Supplementary Table 1. Days of MA use and severity of positive psychotic

Symptoms per fortnight over 12 months.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | MA use | | Psychotic symptoms | |
|  | M | SD | M | SD |
| Baseline | 4.45 | 4.15 | 6.32 | 3.37 |
| 1 | 3.91 | 3.85 | 5.71 | 2.70 |
| 2 | 3.47 | 3.92 | 5.74 | 3.33 |
| 3 | 3.59 | 4.16 | 5.61 | 2.98 |
| 4 | 2.98 | 3.67 | 5.37 | 2.71 |
| 5 | 2.37 | 3.32 | 5.42 | 2.92 |
| 6 | 2.41 | 3.32 | 5.53 | 2.86 |
| 7 | 2.33 | 3.29 | 5.21 | 2.74 |
| 8 | 2.71 | 3.70 | 5.58 | 3.27 |
| 9 | 2.19 | 3.02 | 5.52 | 3.13 |
| 10 | 2.45 | 3.11 | 5.22 | 2.68 |
| 11 | 2.30 | 3.09 | 5.42 | 3.45 |

MA: Methamphetamine

Supplementary Table 2. Results from mixed effect negative binomial regression predicting MA use and positive psychotic symptoms.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Psychotic symptoms | | MA use | |
|  | b | 95% CI | b | 95% CI |
| Previous wave MA use | 0.03\*\* | (0.01, 0.06) | 0.09\*\*\* | (0.08, 0.11) |
| Previous wave psychotic symptoms | 0.09\*\*\* | (0.06, 0.11) | 0.03\*\* | (0.01, 0.05) |
| Lifetime psychotic disorder type (Ref: No psychotic disorder) | | | | |
| Substance induced psychotic disorder | 0.68\*\*\* | (0.35, 1.00) | 0.05 | (-0.15, 0.25) |
| Primary psychotic disorder | 0.86\*\*\* | (0.42, 1.30) | -0.57\*\*\* | (-0.91, -0.23) |
| MA dependence at baseline | 0.53\*\*\* | (0.25, 0.81) | 0.26\*\* | (0.08, 0.45) |
| Age | 0.00 | (-0.02, 0.01) | 0.01\* | (0.00, 0.02) |
| Female | -0.07 | (-0.36, 0.22) | 0.28\*\* | (0.09, 0.47) |
| Born overseas | -0.08 | (-0.54, 0.38) | -0.21 | (-0.52, 0.11) |
| Family history of psychosis | 0.28 | (-0.12, 0.68) | 0.28\* | (0.01, 0.54) |
| Previous wave cannabis use (Unit: log Days in past 2 weeks) | 0.09\* | (0.01, 0.19) | -0.03 | (-0.09, 0.03) |
| Previous wave alcohol use (Unit: log Days in past 2 weeks) | -0.02 | (-0.12, 0.08) | -0.03 | (-0.09, 0.04) |
| Previous wave heroin use (Yes/ No in past 2 weeks) | -0.10 | (-0.39, 0.19) | -0.16 | (-0.34, 0.02) |

\*\*\* *p* < 0.001; \*\* *p* < 0.01; \* *p* < 0.05. MA: methamphetamine

Supplementary Table 3. Linear mixed effect models with interactions between MA use and type of lifetime psychotic disorder predicting positive psychotic symptoms and MA use

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Psychotic symptoms | | MA use | |
|  | b | 95% CI | b | 95% CI |
| Previous wave MA use | 0.03 | (-0.03, 0.09) | 0.48\*\*\* | (0.43, 0.52) |
| Previous wave psychotic symptoms | 0.21\*\*\* | (0.17, 0.26) | |  |
| Lifetime psychotic disorder type (Ref: No psychotic disorder) | | | 0.06 | (-0.01, 0.14) |
| Substance induced psychotic disorder | 0.21\* | (0.04, 0.38) | 0.02 | (-0.1, 0.13) |
| Primary psychotic disorder | 0.63\*\*\* | (0.36, 0.89) | -0.26\*\* | (-0.45, -0.07) |
| Previous wave MA use\*Lifetime psychotic disorder type interaction | | |  |  |
| MA use\*Substance induced psychotic  disorder | 0.06 | (-0.03, 0.15) | |  |
| MA use\*Primary psychotic disorder | 0.10 | (-0.05, 0.26) | |  |
| Previous wave psychotic symptoms\*Lifetime psychotic disorder type interaction | | | |  |
| Psychotic symptoms\*Substance induced psychotic disorder | | | 0.02 | (-0.08, 0.12) |
| Psychotic symptoms\*Primary psychotic disorder | |  | -0.05 | (-0.18, 0.07) |
| MA dependence at baseline | 0.10 | (-0.05, 0.25) | 0.12\* | (0.01, 0.23) |
| Age | 0.00 | (-0.01, 0.01) | 0.01\*\* | (0.00, 0.02) |
| Female | -0.04 | (-0.20, 0.12) | 0.11 | (-0.00, 0.22) |
| Born overseas | 0.03 | (-0.24, 0.29) | -0.07 | (-0.26, 0.11) |
| Family history of psychosis | 0.20 | (-0.03, 0.42) | 0.10 | (-0.05, 0.26) |
| Previous wave cannabis use (Unit: log Days in past 2 weeks) | 0.02 | (-0.02, 0.07) | -0.04 | (-0.07, 0.00) |
| Previous wave alcohol use (Unit: log Days in past 2 weeks) | 0.01 | (-0.04, 0.06) | -0.03 | (-0.07, 0.02) |
| Previous wave heroin use (Unit: Yes/ No in past 2 weeks) | -0.08 | (-0.22, 0.06) | -0.16\* | (-0.29, -0.03) |

\*\*\* *p* < 0.001; \*\* *p* < 0.01; \* *p* < 0.05. MA: methamphetamine

Supplementary Table 4. Linear mixed effect models with interactions between MA use and MA dependence at baseline predicting positive psychotic symptoms and MA use

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Psychotic symptoms | | MA use | |
|  | b | 95% CI | b | 95% CI |
| Previous wave MA use | 0.05 | (-0.01, 0.12) | 0.48\*\*\* | (0.43, 0.52) |
| Previous wave psychotic symptoms | 0.22\*\*\* | (0.17, 0.27) | 0.09\*\* | (0.02, 0.16) |
| Lifetime psychotic disorder type (Ref: No psychotic disorder) | | |  |  |
| Substance induced psychotic disorder | 0.21\* | (0.05, 0.38) | 0.03 | (-0.10, 0.14) |
| Primary psychotic disorder | 0.59\*\*\* | (0.33, 0.85) | -0.30\*\* | (-0.49, -0.11) |
| Previous wave MA use\*MA dependence at baseline interaction | 0.02 | (-0.06, 0.11) |  | |
| Previous wave psychotic symptoms\*MA dependence at baseline interaction |  |  | -0.05 | (-0.13, 0.04) |
| MA dependence at baseline | 0.10 | (-0.05, 0.25) | 0.12\* | (0.01, 0.23) |
| Age | 0.00 | (-0.01, 0.01) | 0.01\*\*\* | (0.00, 0.02) |
| Female | -0.04 | (-0.20, 0.12) | 0.11\* | (0.00, 0.22) |
| Born overseas | 0.02 | (-0.24, 0.29) | -0.08 | (-0.27, 0.10) |
| Family history of psychosis | 0.19 | (-0.03, 0.42) | 0.11 | (-0.05, 0.27) |
| Previous wave cannabis use (Unit: log Days in past 2 weeks) | 0.02 | (-0.02, 0.06) | -0.04 | (-0.08, 0.00) |
| Previous wave alcohol use (Unit: log Days in past 2 weeks) | 0.01 | (-0.04, 0.06) | -0.03 | (-0.07, 0.02) |
| Previous wave heroin use (Unit: Yes/ No in past 2 weeks) | -0.08 | (-0.22, 0.06) | -0.16 | (-0.29, -0.03) |

\*\*\* *p* < 0.001; \*\* *p* < 0.01; \* *p* < 0.05. MA: methamphetamine

Supplementary Table 5. Results from linear mixed effect regressions predicting MA use and the three-item positive psychotic symptom total among regular MA users.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Psychotic symptoms | | MA use | |
|  | b | 95% CI | b | 95% CI |
| Previous wave MA use | 0.07\*\* | (0.02, 0.11) | 0.48\*\*\* | (0.43, 0.52) |
| Previous wave psychotic symptoms | 0.20\*\*\* | (0.15, 0.25) | 0.06\*\* | (0.02, 0.11) |
| Lifetime psychotic disorder type (Ref: No psychotic disorder) | | | | |
| Substance induced psychotic  disorder | 0.23\*\* | (0.06, 0.40) | 0.03 | (-0.09, 0.14) |
| Primary psychotic disorder | 0.60\*\*\* | (0.34, 0.87) | -0.29\*\* | (-0.48, -0.1) |
| MA dependence at baseline | 0.13 | (-0.02, 0.29) | 0.12\* | (0.02, 0.23) |
| Age | 0.00 | (-0.01, 0.01) | 0.01\*\*\* | (0.00, 0.02) |
| Female | -0.02 | (-0.19, 0.14) | 0.11 | (-0.00, 0.22) |
| Born overseas | 0.01 | (-0.26, 0.28) | -0.08 | (-0.27, 0.1) |
| Family history of psychosis | 0.21 | (-0.01, 0.44) | 0.10 | (-0.05, 0.26) |
| Previous wave cannabis use (Unit: log days in past 2 weeks) | 0.02 | (-0.03, 0.07) | -0.04 | (-0.07, 0.00) |
| Previous wave alcohol use (Unit: log days in past 2 weeks ) | 0.02 | (-0.04, 0.07) | -0.03 | (-0.07, 0.02) |
| Previous wave heroin use (Ref: No use in past 2 weeks | | |  |  |
| Use in past 2 weeks | -0.06 | (-0.20, 0.08) | -0.16\* | (-0.29, -0.03) |

\*\*\* *p* < 0.001; \*\* *p* < 0.01; \* *p* < 0.05. b: regression coefficients. MA: methamphetamine.

Supplementary Table 6. Results from the cross-lagged model with fixed effect modelling the direction of the lagged relationship between MA use and the three-item positive psychotic symptom total over 12 waves of monthly data

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Psychotic symptoms | | | MA use | | |
|  | ba | 95% CI | p-value | ba | 95% CI | p-value |
| Previous wave MA use | 0.09\*\*\* | (0.04, 0.15) | 0.00 | 0.39\*\*\* | (0.33, 0.44) | 0.00 |
| Previous wave psychotic symptoms | 0.19\*\*\* | (0.13, 0.24) | 0.00 | 0.07\*\* | (0.02, 0.12) | 0.01 |
| Age | -0.18 | (-0.48, 0.13) | 0.26 | 0.39\*\*\* | (0.16, 0.63) | 0.00 |
| Female | 0.05 | (-0.11, 0.22) | 0.52 | 0.14\* | (0.01, 0.26) | 0.03 |
| Born overseas | 0.07 | (-0.21, 0.35) | 0.64 | -0.08 | (-0.29, 0.14) | 0.43 |
| Lifetime psychotic disorder | 0.39\*\*\* | (0.22, 0.55) | 0.00 | 0.02 | (-0.11, 0.14) | 0.74 |
| MA dependence at baseline | 0.12 | (-0.04, 0.28) | 0.13 | 0.14\* | (0.02, 0.26) | 0.03 |
| *\*\*\** *p* < 0.001; *\*\** *p* < 0.01; \* *p <* 0.05. MA: methamphetamine; b: regression coefficients. | | | | | | |