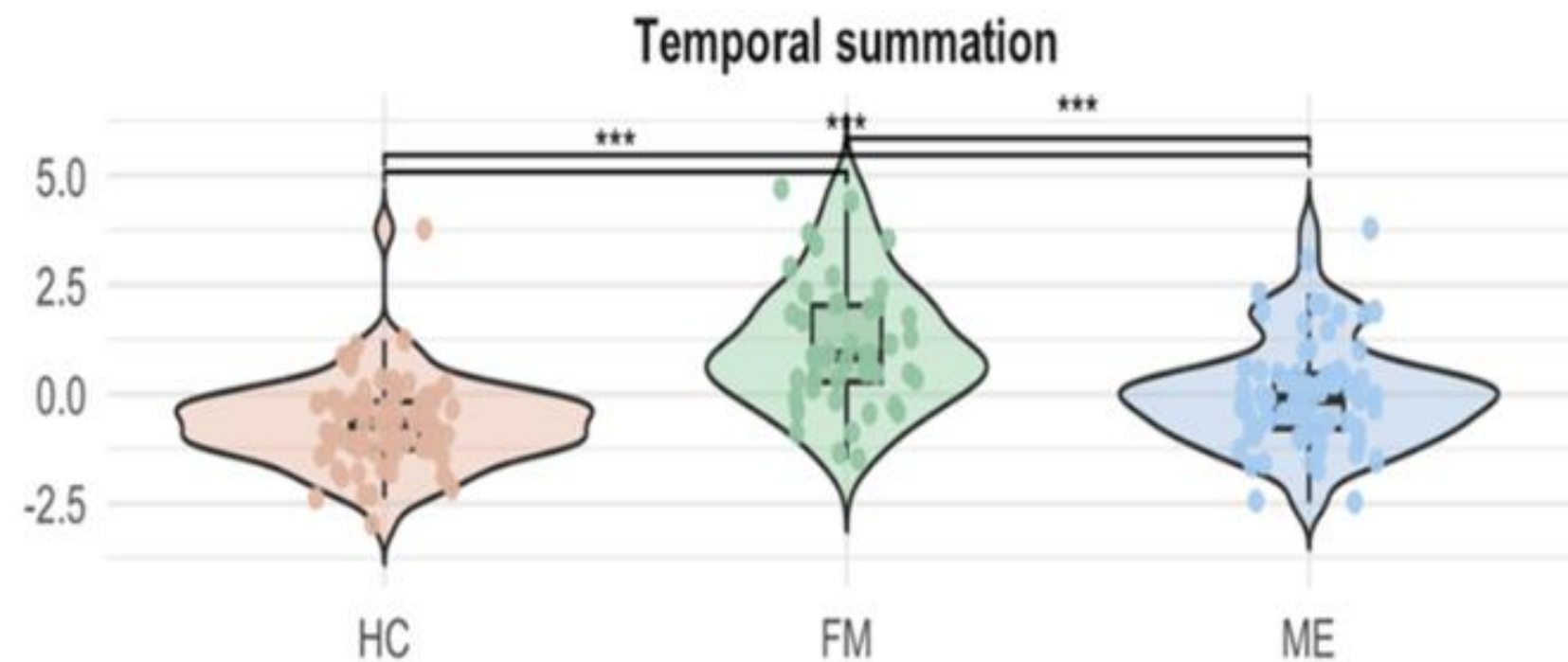
Digital algometer
Wagner Instruments



QUANTITATIVE SENSORY TESTING



→ Patients have lower pain thresholds and higher pain intensities



→ Temporal summation more pronounced in FM



SYMPTOM PROFILES



Post-exertional malaise

Fatigue
Minimal exercise tiring
Sick after mild activity



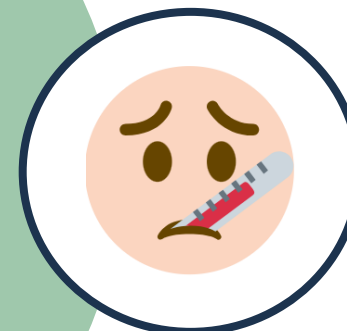
Cognitive

Memory problems
Slowness thought
Problem finding words



Systemic

Flu like symptoms
Fever
Sleep all day



Autonomic

Cold limbs
Shivers
Feeling unsteady



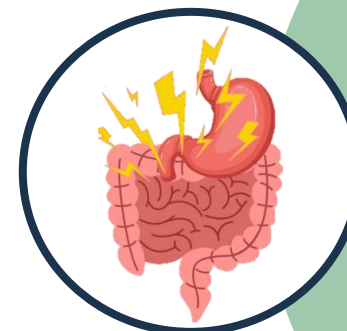
Sleep

Waking up at night
Problems falling asleep
Night sweats



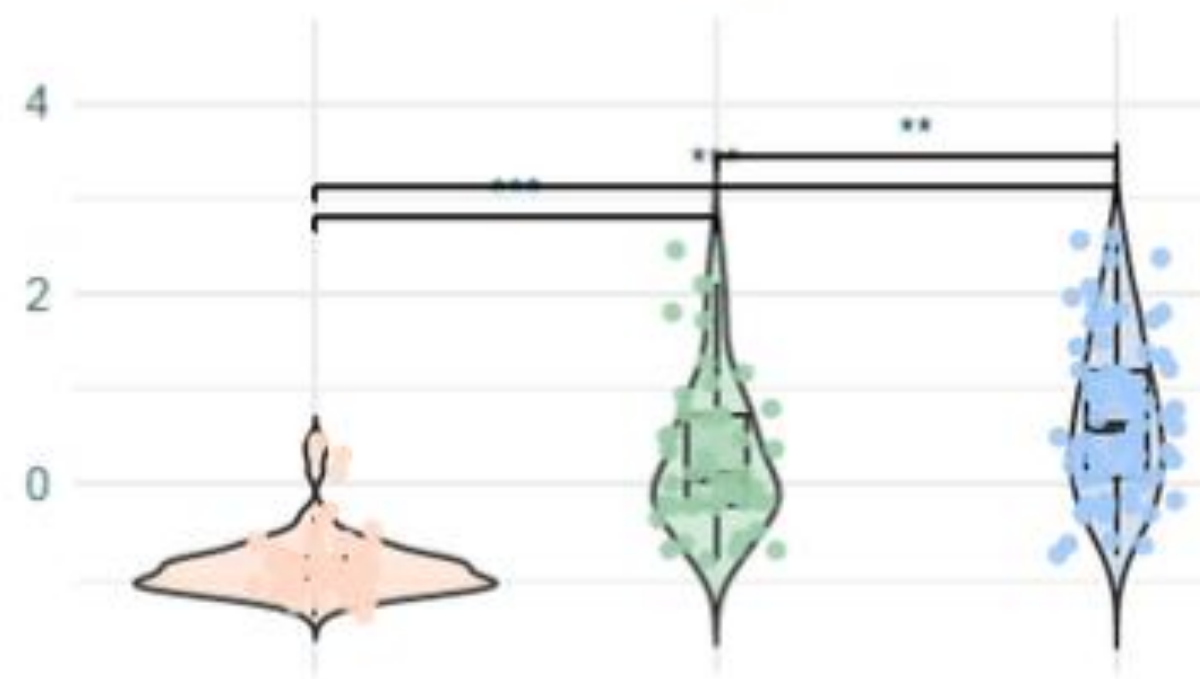
Visceral

Stomach pain
Bloating
Nausea

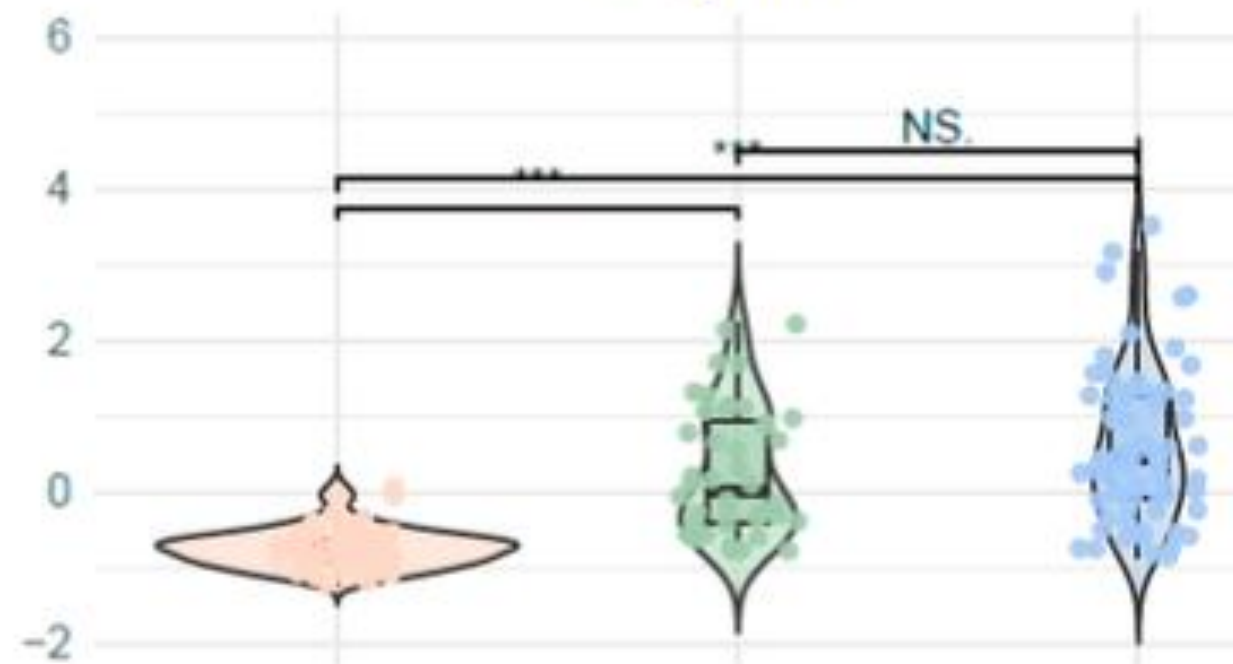


54
symptoms
DSQ

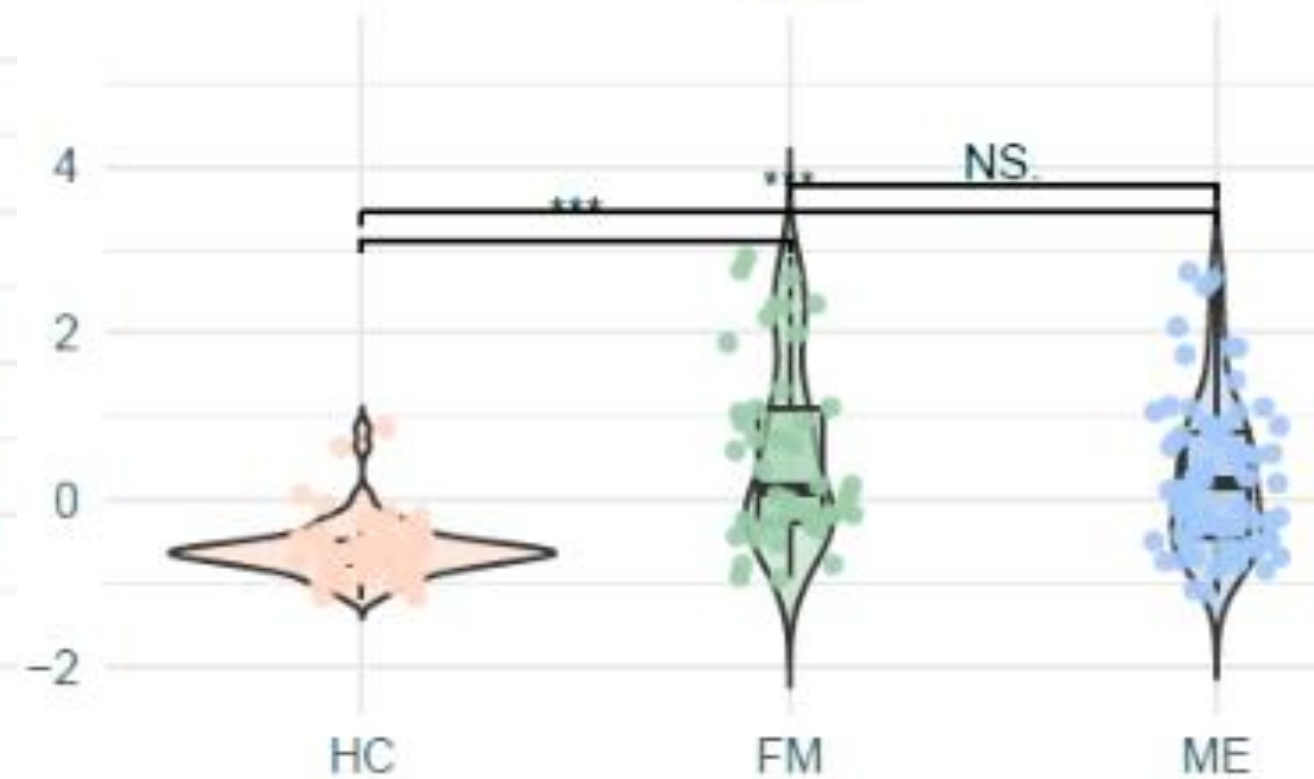
PEM



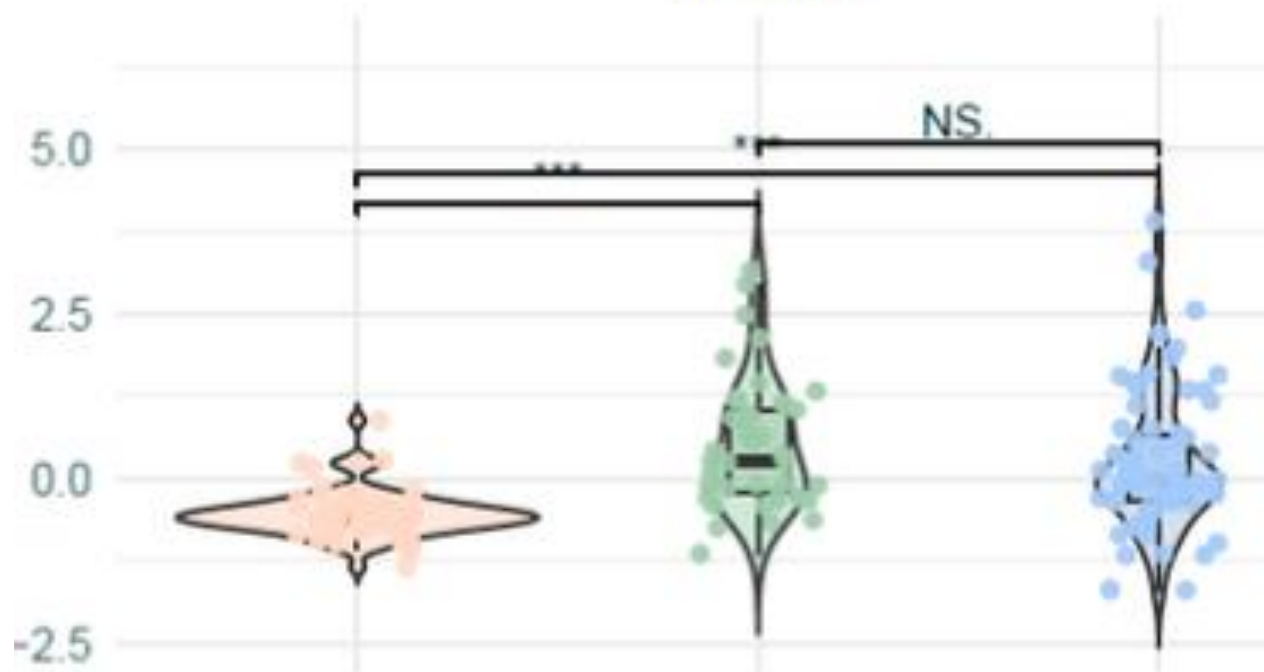
Cognitive



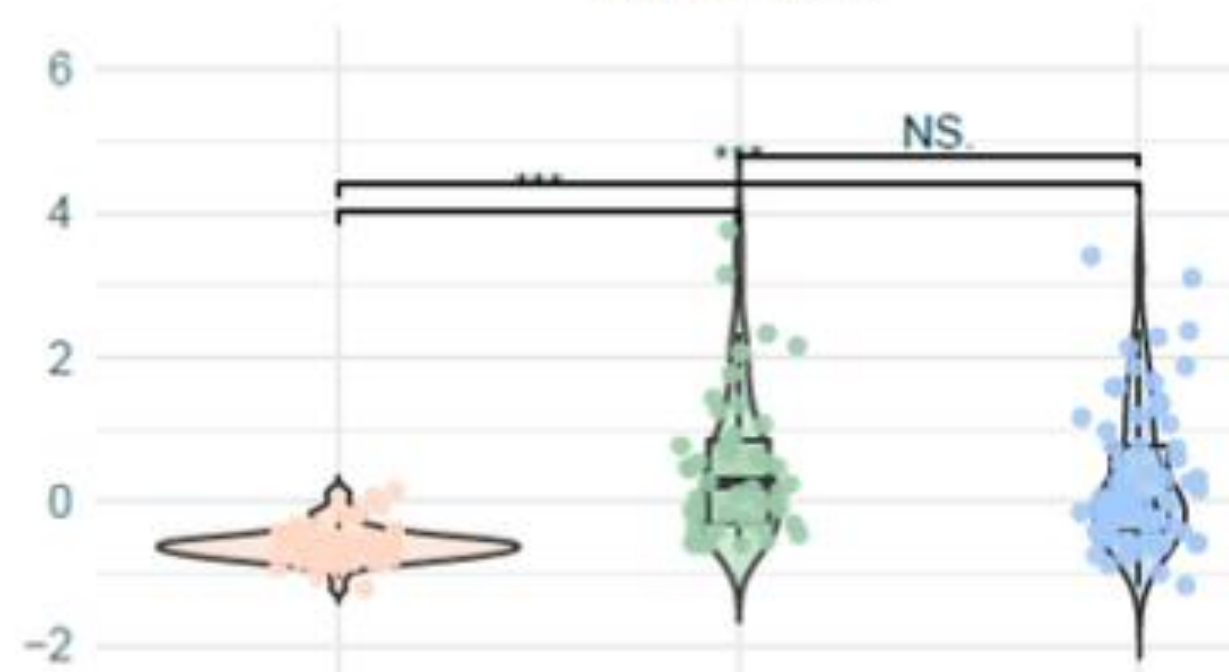
Sleep



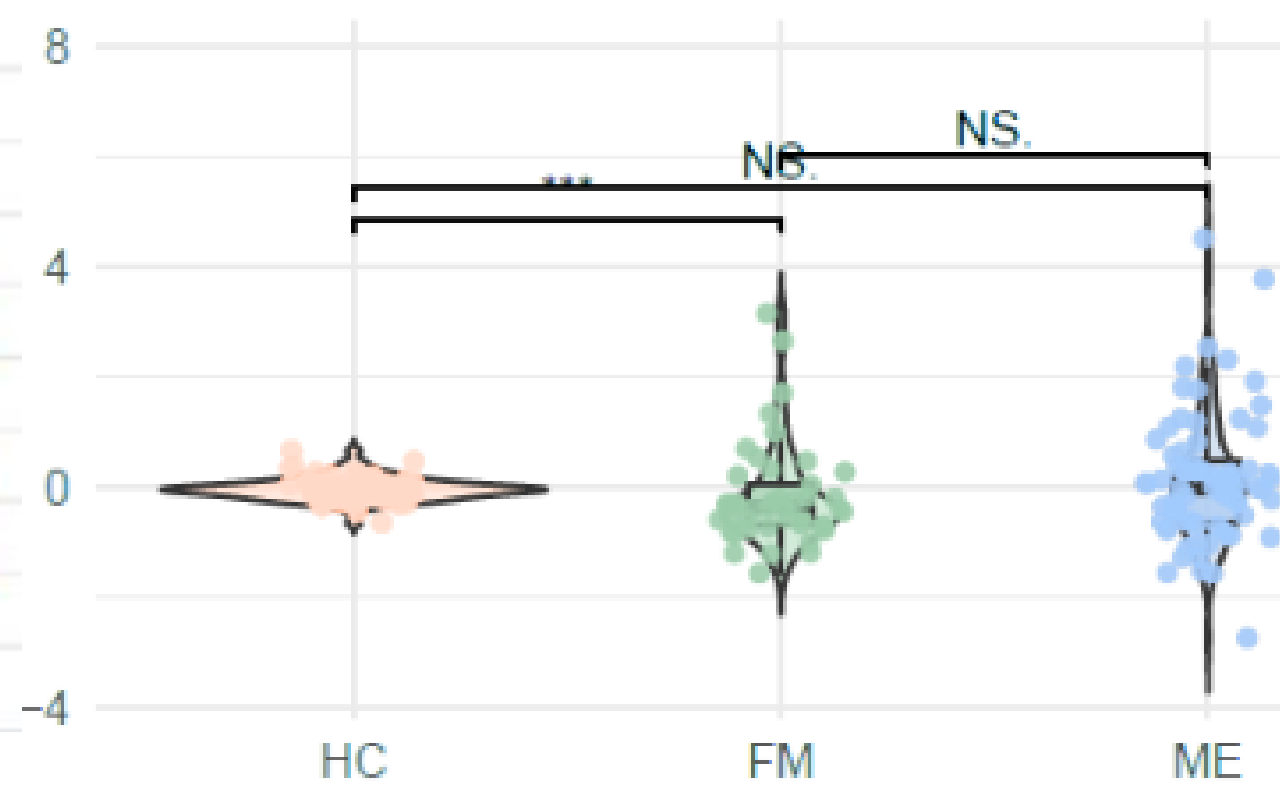
Visceral



Autonomic



Systemic

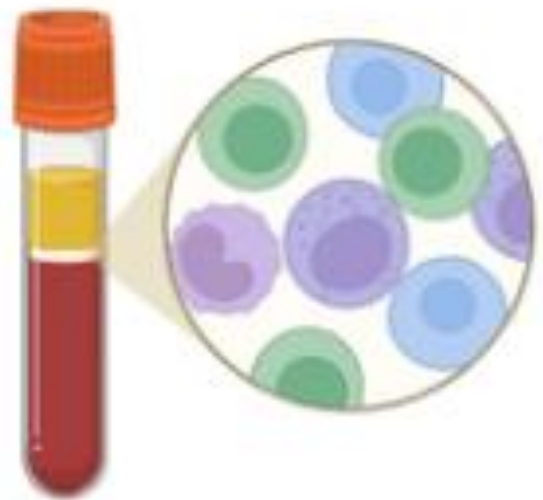




EPIGENOME – WIDE ANALYSES



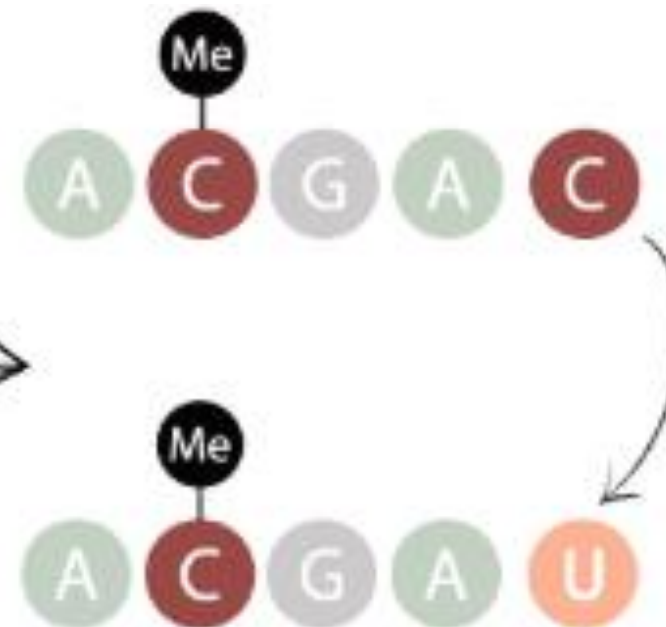
PBMC
isolation



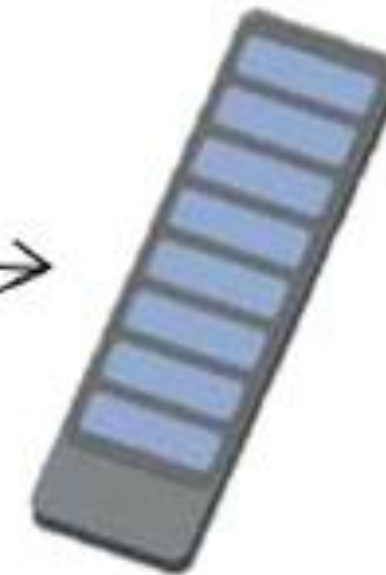
DNA
isolation



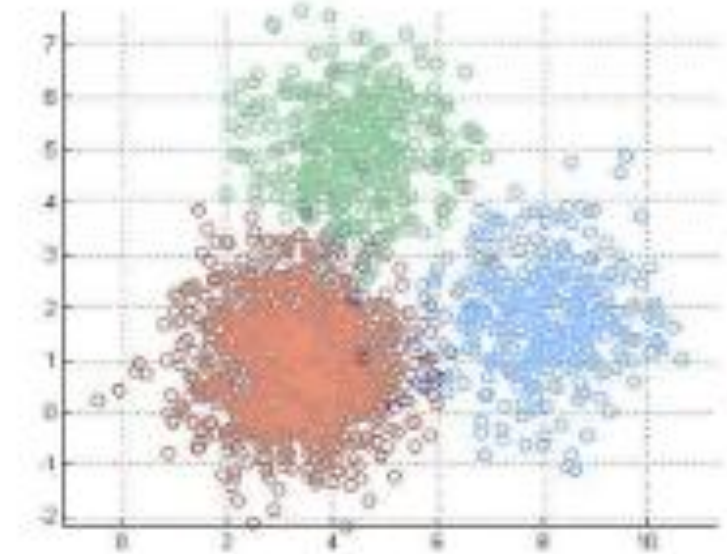
Bisulphite
conversion



Methylation EPIC
v2.0 BeadChip

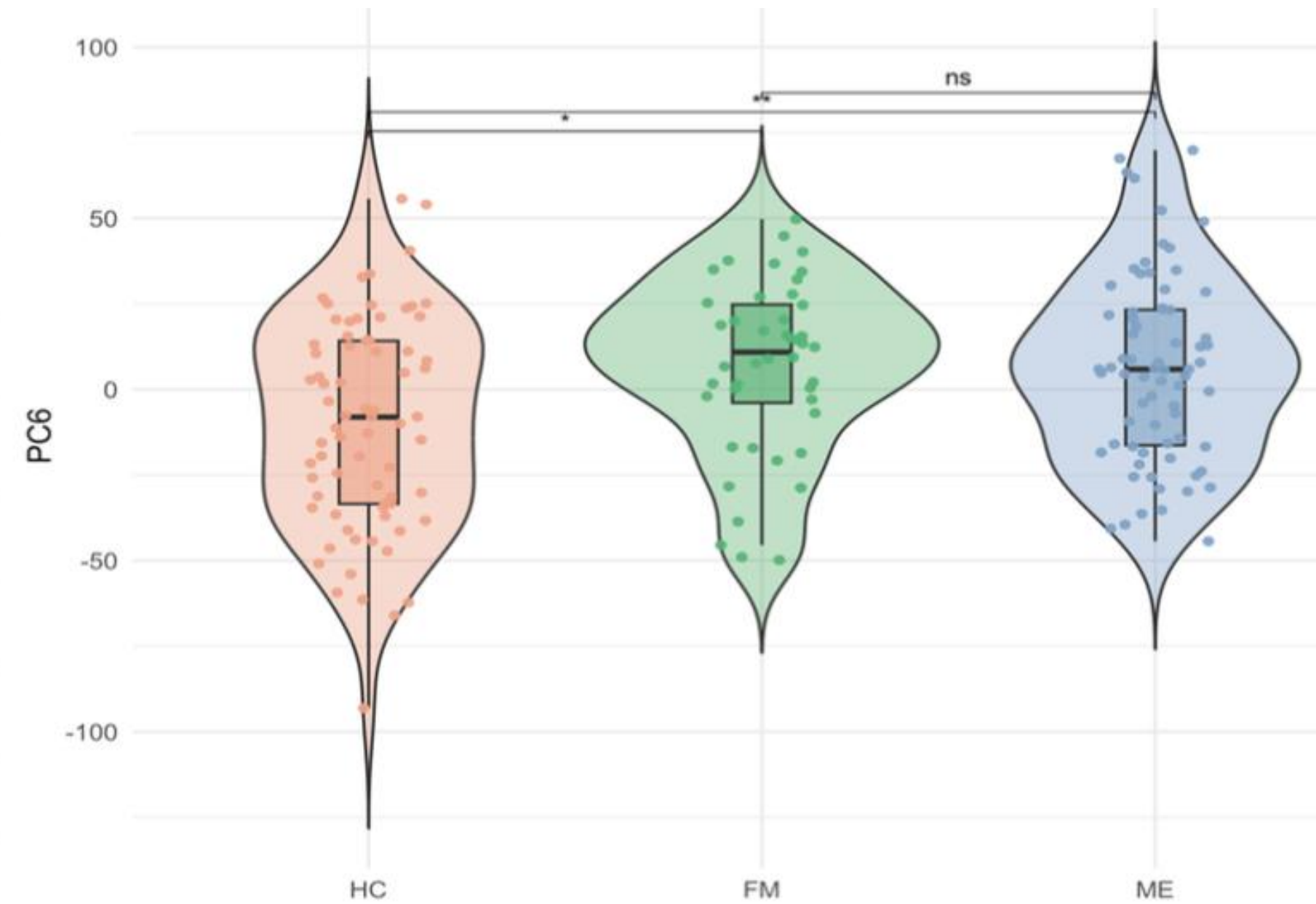
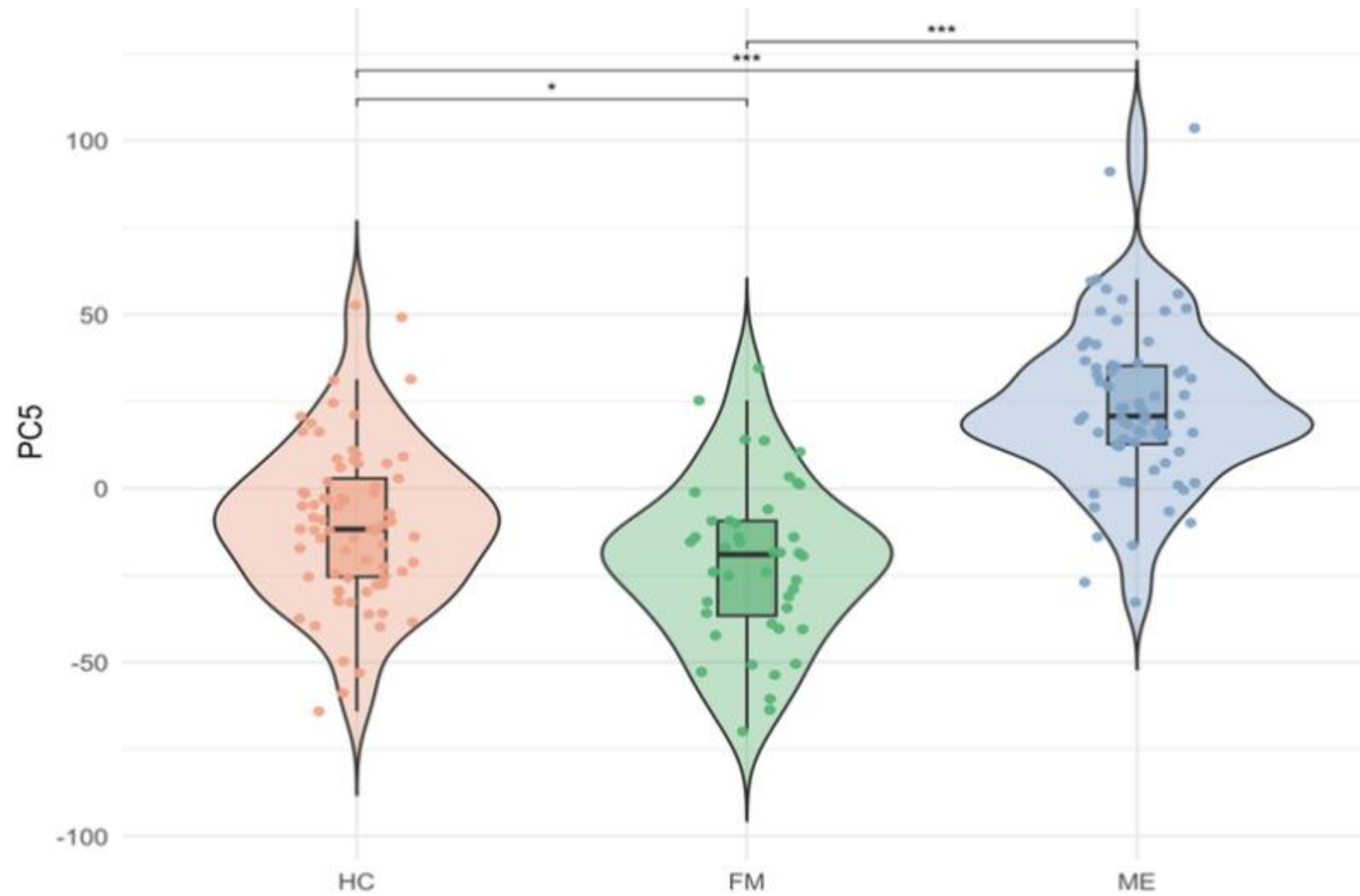


PCA

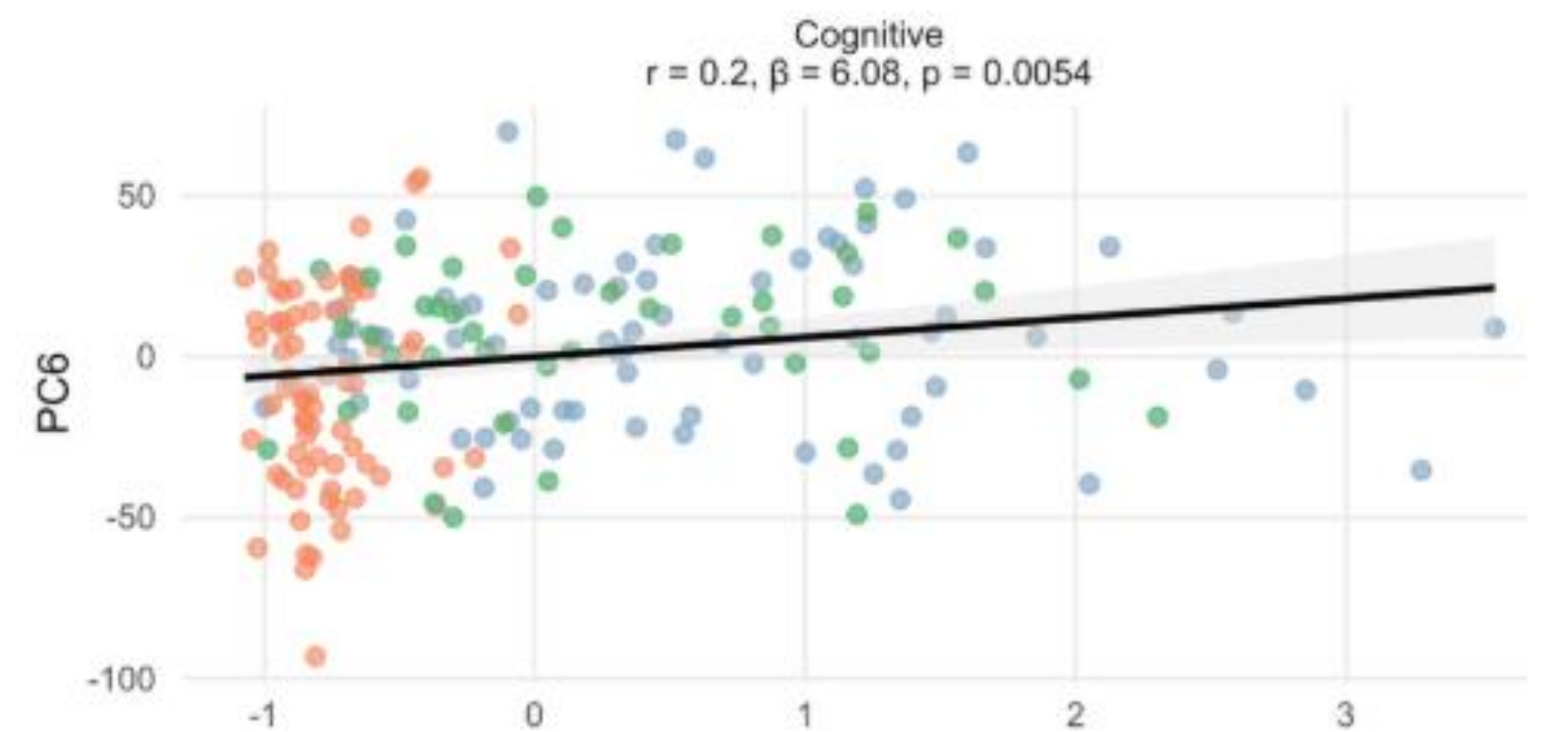
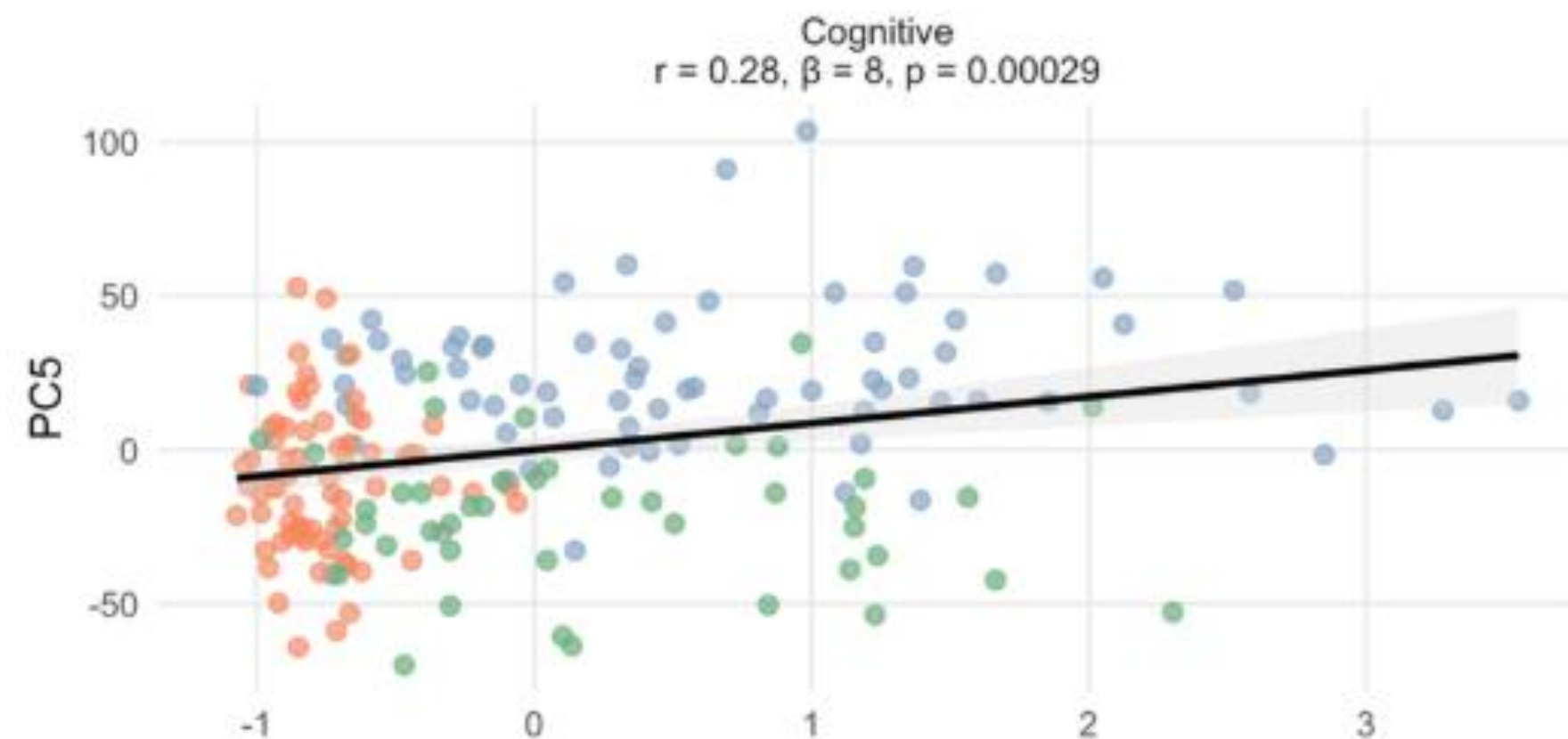
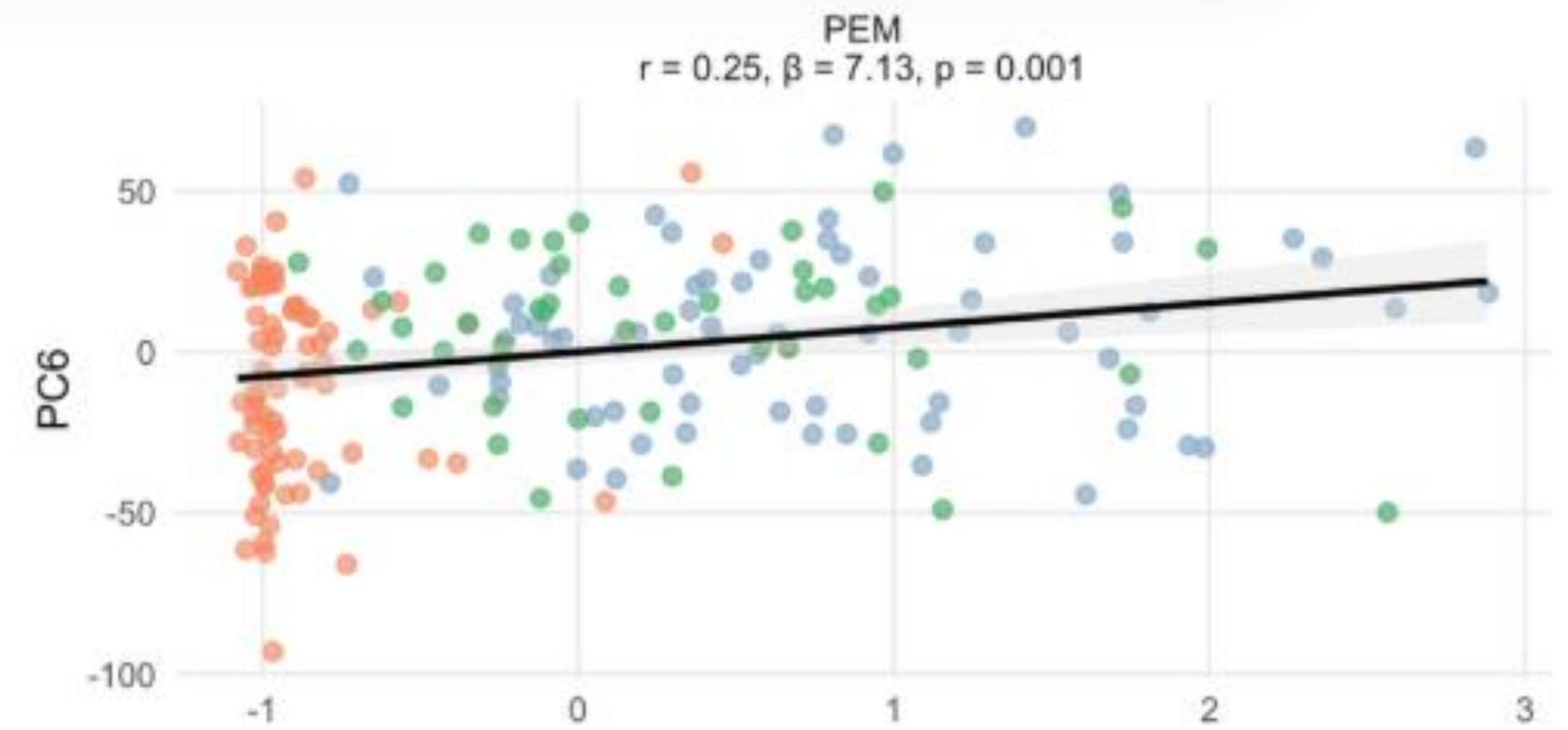
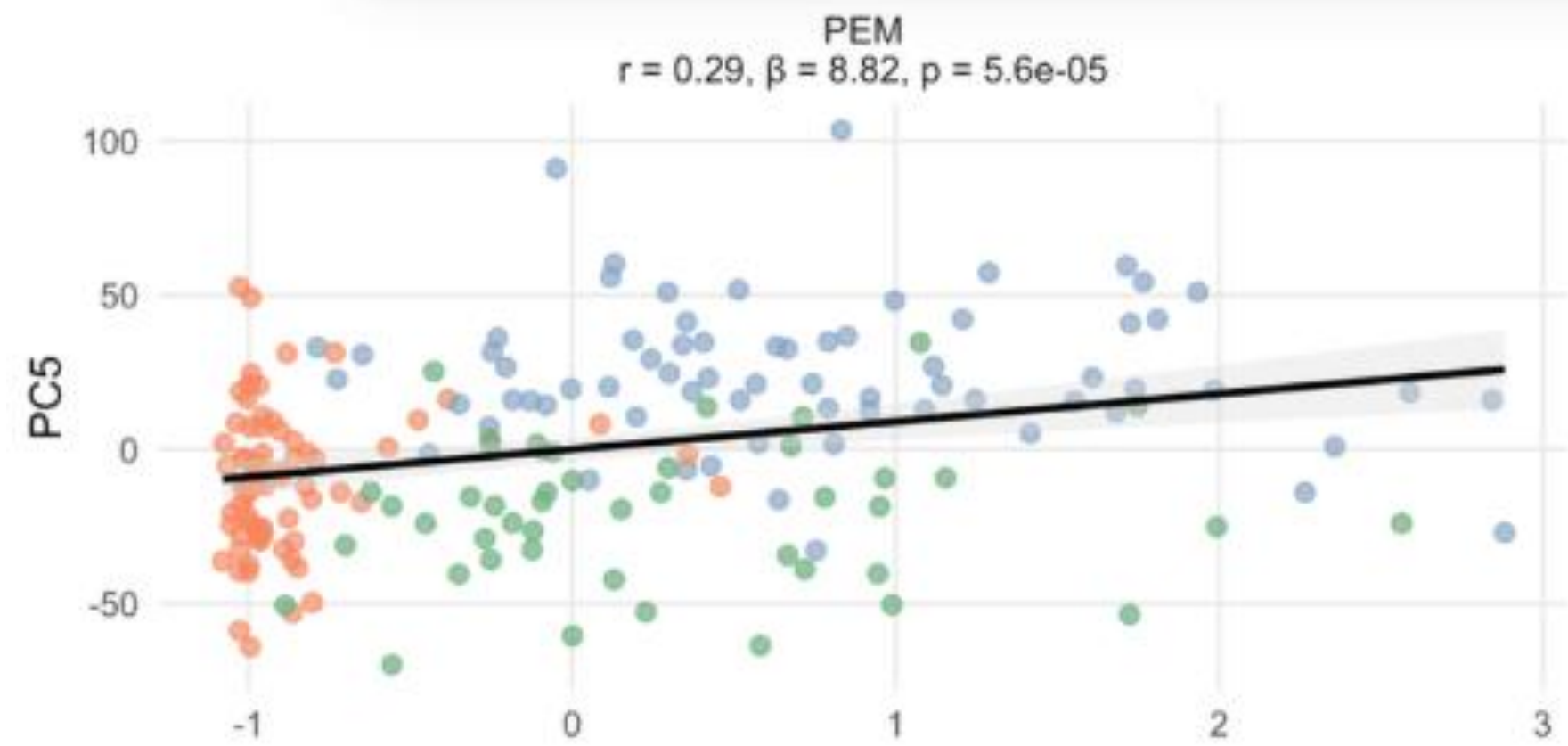


- DNA methylation at 930k positions
- 10 principal components

Methylation PCs Group



Methylation PCs Symptoms



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**Clinical relevance emerges when
biology links to symptoms.**

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MANUSCRIPT →

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PAIN EPIGENETICS TEAM

