

Hormone Variability in Girls: Predicting interpersonal conflict.



PRESENTER:
Jane Baur

BACKGROUND: Research conducted with menopausal women has shown that hormone fluctuation can predict negative mood symptoms in some women (Meir). Girls experience similar testosterone and estrone fluctuations during the peripubertal transition. A greater hormonal flux leads to a more negatively impacted mood. Reproductive hormones also modulate neural networks involved in social processing, so hormone flux can alter social behavior. Can the degree of testosterone and estrone variability predict interpersonal relationship conflict?

Objective: To determine whether hormone variability predicts interpersonal conflict in peripubertal females.

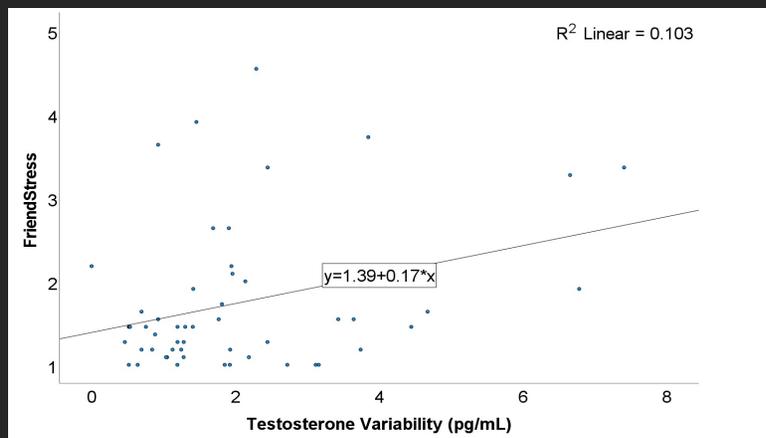
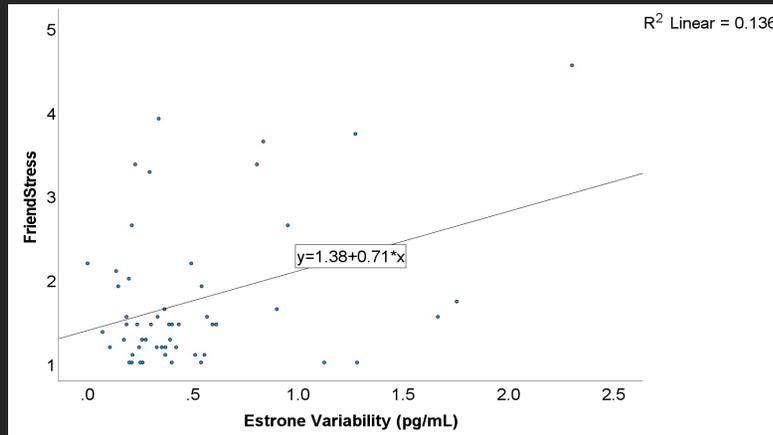
METHODS

1. Collected 8 weekly saliva hormone samples from girls, mid puberty (Tanner Stages 3-4), 11-14 years old.
2. Participants self-reported Friendship Stress and Child Chronic Strain questionnaires during enrollment.
3. Computed the standard deviation values of weekly hormone measures for each participant.
4. Used the hormone standard deviation values and enrollment questionnaire responses to generate a linear regression.

Hormones tested: estrone, testosterone, and DHEA.

Demographic	Count	Mean
Age (months)		149.4
White	39	
Black	1	
Hispanic/Latina	6	
Mixed	7	
Familial Risk: Yes	22	
Familial Risk: No	31	
BMI (%)		19.5
PDS		2.6

Estrone and testosterone variability are predictors of interpersonal conflict in peripubertal girls.



RESULTS

Estrone: $y=1.38+0.71x$ $r^2=0.136$
 Testosterone: $y=1.39+0.17x$ $r^2=0.103$
 DHEA: $y=1.55+8.65*10^{-3}x$ $r^2=0.033$

Pearson Correlations:

Chronic Peer Strain Association	r	p	n
Estrone Variability	0.287	0.037	53
Testosterone Variability	0.322	0.019	53

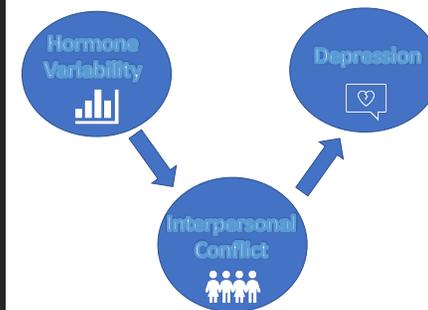
Friendship Stress Association	r	p	n
Estrone Variability	0.386	0.007	53
Testosterone Variability	0.321	0.019	53

CONCLUSION

Testosterone and estrone variability seem to be predictors of interpersonal conflict among peripubertal girls.

DISCUSSION:

There is a relationship between hormone variability and relationship stress that points to some girls being more sensitive to hormone fluctuations. This could explain why some girls experience depression and rejection symptoms more intensely than others during the peripubertal stage of development.



Sources:
 Yli-Si: Rudolph and Flynn, 2007
 Meir Steiner, Edward Dunn, Leslie Born, 2003



This work was supported by the National Institute of Mental Health grant R01MH121575, the National Institute of Health T32 postdoctoral fellowship MH093315, the NIH Clinical Translational Science Award pilot grant UL1TR0002489, and a Foundation of Hope for Research and Treatment of Mental Illness grant.