- SUPPLEMENTARY MATERIAL –

**Developmental multi-trajectory of irritability, anxiety and hyperactivity as psychological markers of heterogeneity in childhood aggression.**

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| **Supplementary Table 1**. Model Fit metrics across groups by sex. | | | | | |
| Groups | Boys | |  | Girls | |
| AvePP | OCC |  | AvePP | OCC |
|  |  |  |  |  |  |
| Typically Developing | 0.95 | 12.20 |  | 0.96 | 8.83 |
| Irritable Only | 0.88 | 77.94 |  | 0.90 | 119.57 |
| Anxious Only | 0.78 | 138.27 |  | 0.79 | 110.24 |
| Anxious & Irritable | 0.77 | 120.65 |  | 0.81 | 133.26 |
| Hyperactive Only | 0.84 | 42.92 |  | 0.80 | 71.47 |
| Hyperactive & Irritable | 0.86 | 111.99 |  | 0.86 | 192.01 |
| Hyperactive & Anxious | 0.81 | 142.74 |  | 0.73 | 156.34 |
| Dysregulated | 0.88 | 110.95 |  | 0.82 | 129.43 |
| Note. AvePP = Average Posterior Probabilities; OCC = Odds of correct classification | | | | | |
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| **Supplementary Table 2A.** Actual levels of Hyperactivity per multi-trajectory groups for each time-points. | | | | |
| Groups | Hyperactivity | | | |
| Y5 | Y9 | Y15 | *Partial η2* |
|  |  |  |  |  |
| Typically Developing | 0.39 (.43) | 0.27 (.36) | 0.16 (.26) | - |
| Irritable Only | 0.54 (.49) | 0.52 (.41) | 0.22 (.26) | 0.04 |
| Anxious Only | 0.49 (.44) | 0.42 (.40) | 0.22 (.27) | 0.01 |
| Anxious & Irritable | 0.64 (.53) | 0.80 (.49) | 0.23 (.24) | 0.06 |
| Hyperactive Only | 0.85 (.56) | 0.91 (.52) | 1.28 (.41) | 0.46 |
| Hyperactive & Irritable | 0.95 (.56) | 1.20 (.47) | 1.24 (.48) | 0.43 |
| Hyperactive & Anxious | 1.00 (.59) | 1.13 (.45) | 1.19 (.43) | 0.3 |
| Dysregulated | 1.09 (.56) | 1.31 (.49) | 1.19 (.52) | 0.45 |
| *Note. Partial Eta-squared effect size from Between-subject effects; Partial η2 = 0.01-0.06 small effect size, Partial η2 = 0.06-0.14 medium effect size, Partial η2 ­> 0.14 large effect size, Cohen, 1988. TD was used as the reference group.* | | | | |
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| **Supplementary Table 2B.** Actual levels of Irritability per multi-trajectory groups for each time-points. | | | | |
| Groups | Irritability | | | |
| Y5 | Y9 | Y15 | *Partial η2* |
|  |  |  |  |  |
| Typically Developing | 0.43 (.48) | 0.12 (.21) | 0.33 (.41) | - |
| Irritable Only | 0.84 (.59) | 1.08 (.21) | 0.67 (.53) | 0.3 |
| Anxious Only | 0.61 (.49) | 0.20 (.25) | 0.46 (.43) | 0.01 |
| Anxious & Irritable | 0.95 (.60) | 1.09 (.30) | 0.70 (.53) | 0.31 |
| Hyperactive Only | 0.67 (.57) | 0.22 (.25) | 0.88 (.56) | 0.11 |
| Hyperactive & Irritable | 1.06 (.57) | 1.19 (.33) | 1.16 (.54) | 0.38 |
| Hyperactive & Anxious | 0.82 (.60) | 0.28 (.26) | 0.91 (.60) | 0.07 |
| Dysregulated | 1.17 (.59) | 1.31 (.41) | 1.20 (.55) | 0.41 |
| *Note. Partial Eta-squared effect size from Between-subject effects; Partial η2 = 0.01-0.06 small effect size, Partial η2 = 0.06-0.14 medium effect size, Partial η2 ­> 0.14 large effect size, Cohen, 1988. G1 was used as the reference group.* | | | | |

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| **Supplementary Table 2C.** Actual levels of Anxiety per multi-trajectory groups for each time-points. | | | | |
| Groups | Anxiety | | | |
| Y5 | Y9 | Y15 | *Partial η2* |
|  |  |  |  |  |
| Typically Developing | 0.19 (.28) | 0.12 (.20) | 0.23 (.32) | - |
| Irritable Only | 0.24 (.32) | 0.18 (.21) | 0.26 (.32) | 0.01 |
| Anxious Only | 0.68 (.44) | 0.90 (.27) | 0.80 (.47) | 0.34 |
| Anxious & Irritable | 0.76 (.51) | 0.98 (.39) | 0.64 (.51) | 0.16 |
| Hyperactive Only | 0.26 (.33) | 0.14 (.20) | 0.52 (.44) | 0.05 |
| Hyperactive & Irritable | 0.27 (.36) | 0.12 (.17) | 0.49 (.44) | 0.03 |
| Hyperactive & Anxious | 0.68 (.56) | 0.84 (.36) | 0.97 (.49) | 0.32 |
| Dysregulated | 0.67 (.49) | 0.91 (.42) | 0.94 (.49) | 0.43 |
| *Note. Partial Eta-squared effect size from Between-subject effects; Partial η2 = 0.01-0.06 small effect size, Partial η2 = 0.06-0.14 medium effect size, Partial η2 ­> 0.14 large effect size, Cohen, 1988. G1 was used as the reference group.* | | | | |

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| **Supplementary Table 3A.** Results from additive and interaction effects of perinatal and early risk factors on the association between group membership (Irritable Only) and aggressive behaviors | | |
| Groups | Longitudinal Associations with Aggressive Behaviors | |
| OR (95% CI) | p-value |
| Main Effect of **G2 - Irritable**A | 3.10 (2.67-3.61) | < 0.001 |
| with Cigarette Use |  |  |
| Main Effect of Cigarette Use | 1.08 (.97-1.19) | 0.168 |
| Suppressor Effect (+)B | 3.21 (2.71-3.79) | <0.001 |
| Interaction Effect (\*) | 1.35 (.98-1.87) | 0.07 |
| *Note.* Adjusted for effects of time, sex and household income; A = Compared to Typically Developping; B = odds ratio [OR] displayed are corresponding to the group membership predictor. | | |

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| **Supplementary Table 3B.** Results from additive and interaction effects of perinatal and early risk factors on the association between group memberships (Anxious & Irritable) and aggressive behaviors | | |
| Groups | Longitudinal Associations with Aggressive Behaviors | |
| OR (95% CI) | p-value |
| Main Effect of **G4 - Anxious & Irritable**A | 3.24 (2.51-4.19) | < 0.001 |
| with Alcohol Use |  |  |
| Main Effect of Alcohol Use | 1.08 (.99-1.18) | 0.078 |
| Suppressor Effect (+)B | 3.20 (2.42-4.25) | <0.001 |
| Interaction Effect (\*) | .89 (.71-1.10) | 0.268 |
| with Cigarette Use |  |  |
| Main Effect of Cigarette Use | 1.11 (.99-1.24) | 0.082 |
| Suppressor Effect (+)B | 3.21 (2.44-4.22) | <0.001 |
| Interaction Effect (\*) | 1.35 (.98-1.87) | 0.07 |
| with MDE (Liberal) |  |  |
| Main Effect of MDE (Liberal) | 1.21 (1.07-1.37) | 0.003 |
| Suppressor Effect (+)B | 3.09 (2.35-4.06) | <0.001 |
| Interaction Effect (\*) | .76 (.53-1.08) | 0.126 |
| with MDE (Conservative) |  |  |
| Main Effect of MDE (Conservative) | 1.21 (1.04-1.40) | 0.012 |
| Suppressor Effect (+)B | 3.15 (2.39-4.15) | <0.001 |
| Interaction Effect (\*) | .70 (.47-1.05) | 0.087 |
| *Note.* Adjusted for effects of time, sex and household income; A = Compared to Typically Developping; B = odds ratio [OR] displayed are corresponding to the group membership predictor. | | |

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| **Supplementary Table 3C.** Results from additive and interaction effects of perinatal and early risk factors on the association between group membership (Hyperactive Only) and aggressive behaviors | | |
| Groups | Longitudinal Associations with Aggressive Behaviors | |
| OR (95% CI) | p-value |
| **G5** - HyperactiveA | 3.68 (3.14-4.30) | < 0.001 |
| with Cigarette Use |  |  |
| Main Effect of Cigarette Use | 1.04 (.93-1.15) | 0.489 |
| Additive Effect (+)B | 3.83 (3.21-4.58) | <0.001 |
| Interaction Effect (\*) | .83 (.67-1.02) | 0.07 |
| with Harsh Discipline |  |  |
| Main Effect of Harsh Discipline | 1.02 (1.01-1.03) | <0.001 |
| Additive Effect (+)B | 3.50 (2.93-4.20) | <0.001 |
| Interaction Effect (\*) | .97 (.96-.99) | 0.004 |
| with Low Birth Weight |  |  |
| Main Effect of Low Birth Weight | 1.02 (.791-1.30) | 0.903 |
| Additive Effect (+)B | 3.72 (3.18-4.35) | <0.001 |
| Interaction Effect (\*) | .78 (.46-1.35) | 0.378 |
| *Note.* Adjusted for effects of time, sex and household income; A = Compared to Typically Developping; B = odds ratio [OR] displayed are corresponding to the group membership predictor. | | |

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| **Supplementary Table 3D.** Results from additive and interaction effects of perinatal and early risk factors on the association between group membership (Hyperactive & Irritable) and aggressive behaviors. | | |
| Group Membership | Longitudinal Associations with Aggressive Behaviors | |
| OR (95% CI) | p-value |
| **G6** - Hyperactive & Irritable**A** | 6.47 (5.44-7.70) | < 0.001 |
| with Cigarette Use |  |  |
| Main Effect of Cigarette Use | 1.08 (.97-1.21) | 0.16 |
| Suppressor Effect (+)B | 6.54 (5.45-7.86) | <0.001 |
| Interaction Effect (\*) | .99 (.77-1.27) | 0.93 |
| with MDE (Liberal) |  |  |
| Main Effect of MDE (Liberal) | 1.27 (1.13-1.41) | <0.001 |
| Suppressor Effect (+)B | 6.38 (5.36-7.60) | <0.001 |
| Interaction Effect (\*) | 1.04 (.83-1.32) | 0.718 |
| with MDE (Conservative) |  |  |
| Main Effect of MDE (Conservative) | 1.30 (1.14-1.47) | <0.001 |
| Suppressor Effect (+)B | 6.33 (5.33-7.53) | <0.001 |
| Interaction Effect (\*) | 1.09 (.84-1.40) | 0.53 |
| *Note.* Adjusted for effects of time, sex and household income; A = Compared to Typically Developping; B = odds ratio [OR] displayed are corresponding to the group membership predictor. | | |

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| **Supplementary Table 3E.** Results from additive and interaction effects of perinatal and early risk factors on the association between group membership (Hyperactive & Anxious) and aggressive behaviors. | | |
| Groups | Longitudinal Associations with Aggressive Behaviors | |
| OR (95% CI) | p-value |
| **G7** - Hyperactive & AnxiousA | 4.14 (3.24-5.29) | < 0.001 |
| with Alcohol Use |  |  |
| Main Effect of Alcohol Use | 1.09 (.99-1.19) | 0.058 |
| Suppressor Effect (+)B | 4.05 (3.12-5.25) | <0.001 |
| Interaction Effect (\*) | .98 (.72-1.33) | 0.894 |
| with Cigarette Use |  |  |
| Main Effect of Cigarette Use | 1.09 (.97-1.22) | 0.15 |
| Suppressor Effect (+)B | 3.97 (3.06-5.16) | <0.001 |
| Interaction Effect (\*) | 1.02 (.74-1.41) | 0.908 |
| with MDE (Liberal) |  |  |
| Main Effect of MDE (Liberal) | 1.21 (1.07-1.37) | 0.003 |
| Suppressor Effect (+)B | 3.90 (3.02-5.05) | <0.001 |
| Interaction Effect (\*) | .74 (.53-1.03) | 0.074 |
| with MDE (Conservative) |  |  |
| Main Effect of MDE (Conservative) | 1.19 (1.03-1.39) | <0.001 |
| Suppressor Effect (+)B | 4.04 (3.11-5.25) | <0.001 |
| Interaction Effect (\*) | .63 (.45-.90) | 0.011 |
| *Note.* Adjusted for effects of time, sex and household income; A = Compared to Typically Developping; B = odds ratio [OR] displayed are corresponding to the group membership predictor. | | |

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| **Supplementary Table 3F.** Results from additive and interaction effects of perinatal and early risk factors on the association between group membership (Dysregulated) and aggressive behaviors | | |
| Groups | Longitudinal Associations with Aggressive Behaviors | |
| OR (95% CI) | p-value |
| **G8** - DysregulatedA | 7.68 (6.62-8.91) | < 0.001 |
| with Alcohol Use |  |  |
| Main Effect of Alcohol Use | 1.06 (.98-1.15) | 0.166 |
| Suppressor Effect (+)B | 7.74 (6.50-9.22) | <0.001 |
| Interaction Effect (\*) | .85 (.72-.99) | 0.049 |
| with Cigarette Use |  |  |
| Main Effect of Cigarette Use | 1.07 (.97-1.19) | 0.175 |
| Suppressor Effect (+)B | 7.57 (6.34-9.05) | <0.001 |
| Interaction Effect (\*) | .98 (.80-1.19) | 0.808 |
| with MDE (Liberal) |  |  |
| Main Effect of MDE (Liberal) | 1.22 (1.09-1.36) | <0.001 |
| Suppressor Effect (+)B | 7.50 (6.44-8.73) | <0.001 |
| Interaction Effect (\*) | .89 (.72-1.09) | 0.243 |
| with MDE (Conservative) | |  |
| Main Effect of MDE (Conservative) | 1.22 (1.08-1.38) | 0.002 |
| Suppressor Effect (+)B | 7.57 (6.50-8.82) | <0.001 |
| Interaction Effect (\*) | .86 (.68-1.09) | 0.209 |
| with Harsh Discipline |  |  |
| Main Effect of Harsh Discipline | 1.03 (1.02-1.04) | <0.001 |
| Suppressor Effect (+)B | 8.58 (6.66-11.05) | <0.001 |
| Interaction Effect (\*) | .99 (.97-1.02) | 0.886 |
| *Note.* Adjusted for effects of time, sex and household income; A = Compared to Typically Developping; B = odds ratio [OR] displayed are corresponding to the group membership predictor. | | |