Supplemental Table 1.

*Eligible charges by site*

|  |  |  |
| --- | --- | --- |
| **Jefferson Parish, La** | **Orange County, Ca** | **Philadelphia, Pa** |
| Criminal Mischief  | Assault  | Aggravated Assault  |
| Disturbing the Peace  | Battery  | Burglary  |
| Hit and Run Driving  | Burglary  | Criminal Mischief  |
| Possession of Marijuana  | Drug Possession  | Indecent Assault  |
| Possession of Stolen Property | Obstruct Public Officer  | Marijuana – Personal Use  |
| Simple Battery  | Petty Theft  | Possession of Instrument of Crime  |
| Simple Criminal Damage to Property  | Possession of Switchblade Knife  | Possession of Controlled Substance  |
| Theft | Public Fighting  | Possession of Marijuana  |
| Theft of Goods  | Vandalism  | Possession with Intent to Deliver Controlled Substance  |
|  |  | Robbery  |
|  |  | Simple Assault  |
|  |  | Terroristic Threats  |
|  |  | Theft  |
|  |  | Weapon on School Property  |

Supplemental Table 2.

*Variables used to create inverse probability matching weights.*

|  |  |  |
| --- | --- | --- |
| Variable name | Measure Description | Reference |
| Age | Youths’ date of birth was obtained at recruitment and used to determine age. | Developed for The Crossroads Study based on the Pathways to Desistance Study |
| Race/ethnicity | Youth self-reported their racial and ethnic background. | Developed for The Crossroads Study based on the Pathways to Desistance Study |
| Site | The site where the youth’s case was processed was obtained using court and probation records. | Probation and court records |
| IQ | An IQ proxywas assessed with the vocabulary and matrix reasoning subscales of the Wechsler Abbreviated Scale of Intelligence  | Wechsler, 1999 |
| Commitment offense category | Probation and court records were used to determine whether the charge associated with youths' first arrest (and the charge that made the youth eligible for the Crossroads study) was a person, property, drug, or weapon/other offense. | Probation and court records |
| Hours in detention after arrest | Youth self-reported whether (and how long) they were held in detention by the police after their arrest for the charge that made the youth eligible for the Crossroads study. Hours in detention was truncated at 24 hours. | Developed for The Crossroads Study |
| Prior informal police diversions | Youth self-reported whether they had ever been picked up by the police but not arrested/charged prior to their first official arrest. | Developed for The Crossroads Study |
| Prior offending | Prior offending was assessed with 24 items from the Self-Report of Offending scale. Each item asked youth whether they had engaged in different illegal behaviors in the past 6 months at baseline (e.g., property damage; drug dealing; assault; robbery). | Based on the Pathways to Desistance Study and adapted from Huizinga, Esbensen, & Weihar, 1991  |
| Physical aggression | Physical aggression at baseline was measured with the total overt subscale (20 items) from the Peer Conflict Scale. | Marsee et al., 2011; Marsee, Kimonis, & Frick, 2004; Marsee, Silverthorn, & Frick, 2005  |
| Psychosocial maturity index | The Psychosocial Maturity Index was a 30-item measure used to assess three dimensions of maturity: work orientation, self-reliance, and self-esteem. | Greenberger, & Bond, 1976; Greenberger, Josselson, Knerr, & Knerr, 1974 |
| Impulse control | The Impulse Control Subscale (8 items) from the Weinberger Adjustment Inventory was used to measure impulse control. | Weinberger, & Schwartz, 1990 |
| Callous-unemotional traits | The Inventory of Callous-Unemotional Traits was used to measure callous and unemotional traits (24 items). | Kimonis et al., 2008 |
| Enrolled in school | Youth self-reported whether they were currently enrolled in school. | Developed for The Crossroads Study |
| School truancy | School truancy over the past 6 months was assessed with 5 items (e.g., late for school, cut or skipped school, in trouble for missing too many days). | Cernkovich & Giordano, 1992; Eccles, Wigfield, & Schiefele, 1998 |
| School suspensions and expulsions | Youth self-reported the number of times that they had been suspended from school and whether they had been expelled from school in the 6 months prior to the baseline interview. | Developed for The Crossroads Study and based on the Pathways to Desistance Study |
| Employed | Youth self-reported whether they were employed at any point during the 6 months prior to the baseline interview (legal jobs only - "under the table" jobs were excluded). | Developed for The Crossroads Study and based on the Pathways to Desistance Study |
| Future orientation | The Future Outlook Inventory was used to measure future orientation (15 items). | Cauffman & Woolard, 1999 |
| Positive expectations about the future | Youth rated their expectations for success in work, family relationships, and engaging in law abiding behavior with 7 items from the Perception of Opportunities scale. | Menard & Elliott, 1996; Elliott, 1990  |
| Perception of opportunities | The Motivation to Succeed scale was used to measure the participants' assessment of the opportunities in his neighborhood (6 items) | Eccles, Wigfield, & Schiefele, 1998  |
| Procedural justice attitudes (police) | The Procedural Justice measure was used to evaluate the youths' perceptions of the police. | Based on the Pathways to Desistance Study and Casper, Tyler, & Fisher, 1988; Tyler, 1997; Paternoster, Brame, Bachman, & Sherman, 1997 |
| Substance use | Substance use was assessed with an adapted version of the Substance Use and Abuse Inventory. Youth were asked to state the frequency with which they used tobacco, alcohol (specifically binge drinking), and marijuana, and whether they had used other illicit drugs (e.g., ecstasy, cocaine) in the previous 6 months. | Chassin, Rogosch, & Barrera, 1991 |
| Biological parents still married | Youth self-reported whether their biological parents were still married at the baseline interview. | Developed for The Crossroads Study |
| Parents’ highest education | The highest education achieved by either parent was self-reported by the youth at the baseline interview (ranged from grade school to professional degree or higher)  | Developed for The Crossroads Study |
| Parental antisocial behavior | Parent criminal behavior was assessed with a modified version of the Association with Deviant Peers scale (13 items). Items asked participants to state whether either parent had engaged in 13 illegal behaviors in the past 6 months (e.g., stolen something worth more than $100, carried a gun, been in a fight).  | Based on Thornberry, Lizotte, Krohn, & Farnworth, 1994 |
| Parental arrests | Youth self-reported whether either biological parent had ever been arrested prior to the baseline interview. | Based on the Pathways to Desistance Study |
| Parental knowledge | Parental knowledge (e.g., whether parent knows where adolescent goes at night, whether parents know who the adolescent spends time with) was assessed with an adapted version of the Parental Monitoring Inventory (5 items).  | Steinberg, Lamborn, Dornbusch, & Darling, 1992 |
| Neighborhood disadvantage | A scale representing the overall physical and social characteristics (e.g., empty beer bottles on the streets) of the participants’ neighborhoods was assessed with 21 self-reported items.  | Sampson, 1997; Sampson & Raudenbush, 1999; Sampson, Raudenbush, & Earls, 1997 |
| Peer delinquency | Peer delinquency was assessed with the Association with Deviant Peers scale (13 items). Each item asked youth to state the proportion of friends that had engaged in different illegal behaviors (e.g., carried a gun, been in a fight).  | Thornberry, Lizotte, Krohn, Farnworth, & Jang, 1994 |
| Exposure to violence | Exposure to violence was measured with 18 items that assessed the frequency of witnessing or being a victim of different violent acts (e.g., attacked with a weapon). | Selner-Ohagan, Kindlon, Buka, Raudenbush, & Earls, 1998 |

*Notes.* All variables used in matching analysis were measured at the baseline interview.

Supplemental Table 3.

*The impact of formal processing on legal factors, illegal/aggressive behavior, school/employment, mental health/cognitive, psychosocial development/expectations, and contextual factors prior to adjusting by matching weights, age, and race.*

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|   |   |   |   |   |   | Coefficients By Time |
|  | Main effect of Formal Vs Informal Processing | Processing by Time | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 |
|   | *Β* | (*SE*) | *p* | Χ2(4) | *p* | Β (*p*) | Β (*p*) | Β (*p*) | Β (*p*) | Β (*p*) |
| **Outcome Variable** |  |  |  |  |  |  |  |  |  |  |
| Legal Factors |  |  |  |  |  |  |  |  |  |  |
| Re-arrests | **0.59** | **0.09** | **<.001** | 4.00 | .407 |  |  |  |  |  |
| Incarceration | **0.65** | **0.13** | **<.001** | 3.07 | .546 |  |  |  |  |  |
| Illegal/Aggressive Behavior |  |  |  |  |  |  |  |  |  |  |
| Total offending | **0.19** | **0.07** | **.006** | 3.92 | .417 |  |  |  |  |  |
| Violence | **0.27** | **0.08** | **.001** | 0.85 | .932 |  |  |  |  |  |
| Physical aggression | **0.45** | **0.22** | **.038** | 1.93 | .748 |  |  |  |  |  |
| School/Employment |  |  |  |  |  |  |  |  |  |  |
| Currently enrolled in school | **-0.25** | **0.09** | **.005** | 2.27 | .686 |  |  |  |  |  |
| Currently employed | -0.01 | 0.08 | .920 | 0.25 | .993 |  |  |  |  |  |
| Currently enrolled in school or employed | **-0.19** | **0.09** | **.033** | 4.38 | .357 |  |  |  |  |  |
| High school graduation 5 years after first arrest | **-0.33** | **0.14** | **.025** | NA | NA |  |  |  |  |  |
| Mental Health/Cognitive |  |  |  |  |  |  |  |  |  |  |
| Internalizing problems | 0.51 | 0.28 | .067 | 4.59 | .332 |  |  |  |  |  |
| Interpersonal callousness | 0.53 | 0.31 | .090 | 1.28 | .865 |  |  |  |  |  |
| Psychosocial Development/Expectations |  |  |  |  |  |  |  |  |  |
| Impulse control | -0.05 | 0.03 | .161 | 3.38 | .497 |  |  |  |  |  |
| Suppression of aggression | **-0.08** | **0.04** | **.016** | 2.22 | .695 |  |  |  |  |  |
| Consideration of others | **-0.06** | **0.03** | **.035** | 3.17 | .530 |  |  |  |  |  |
| Sensation seeking | 0.04 | 0.07  | .604 | 3.25 | .517 |  |  |  |  |  |
| Future orientation | -0.00 | 0.02 | .800 | 3.62 | .460 |  |  |  |  |  |
| Perception of opportunities | **-0.07** | **0.02** | **.004** | **10.01** | **.004** | -0.05 (.082) | -0.04 (.176) | -0.04 (.201) | **-0.08 (.028)** | **-0.14 (<.001)** |
| Contextual Risk Factors |  |  |  |  |  |  |  |  |  |  |
| Peer delinquency | **0.06** | **0.02** | **.018** | 6.49 | .166 |  |  |  |  |  |
| Exposure to violence | **0.16** | **0.07** | **.014** | 1.92 | .751 |   |   |   |   |   |

*Notes.*  Generalized estimating equation population-averaged models. Main effects in table represent values prior to including the interaction between formal processing and time. Values in bold print represent coefficients that were significant based on *p* < .05. Analysis includes baseline values of outcome (when available) and time as covariates. SE = Robust Standard Error