



Estrogen Fluctuations Predict Depressive Symptomatology in Adolescent Females at Elevated Risk for Suicide

Lindsey Cunnane, Kamara Morrow, Isabella Grumet, Elizabeth Andersen, & Susan Girdler
Department of Psychiatry, University of North Carolina, Chapel Hill, NC



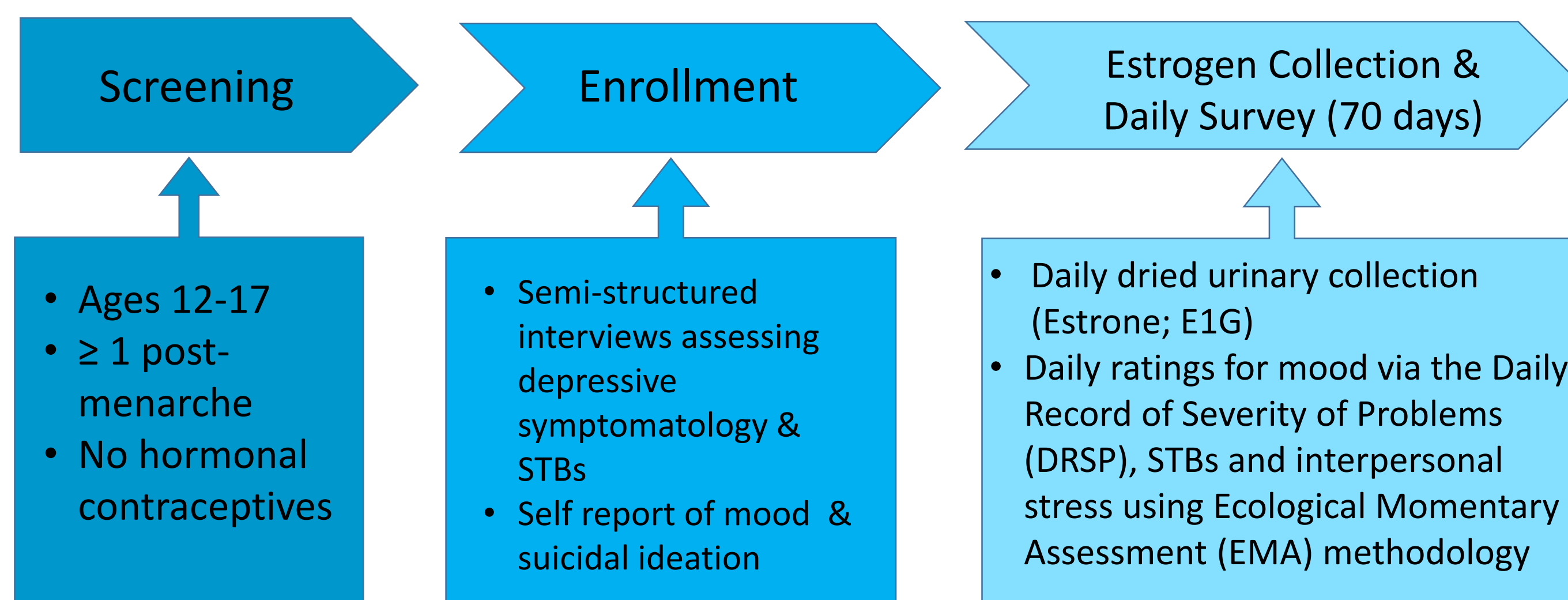
Background

Results

- Adolescent mood disorders and suicide risk are at alarmingly high rates in the U.S., especially among females.¹
- Adult females vulnerable to reproductive mood disorders exhibit hormone sensitivity (i.e., affective symptoms linked to estrogen fluctuations), especially within the context of stressful life events.^{2,4}
- Whether hormone sensitivity is evident in vulnerable adolescent females is unknown.³

Objective: To examine estrogen fluctuations and affective symptoms in females at high versus low risk for suicidal thoughts and behaviors (STBs).

Methods

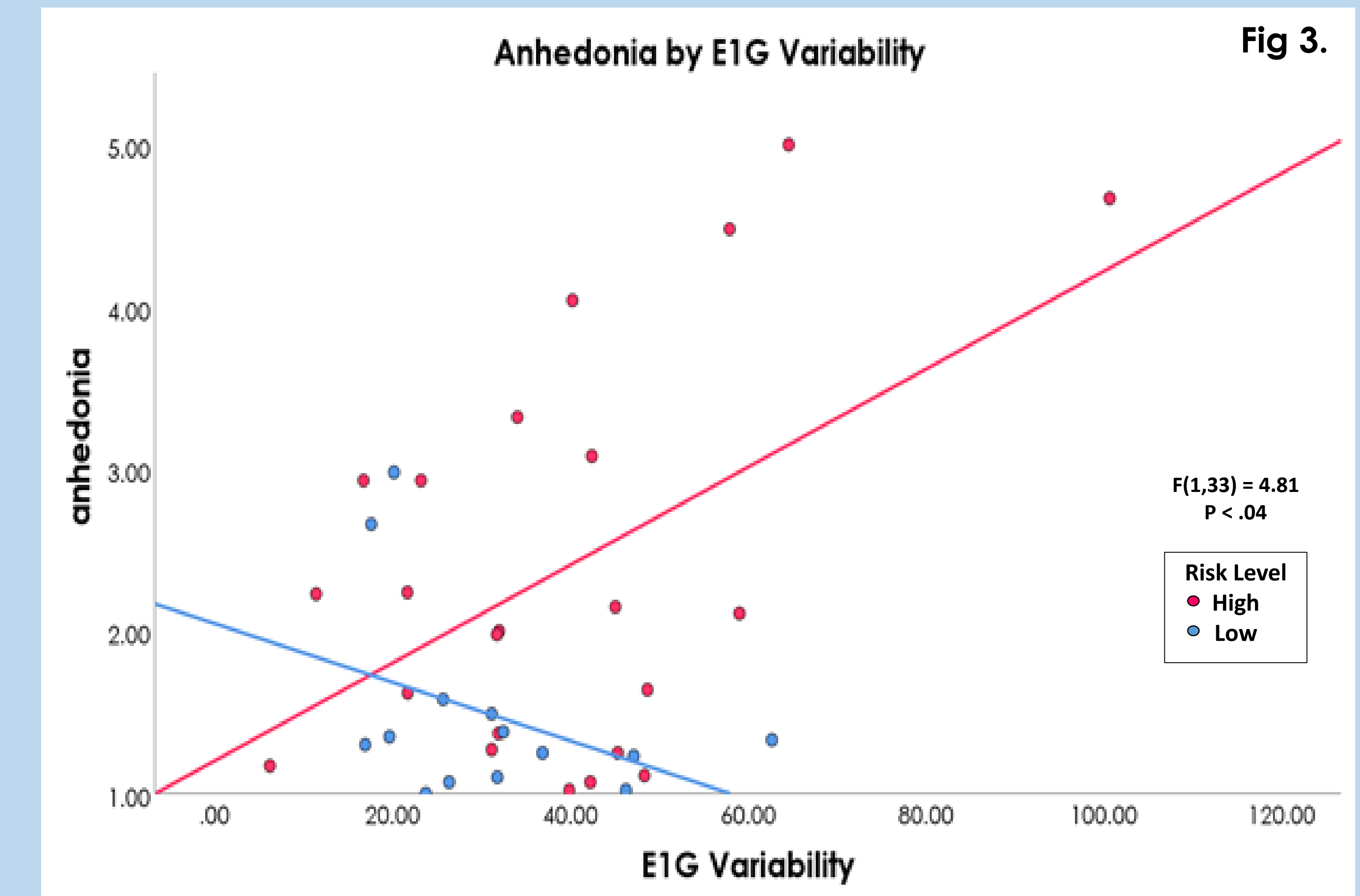
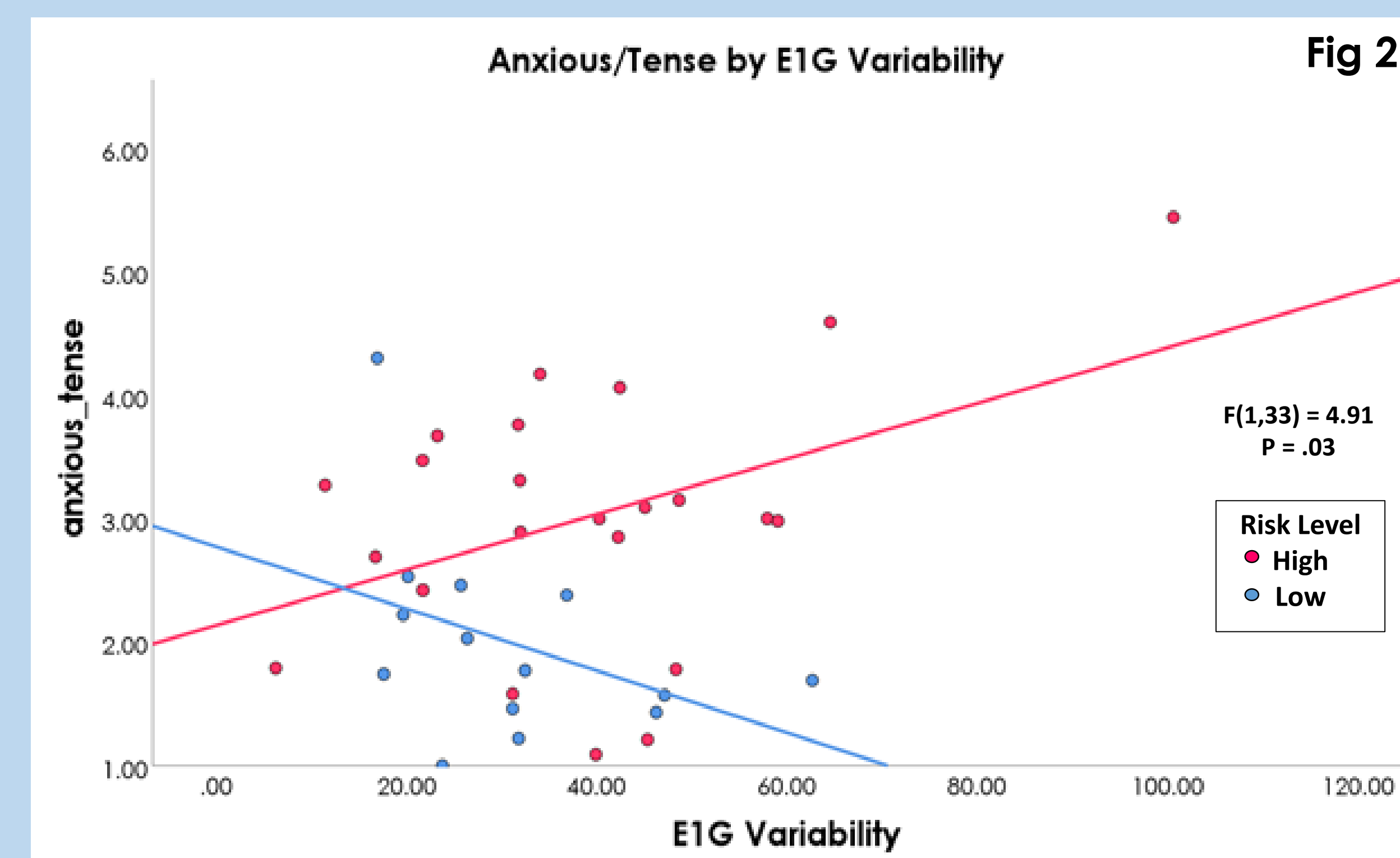
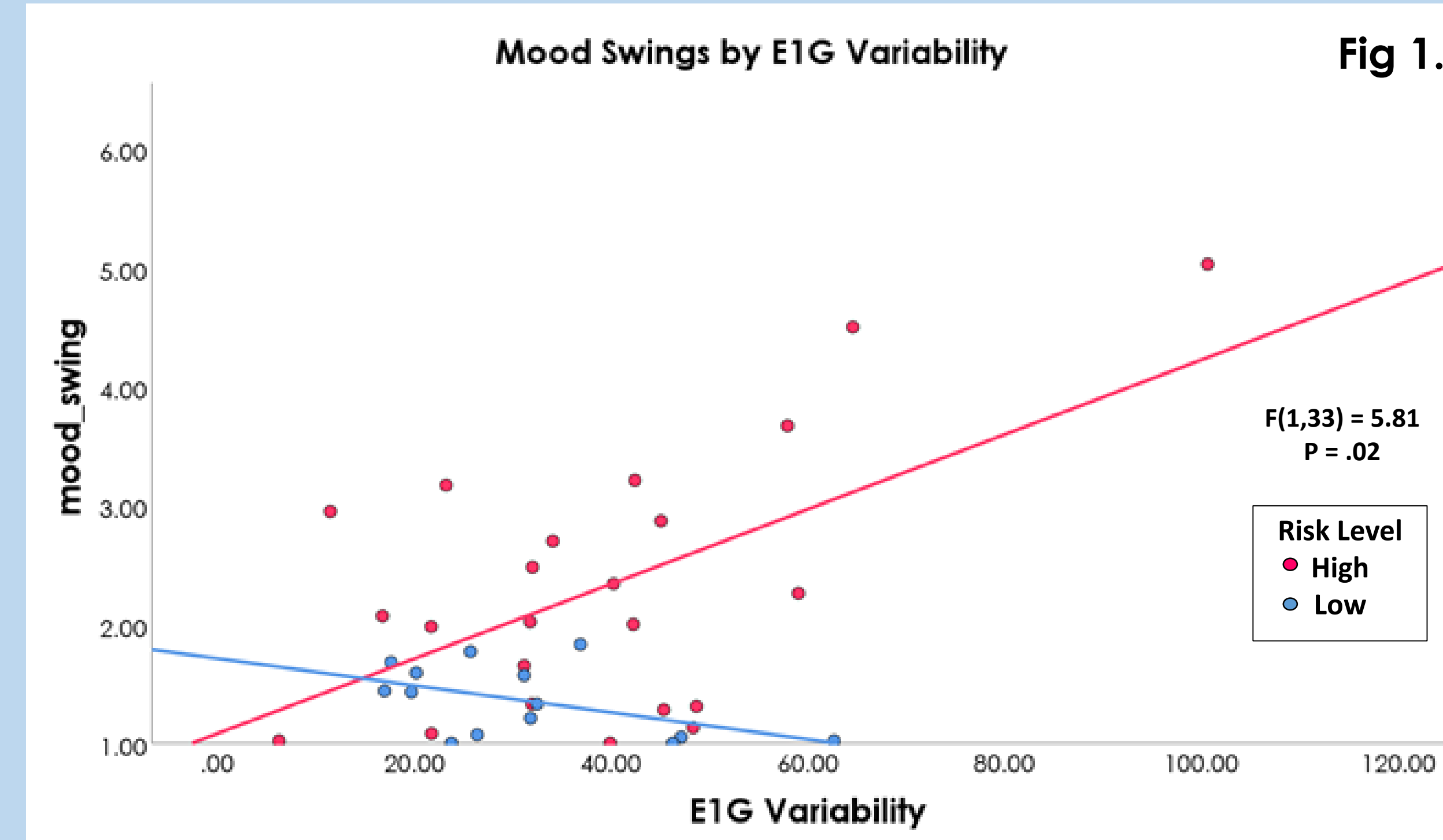


Participant Characteristics

Variables	N	Percent	Range	Mean (SD)
Age (yrs.)	37		12-17	14.2 (1.3)
Race/Ethnicity				
Hispanic-Latinx	9	24.3%		
White/Non-Hispanic	22	59.5%		
Black/African	1	2.7%		
American	1	2.7%		
Asian	4	10.8%		
More than 1 Race				
MFQ Total Score	37		1-55	25.7 (13.2)

Operationalizing Risk: Those with baseline Mood and Feelings Questionnaire scores >26 (high depressive symptomatology) OR those with a history of STBs, yielding N = 23 HIGH RISK and N = 14 LOW RISK participants

Operationalizing Estrogen Variability: For each participant, the standard deviation of their E1G over the 70 collection period was used as an index of E1G variability, as has been done in other research.



- ❖ Greater E1G variability predicted greater mood swings (Fig 1.), anxiety (Fig 2.), anhedonia (Fig 3.) and rejection sensitivity in high risk, but not in low risk females ($F_{s(1,33)} > 4.1$, $P_s < .05$).
- ❖ There was no significant relationship between E1G variability and the 7 other measures from the DRSP such as anger and interpersonal conflict for either group.
- ❖ High risk females reported more interpersonal stress over the 70 days ($F(22,13) = 3.56$, $p < .05$).
- ❖ Greater interpersonal stress predicted more negative mood symptoms in the high risk sample only ($t_s = 3.04 - 3.92$, $P_s < .01$).

Conclusions

- Hormone sensitivity may increase vulnerability to mood impairment in adolescent females with elevated baseline depressive symptomatology or a history of STBs.
- Future research examining interpersonal stressors as moderators in the relationship between hormone sensitivity and affective symptoms is warranted.

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References:

1. CDC, 2023, 2. Andersen, E. et al., *Psychoneuroendocrinology* (2022); 3. Andersen, E. et al., *Development and Psychopathology* (2023) 4. Gordon J. et al., *Psychological Medicine* (2020)