

Supplemental Table 1: Summary of available data for analyses

|  | Number lost | Participants with data |
|--|-------------|------------------------|
| <b>Original sample</b>   |             | <b>310</b>             |
| <b>Sample with behavioral data at age 20</b>   |             | <b>258</b>             |
| - Parent requested drop out  | 10          |                        |
| - Target youth requested drop out  | 3           |                        |
| - Incarcerated   | 10          |                        |
| - In the military  | 5           |                        |
| - Deceased   | 1           |                        |
| - Unable to locate   | 11          |                        |
| - Hard to contact/probable drop outs   | 12          |                        |
| <b>Total lost</b>  | <b>52</b>   |                        |
| <b>Sample with imaging data at age 20</b>  |             | <b>186</b>             |
| - Concussion/head injury   | 25          |                        |
| - Bullets/metal fragments  | 15          |                        |
| - Braces   | 2           |                        |
| - Phone interviews (out of the area)   | 5           |                        |
| - Refused MRI portion of the visit   | 7           |                        |
| - Living at home/treatment facility (too ill to participate in fMRI – schizophrenia, autism, car accident) | 4           |                        |
| - Claustrophobic   | 8           |                        |
| - Left before scanning portion/wanted to stop scan   | 4           |                        |
| - Did not physically fit in the bore   | 1           |                        |
| - Reported being currently on drugs  | 1           |                        |
| <b>Total Lost</b>  | <b>72</b>   |                        |
| <b>Sample with usable imaging data at age 20</b>   |             | <b>167</b>             |
| - Incidental findings on sMRI  | 2           |                        |
| - Poor amygdala coverage (< 90%)   | 7           |                        |
| - Poor performance on task (< 75%)   | 1           |                        |
| - Slept during scan  | 1           |                        |
| - Excessive movement/outliers  | 1           |                        |
| - Psychosis  | 4           |                        |
| - Appeared to be on drugs and/or not responding to task  | 3           |                        |
| <b>Total Lost</b>  | <b>19</b>   |                        |

Supplemental Table 2: Zero-order correlations of main study behavioral variables

|                                    | Self-report AB | APD Symptoms | CU Traits | Adult Arrest | Early vs. Late starting AB | Early and Late AB vs. Low AB | GAD   | Depression | Alcohol Abuse | Alcohol Dependence | Drug Abuse | Drug Dependence |
|------------------------------------|----------------|--------------|-----------|--------------|----------------------------|------------------------------|-------|------------|---------------|--------------------|------------|-----------------|
| APD symptoms                       | .413**         |              |           |              |                            |                              |       |            |               |                    |            |                 |
| CU Traits                          | .123           | .097         |           |              |                            |                              |       |            |               |                    |            |                 |
| Adult Arrest                       | .189*          | .135         | .220**    |              |                            |                              |       |            |               |                    |            |                 |
| Early vs. Late starting AB         | .383**         | .193*        | .198*     | .136         |                            |                              |       |            |               |                    |            |                 |
| Early and Late starting vs. Low AB | .452**         | .357**       | .246**    | .220**       | .934**                     |                              |       |            |               |                    |            |                 |
| GAD                                | .027           | .034         | -.021     | .130         | .025                       | .031                         |       |            |               |                    |            |                 |
| Depression                         | .149           | .159*        | .151      | .058         | .178*                      | .193*                        | .113  |            |               |                    |            |                 |
| Alcohol Abuse                      | .372**         | .275**       | .027      | .123         | .148                       | .191*                        | -.024 | -.018      |               |                    |            |                 |
| Alcohol Dependence                 | .515**         | .348**       | .045      | .109         | .218**                     | .242**                       | .147  | .079       | .511**        |                    |            |                 |
| Drug Abuse                         | .456**         | .455**       | .139      | .284**       | .171*                      | .241**                       | .014  | .194*      | .405**        | .465**             |            |                 |
| Drug Dependence                    | .459**         | .371**       | .190*     | .107         | .165*                      | .238**                       | .028  | .256**     | .183*         | .308**             | .664**     |                 |
| Social Anxiety Disorder            | .040           | .044         | .010      | .024         | -.011                      | .024                         | .020  | -.058      | -.067         | -.023              | .057       | .143            |

Note: \*  $p < .05$ ; \*\*  $p < .01$ . Early, Late Starting and Low AB were derived from Trajectory groupings described in the Methods; AB = Antisocial Behavior. APD = Antisocial Personality Disorder. CU = Callous Unemotional. GAD = Generalized Anxiety Disorder Symptoms. Depression = Major Depressive Episode symptoms. All alcohol and drug measures were symptom counts within each diagnosis.

Supplemental Table 3: Neural reactivity correlates of dimensions of antisocial behavior by parent-reported race

| Measure   | Race | Direction of relationship | Basolateral ROI (MNI) t and voxel extent (k)    | Centromedial ROI (MNI) t and voxel extent (k)   |
|---|------|---------------------------|---|---|
| <b>Fear &gt; Neutral</b>  |      |                           |   |   |
| No relationships with measures of CU found in either group                  |      |                           |   |   |
| Self-report AB  | EA   | ns                        |   |   |
|   | AA   | -                         |   | Left: -22, -4, -10<br>t = 3.61, k = 16<br>Right: 28, -6, -10<br>t = 3.85, k = 44 <sup>^</sup> |
| APD symptoms  | EA   | ns                        |   |   |
|   | AA   | ns                        |   |   |
| <b>Anger &gt; Neutral</b>   |      |                           |   |   |
| No relationships in either group with measures of AB or CU traits           |      |                           |   |   |
| <b>Fear &gt; Shapes</b>   |      |                           |   |   |
| Self-report AB  | EA   | ns                        |   |   |
|   | AA   | -                         |   | Left: -22, -4, -10; t = 3.61, k=16<br>Right: 28, -6, -10; t = 3.85, k = 44                    |
| APD symptoms  | EA   | ns                        |   |   |
|   | AA   | ns                        |   |   |
| No relationships in either group with CU traits                             |      |                           |   |   |
| <b>Anger &gt; Shapes</b>  |      |                           |   |   |
| No relationships with measures of AB found in either group                  |      |                           |   |   |
| CU traits   | EA   | ns                        |   |   |
|   | AA   | +                         | Left: -20 -8 -22; t = 3.87, k = 42 <sup>^</sup> |   |
| <b>Neutral &gt; Shapes</b>  |      |                           |   |   |
| No relationships with measures of AB or CU traits within either group found |      |                           |   |   |

Note: <sup>^</sup> = findings that emerged also with formal tests of moderation (i.e., an interaction term between behavior and race was correlated with this cluster within SPM8). EA = European American, AA = African American; AB = Antisocial Behavior. APD = Antisocial Personality Disorder. CU = Callous Unemotional. MNI = coordinates in the atlas by the Montreal Neurological Institute.

Supplemental Table 4: Neural reactivity correlates of age of onset and arrest record behavior by parent-reported race

| Measure                    | Race | Direction | Basolateral ROI (MNI)<br>t and voxel extent (k) | Centromedial ROI (MNI)<br>t and voxel extent (k) |
|----------------------------|------|-----------|---|--|
| <b>Fear&gt; Neutral</b>    |      |           |   |  |
| Adult Arrest               | EA   | ns        |   |  |
|                            | AA   | +         | Left: -18, -4, -24<br>t = 4.52, k = 77          |  |
| Age of Onset               | EA   | ns        |   |  |
|                            | AA   | ns        |   |  |
| <b>Anger&gt; Neutral</b>   |      |           |   |  |
| Adult Arrest               | EA   | ns        |   |  |
|                            | AA   | ns        |   |  |
| Age of Onset               | EA   | ns        |   |  |
|                            | AA   | ns        |   |  |
| <b>Fear &gt; Shapes</b>    |      |           |   |  |
| Adult Arrests              | EA   | ns        |   |  |
|                            | AA   | +         | Left: -18 -4 -24<br>t = 4.52, k = 77            |  |
| Age of Onset               | EA   | ns        |   |  |
|                            | AA   | ns        |   |  |
| <b>Anger &gt; Shapes</b>   |      |           |   |  |
| Adult Arrest               | EA   | ns        |   |  |
|                            | AA   | ns        |   |  |
| Age of Onset               | EA   | ns        |   |  |
|                            | AA   | ns        |   |  |
| <b>Neutral &gt; shapes</b> |      |           |   |  |
| Adult Arrests              | EA   | ns        |   |  |
|                            | AA   | ns        |   |  |
| Age of Onset               | EA   | ns        |   |  |
|                            | AA   | ns        |   |  |

Note: EA = European American. AA = African American. AB = Antisocial Behavior. MNI = coordinates in the atlas by the Montreal Neurological Institute.

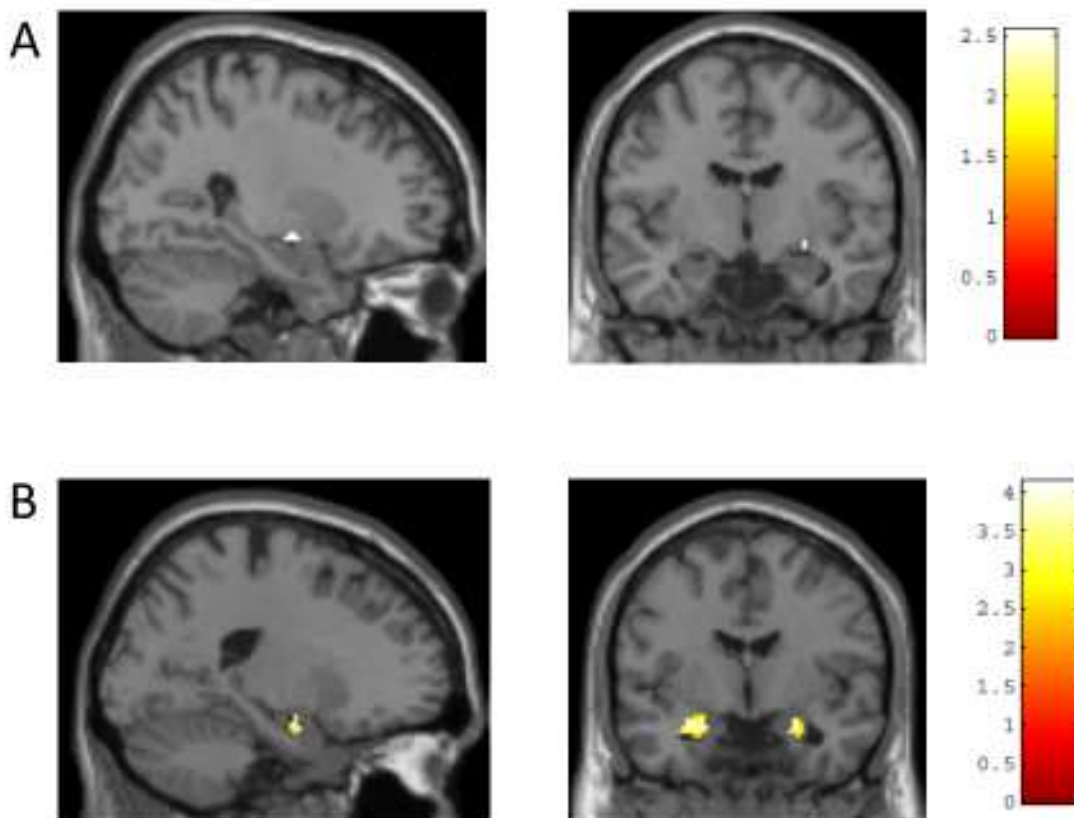
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Supplemental Table 5: Descriptive statistics for measures of antisocial behavior across total and European and African American subsamples.

| Measure   | Sample | Mean  | Standard Deviation | Min - Max | Difference between EA and AA samples |
|---|--------|---|--------------------|-----------|--------------------------------------|
| <b>Dimensional measures of AB and CU traits</b> |        |   |                    |           |                                      |
| Self-reported AB                                | Total  | 62.87   | 7.76               | 53 – 88   | t(149) = -1.70                       |
|   | AA     | 66.16   | 6.41               | 53 – 82   |                                      |
|   | EA     | 63.86   | 8.79               | 53 – 88   |                                      |
| APD symptoms                                    | Total  | .55   | 1.31               | 0 – 7     | t(151) = -.80                        |
|   | AA     | .61   | 1.48               | 0 – 7     |                                      |
|   | EA     | .44   | 1.16               | 0 – 5     |                                      |
| CU traits                                       | Total  | 7.58  | 1.70               | 5 – 14    | t(151) = -2.72**                     |
|   | AA     | 8.03  | 1.84               | 5 – 14    |                                      |
|   | EA     | 7.28  | 1.59               | 5 – 12    |                                      |
| <b>Person-centered measures of AB</b>           |        |   |                    |           |                                      |
| Age of onset                                    | Total  | Low AB = 104<br>Early starters = 31<br>Late starters = 22 |                    |           | $\chi^2(2) = 1.59$                   |
|   | AA     | Low AB = 38<br>Early starters = 15<br>Late starters = 8   |                    |           |                                      |
|   | EA     | Low AB = 59<br>Early starters = 14<br>Late starters = 9   |                    |           |                                      |
| Adult arrest                                    | Total  | No arrests = 123<br>One or more arrests = 44              |                    |           | $\chi^2(2) = 5.30^*$                 |
|   | AA     | No arrests = 44<br>One or more arrests = 22               |                    |           |                                      |
|   | EA     | No arrests = 72<br>One or more arrests = 15               |                    |           |                                      |

Note: \*  $p < .05$ , \*\*  $p < .01$ . EA = European American. AA = African American. AB = Antisocial Behavior. APD = Antisocial Personality Disorder. CU = Callous Unemotional.

Supplemental Figure 1: Different measures of antisocial behavior demonstrate divergent relationships with centro-medial versus basolateral amygdala reactivity.



Caption: (A) **Clinical ratings of antisocial behavior are negatively related to amygdala reactivity to fearful faces:** APD symptoms are negatively related to amygdala reactivity to fearful faces versus shapes in the right centro-medial amygdala region of interest (centered on right peak voxel, MNI: 28, -10, -10,  $t = 2.74$ ,  $k = 9$ ). (B) **Young men with a history of being arrested as an adult demonstrate greater amygdala reactivity to fearful faces:** Bilateral amygdala reactivity differentiates those who have versus those who have not been arrested in the basolateral amygdala region of interest centered on the peak voxel in the left basolateral amygdala (MNI: -20, -4, -20,  $t = 4.12$ ,  $k = 104$ ; right cluster MNI: 24, -4, -18,  $t = 4.01$ ,  $k = 44$ ).