**SUPPLEMENTARY INFORMATION FOR**

AN EXAMINATION OF DEVELOPMENTAL PATHWAYS FROM PRESCHOOL TEMPERAMENT TO EARLY ADOLESCENT ADHD SYMPTOMS THROUGH INITIAL RESPONSIVENESS TO REWARD

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Given differences in ADHD symptom prevalence across sexes (Arnett, Pennington, Willcutt, Defries, & Olson, 2015) and differences in reward responsiveness across sexes (e.g., males have been shown to exhibit greater electrocortical reactivity to monetary feedback than females) (Kujawa et al., 2015b), we also tested whether sex moderates the mediational models.

**Analytic Plan**

To examine whether sex moderates the mediational effect of RewP, we tested two moderated mediation models (one for each symptom domain, i.e., IA and H/I) wherein sex was examined as a moderator of the indirect path (from emotionality to ADHD symptom domains through RewP) and the direct path (from emotionality to ADHD symptoms domains) in the mediational model, using we used PROCESS Version 3.5 (Hayes, 2018) to calculate 95% CIs around the indirect effect with 5,000 bootstrap resamples, implementing a heteroscedasticity-consistent standard error estimator.

Similar to simple mediation models, moderated mediation models were tested by controlling for age 9 ADHD symptoms and also for the other, age 12 symptom domain (i.e., controlling for age 12 H/I in models with age 12 IA as the outcome and controlling for age 12 IA in models with age 12 H/I as the outcome) (see [Bunford, Brandt, et al., 2015] for precedent and rationale).

**Results**

**Moderated mediation analyses with PE**

**Moderated mediation analyses with sex.** Sex did not moderate the effect of PE on RewP (*p*=.720) or the effect of PE on ADHD-IA (*p*=.968). In addition, the indirect effect of PE on ADHD-IA through RewP was not supported for either boys or girls (95% CIs [.017, -.068] and 95% CIs [.019, -.064] for boys and girls, respectively). Sex also did not moderate the effect of PE on RewP (*p*=.709) or the effect of PE on ADHD-H/I (*p*=.847). Although the indirect effect of PE on ADHD-H/I through RewP was supported for boys (point estimate=.074; SE=.071; 95% CIs [.002, .049]) but not girls (95% CIs [-.007, .053]) (Table S1), the indirect effect of the highest order interaction was not significant (95% CIs [-.042, .025]), indicating insufficient support for moderation.

**Moderated mediation analyses with NE**

**Moderated mediation analyses with sex.** Sex did not moderate the effect of NE on RewP (*p*=.164) or the effect of NE on ADHD-IA (*p*=.929). Although the indirect effect of NE on ADHD-IA through RewP was supported for girls (point estimate=.190; SE=.133; 95% CIs [.004, .559]) but not boys (95% CIs [-.206, .241]), the indirect effect of the highest order interaction was not significant (95% CIs [-.043, .717]), indicating insufficient support for moderation. Sex did not moderate the effect of NE on RewP (*p*=.168) or the effect of NE on ADHD-H/I (*p*=.823). Although the indirect effect of NE on ADHD-H/I through RewP was supported for girls (point estimate=-.151; SE=.095; 95% CIs [-.487, -.026]) but not boys (95% CIs [-.165, .152]) (Table S1), the indirect effect of the highest order interaction was not significant (95% CIs [-.489, .019]), indicating insufficient support for moderation.

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| Table S1. | | | | | |
| *Model coefficients for moderated mediation models testing effects of age 3 positive emotionality through age 9 initial responsiveness to reward to age 12 ADHD symptoms* | | | | | |
|  | Consequent | | | | |
|  | *M* (RewP) | | *Y* (age 12 ADHD-IA) | | |
| Antecedent | *b* | SE | *b* | SE | |
| *X* (PE) | .74 | .71 | -.09 | .26 | |
| *M* (RewP) | - | - | -.04\* | .02 | |
| *W* (sex) | -2.99\*\*\* | .86 | .23 | .29 | |
| interaction (PE\*sex) | -.18 | .49 | .01 | .17 | |
| statistical control (age 12 ADHD-H/I) | .29 | .19 | .76\*\*\* | .11 | |
| statistical control (age 9 ADHD) | -.11 | .07 | .23\*\*\* | .04 | |
| Constant | 9.63\*\*\* | 1.35 | .31 | .52 | |
|  | *R2*=.06, *F*(5, 349)=3.90\*\* | | *R2*=.68, *F*(6,348)=49.87\*\*\* | | |
|  | Consequent | | | | |
|  | *M* (RewP) | | *Y* (age 12 ADHD-H/I) | | |
| Antecedent | *b* | SE | *b* | SE | |
| *X* (PE) | .76 | .71 | .09 | .15 | |
| *M* (RewP) | - | - | .03\* | 0.1 | |
| *W* (sex) | -2.94\*\*\* | .87 | -.02 | .20 | |
| interaction (PE\*sex) | -.18 | .49 | -.02 | .09 | |
| statistical control (age 12 ADHD-IA) | .03 | .08 | .36\*\*\* | .07 | |
| statistical control (age 9 ADHD) | -.13 | .13 | .11\*\* | .03 | |
| Constant | 9.58\*\*\* | 1.35 | -.31 | .35 | |
|  | *R2*=.05, *F*(5, 349)=3.66\*\* | | *R2*=.64, *F*(6,348)=22.19\*\*\* | | |
|  | Consequent | | | | |
|  | *M* (RewP) | | *Y* (age 12 ADHD-IA) | | |
| Antecedent | *b* | SE | *b* | | SE |
| *X* (NE) | 4.71 | 5.22 | .34 | | 1.98 |
| *M* (RewP) | - | - | -.04\* | | .02 |
| *W* (sex) | -.27 | 2.06 | .26 | | .62 |
| interaction (NE\*sex) | -4.61 | 3.31 | -.095 | | 1.068 |
| statistical control (age 12 ADHD-H/I) | .29 | .19 | .754 | | .120 |
| statistical control (age 9 ADHD) | -.11 | .07 | .233 | | .044 |
| Constant | 6.91\* | 3.18 | .15 | | 1.13 |
|  | *R2*=.05, *F*(5, 349)=3.65\*\* | | *R2*=.68, *F*(6,348)=52.65\*\*\* | | |
|  | Consequent | | | | |
|  | *M* (RewP) | | *Y* (age 12 ADHD-H/I) | | |
| Antecedent | *b* | SE | *b* | | SE |
| *X* (NE) | 4.48 | 5.20 | -.65 | | 1.24 |
| *M* (RewP) | - | - | .03\* | | .01 |
| *W* (sex) | -.23 | 2.05 | -.08 | | .46 |
| interaction (NE\*sex) | -4.57 | 3.31 | .15 | | .69 |
| statistical control (age 12 ADHD-IA) | -.14 | .12 | .36\*\*\* | | .07 |
| statistical control (age 9 ADHD) | .03 | .07 | .11\*\* | | .04 |
| Constant | 6.98\* | 3.17 | .01 | | .79 |
|  | *R2*=.05, *F*(5, 349)=3.64\*\* | | *R2*=.64, *F*(6,348)=22.98\*\*\* | | |
| *Note. \*\**\*: *p*<.001; \*\*: *p*<.01; \*: *p*<.05; §: .1>*p*>.05 | | | | | |