Supplementary Table 1

*Correlation Table without Controlling for Age*

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Variable | *M* | *SD* | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 |
| 1. Child Age | 7.15 | 2.27 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2. Child Sex | .48 | .50 | .04 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 3. Maternal Education | .03 | .98 | -.03 | -.04 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 4. Household Income | .02 | .98 | .04 | -.03 | .55\*\* |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 5. Health Insurance | .71 | .46 | .11\* | .00 | .52\*\* | .54\*\* |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 6. Depression | .00 | .98 | -.01 | .01 | -.08 | -.22\*\* | -.14\*\* |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 7. Trait Anxiety | .01 | 1.01 | -.01 | -.05 | -.10\* | -.22\*\* | -.16\*\* | .72\*\* |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 8. State Anxiety | .00 | 1.00 | .01 | -.07 | -.06 | -.19\*\* | -.15\*\* | .55\*\* | .66\*\* |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 9. N2 Amplitude | 1.56 | 2.69 | -.15\*\* | .05 | .16\*\* | -.02 | .05 | -.07 | -.06 | -.04 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 10. P3 Amplitude | 1.78 | 4.46 | .14\*\* | .08 | -.04 | .01 | -.04 | .01 | .00 | -.07 | -.33\*\* |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 11. Theta Power | .47 | .90 | .16\*\* | .14\*\* | .08 | .13\*\* | .07 | .00 | -.02 | -.05 | .05 | .01 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 12. Delta Power | .29 | 1.02 | .13\*\* | .07 | -.07 | .02 | -.01 | -.02 | -.03 | -.06 | .01 | .09\* | .39\*\* |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 13. Theta ITPS | .02 | 1.00 | -.01 | -.07 | -.06 | -.06 | .01 | .00 | .03 | .04 | .00 | -.04 | .04 | .03 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 14. Delta ITPS | .00 | 1.01 | .13\*\* | -.05 | -.01 | .00 | .01 | -.07 | -.06 | -.03 | -.13\*\* | .12\*\* | .06 | .27\*\* | .17\*\* |  |  |  |  |  |  |  |  |  |  |  |  |
| 15. N2 Latency | .00 | 1.01 | -.26\*\* | .05 | -.11\* | -.09 | -.20\*\* | .00 | .03 | -.03 | -.14\*\* | .14\*\* | -.04 | -.08\* | .05 | -.08 |  |  |  |  |  |  |  |  |  |  |  |
| 16. P3 Latency | .01 | 1.00 | -.25\*\* | -.04 | .03 | .02 | -.02 | .03 | .03 | -.04 | .06 | .10\* | .00 | -.09\* | -.11\*\* | -.11\*\* | .10\* |  |  |  |  |  |  |  |  |  |  |
| 17. Theta Latency | .00 | 1.00 | -.13\*\* | .00 | -.04 | -.03 | .03 | .02 | .01 | -.05 | -.01 | .02 | .13\*\* | .13\*\* | -.08\* | -.01 | .11\* | .23\*\* |  |  |  |  |  |  |  |  |  |
| 18. Delta Latency | .00 | 1.00 | -.22\*\* | .03 | -.01 | .00 | -.02 | -.02 | -.01 | -.04 | .11\* | -.04 | .05 | .23\*\* | .10\* | -.11\* | .09\* | .04 | .21\*\* |  |  |  |  |  |  |  |  |
| 19. External | 4.27 | 3.31 | -.13\*\* | .23\*\* | -.09 | -.24\*\* | -.15\*\* | .23\*\* | .20\*\* | .18\*\* | -.11\* | -.03 | -.13\* | .00 | .01 | -.08 | .06 | .05 | .00 | .00 |  |  |  |  |  |  |  |
| 20. Internal | 2.86 | 2.58 | .03 | .00 | -.18\*\* | -.29\*\* | -.19\*\* | .26\*\* | .25\*\* | .23\*\* | -.03 | -.09 | -.06 | .07 | .03 | -.04 | -.02 | .06 | .02 | -.07 | .40\*\* |  |  |  |  |  |  |
| 21. Go Trials RT | 571.59 | 97.74 | -.77\*\* | -.11\*\* | .00 | -.03 | -.09 | .01 | .01 | .00 | .12\*\* | -.15\*\* | -.15\*\* | -.09 | .02 | -.15\*\* | .18\*\* | .31\*\* | .16\*\* | .20\*\* | .10\*\* | .03 |  |  |  |  |  |
| 22. No-go Trials RT | 462.65 | 93.43 | -.69\*\* | -.11\*\* | .01 | -.02 | -.10\*\* | -.03 | -.01 | -.02 | .08 | -.13\*\* | -.11\*\* | -.08 | .02 | -.12\*\* | .18\*\* | .31\*\* | .17\*\* | .19\*\* | .15\*\* | .03 | .85\*\* |  |  |  |  |
| 23. Go Trials Accuracy Rate | .93 | .09 | .61\*\* | .03 | .08 | .16\*\* | .20\*\* | -.05 | -.07 | -.07 | -.15\*\* | .18\*\* | .19\*\* | .06 | -.03 | .14 | -.18\*\* | -.18\*\* | -.12\*\* | -.13\*\* | -.17\*\* | -.09 | -.69\*\* | -.64\*\* |  |  |  |
| 24. No-go Trials Accuracy Rate | .72 | .13 | .29\*\* | -.23\*\* | .01 | .06 | .11\*\* | -.03 | -.04 | -.04 | .06 | .00 | .09 | .11 | -.05 | .03 | -.10\*\* | -.06 | -.07 | -.02 | -.23\*\* | -.02 | .00 | -.15\*\* | .21\*\* |  |  |
| 25 Go Trial numbers | 162.11 | 54.05 | .51\*\* | .03 | .08 | .15\*\* | .20\*\* | -.05 | -.05 | -.08 | -.04 | -.01 | .15\*\* | .13\*\* | .04 | .04 | -.18\*\* | -.10\* | -.06 | -.11\* | -.23\*\* | -.06 | -.46\*\* | -.45\*\* | .59\*\* | .22\*\* |  |
| 26 No-go Trial numbers | 41.94 | 16.23 | .47\*\* | -.08 | .09 | .17\*\* | .23\*\* | -.06 | -.06 | -.09\* | .03 | -.05 | .15\*\* | .11\* | .01 | .02 | -.15\*\* | -.09\* | -.07 | -.10\* | -.29\*\* | -.06 | -.29\*\* | -.35\*\* | .45\*\* | .62\*\* | .85\*\* |

*Note*. *M* = mean; *SD* = standard deviation; External = children’s externalizing problems; Internal = children’s internalizing problems; RT = reaction time. For Child Sex, 0 = female, 1 = male; For Health Insurance, 0 = public assistance, 1 = commercial health insurance. Maternal education, household income, maternal depression, maternal trait anxiety, maternal state anxiety, theta ITPS, delta ITPS, and all latency measures were standardized by their means and standard deviations.

\**p* < .05. \*\**p* < .01.

Supplementary Table 2

*Theta Power’s Mediating Role in The Prediction from Prenatal SES to Children’s Externalizing Problems with Theta Power and Externalizing Problems*

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Outcome | Predictor | B | β | *p*-value | CI (lower) | CI (upper) |
| **Theta Power** | **SES** | **.13** | **.16** | **.021** | **.025** | **.303** |
| **Theta Power** | **Child Sex** | **.14** | **.25** | **.001** | **.101** | **.393** |
| **Theta Power** | **Child Age** | **.15** | **.06** | **< .001** | **.027** | **.093** |
| **Externalizing** | **Theta Power** | **-.11** | **-.42** | **.025** | **-.785** | **-.052** |
| **Externalizing** | **SES** | **-.19** | **-.91** | **.003** | **-1.501** | **-.317** |
| **Externalizing** | **Child Sex** | **.24** | **1.61** | **< .001** | **.979** | **2.249** |
| **Externalizing** | **Child Age** | **-.11** | **-.17** | **.025** | **-.312** | **-.021** |

*Note*. The results are the same as Figure 4. Externalizing = children’s externalizing problems; CI = confidence interval; For Child Sex, 0 = female, 1 = male.

Supplementary Table 3

*Theta Power’s Mediating Role in The Prediction from Prenatal SES, Prenatal Maternal Psychopathology, and Their Interaction Effect to Children’s Externalizing Problems*

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Outcome | Predictor | B | β | *p*-value | CI (lower) | CI (upper) |
| **Theta Power** | **SES** | **.11** | **.35** | **.032** | **.030** | **.666** |
| Theta Power | Maternal Psychopathology | 0 | 0 | .981 | -.100 | .103 |
| Theta Power | Interaction | -.02 | -.09 | .634 | -.469 | .286 |
| **Theta Power** | **Child Sex** | **.14** | **.25** | **.001** | **.099** | **.393** |
| **Theta Power** | **Child Age** | **.15** | **.06** | **< .001** | **.028** | **.093** |
| **Externalizing** | **SES** | **-.12** | **-1.45** | **.013** | **-2.588** | **-.305** |
| **Externalizing** | **Maternal Psychopathology** | **.22** | **1.01** | **< .001** | **.565** | **1.445** |
| Externalizing | Interaction | -.03 | -.45 | .548 | -1.918 | 1.018 |
| **Externalizing** | **Theta Power** | **-.12** | **-.44** | **.013** | **-.796** | **-.093** |
| **Externalizing** | **Child Sex** | **.25** | **1.7** | **< .001** | **1.09** | **2.312** |
| **Externalizing** | **Child Age** | **-.11** | **-.17** | **.022** | **-.308** | **-.025** |

*Note*. Externalizing = children’s externalizing problems; CI = confidence interval; For Child Sex, 0 = female, 1 = male.

Supplementary Table 4

*Theta Power’s Mediating Role in The Prediction from Prenatal SES to Children’s Externalizing Problems with Theta Power and Externalizing Problems Collected Concurrently*

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Outcome | Predictor | B | β | *p*-value | CI (lower) | CI (upper) |
| **Theta Power** | **SES** | **.13** | **.16** | **.023** | **.023** | **.301** |
| **Theta Power** | **Child Sex** | **.14** | **.25** | **.001** | **.100** | **.392** |
| **Theta Power** | **Child Age** | **.15** | **.06** | **< .001** | **.027** | **.093** |
| Externalizing | Theta Power | -.09 | -.35 | .082 | -.739 | .044 |
| **Externalizing** | **SES** | **-.17** | **-.82** | **.018** | **-1.490** | **-.143** |
| **Externalizing** | **Child Sex** | **.28** | **1.94** | **< .001** | **1.216** | **2.666** |
| **Externalizing** | **Child Age** | **-.15** | **-.22** | **.012** | **-.394** | **-.050** |

*Note*. Externalizing = children’s externalizing problems; CI = confidence interval; For Child Sex, 0 = female, 1 = male.

Supplementary Table 5

*Theta Power’s Mediating Role in The Prediction from Prenatal SES to Children’s Externalizing Problems Controlling for Trial Numbers of Go and No-go Conditions*

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Outcome | Predictor | B | β | *p*-value | CI (lower) | CI (upper) |
| Theta Power | SES | .11 | .14 | .062 | -.007 | .279 |
| **Theta Power** | **Child Sex** | **.15** | **.26** | **< .001** | **.118** | **.409** |
| **Theta Power** | **Child Age** | **.11** | **.04** | **.026** | **.005** | **.083** |
| Theta Power | Go Trial Number | -.02 | .00 | .853 | -.003 | .002 |
| Theta Power | No-go Trial Number | .10 | .01 | .188 | -.003 | .014 |
| **Externalizing** | **SES** | **-.10** | **-.38** | **.032** | **-.735** | **-.032** |
| **Externalizing** | **Theta Power** | **-.15** | **-.73** | **.016** | **-1.326** | **-.135** |
| **Externalizing** | **Child Sex** | **.21** | **1.43** | **< .001** | **.781** | **2.076** |
| Externalizing | Child Age | -.01 | -.02 | .808 | -.177 | .138 |
| Externalizing | Go Trial Number | -.03 | .00 | .802 | -.015 | .011 |
| Externalizing | No-go Trial Number | -.19 | -.04 | .054 | -.079 | .001 |

*Note*. Externalizing = children’s externalizing problems; Go Trial Number = trial number of Go conditions; No-go Trial Number = trial number of No-go conditions; CI = confidence interval; For Child Sex, 0 = female, 1 = male; mediation estimate effect = -.052; 10,000 bootstrapping 95% CIs [-.168, -.001].

A graph of different types of response

Description automatically generated with medium confidenceA graph of different types of response

Description automatically generated with medium confidence

*Supplementary Figure 1.*ERP measures: N2 and P3. Average waveforms across all participants for the N2 (FCz) and the P3 (Pz) by age.

A diagram of a periodic table

Description automatically generated

*Supplementary Figure 2.*Topographical representation of the clusters used for electrophysiological measures.