TABLE S1

Formulas for Models Predicting Changes in Total Subclinical Psychotic Symptoms

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1. Base model (no covariates)

$\text{Log}(\text{SubPsy}_{it}) = \beta_1\text{Weekly}_{it} + \beta_2\text{Prior1y}_{it} + \beta_3\text{Prior2y}_{it} + \beta_4\text{Age}_{it} + \beta_5\text{Age}^2_{it} + \alpha_i$

      1a. Base model with a linear effect for the number of years of prior weekly use

      $\text{Log}(\text{SubPsy}_{it}) = \beta_1\text{Weekly}_{it} + \beta_2\text{PriorYrs}_{it} + \beta_3\text{Age}_{it} + \beta_4\text{Age}^2_{it} + \alpha_i$

2. Base model with time-varying covariates

$\text{Log}(\text{SubPsy}_{it}) = \beta_1\text{Weekly}_{it} + \beta_2\text{Prior1y}_{it} + \beta_3\text{Prior2y}_{it} + \beta_4\text{Age}_{it} + \beta_5\text{Age}^2_{it} + \sum\beta_z\text{Covariates}_{it} + \alpha_i$

      2a. Base model with time-varying covariates and linear effect prior weekly use

      $\text{Log}(\text{SubPsy}_{it}) = \beta_1\text{Weekly}_{it} + \beta_2\text{PriorYrs}_{it} + \beta_3\text{Age}_{it} + \beta_4\text{Age}^2_{it} + \sum\beta_z\text{Covariates}_{it} + \alpha_i$

3. Base model with time-varying covariates and linear effect of prior weekly use separated for subsequent years of continued use and non-use

      $\text{Log}(\text{SubPsy}_{it}) = \beta_1\text{Weekly}_{it} + \beta_2\text{PriorYrsNoUse}_{it} + \beta_3\text{PriorYrsUse}_{it} + \beta_4\text{Age}_{it} + \beta_5\text{Age}^2_{it}$

      $+ \sum\beta_z\text{Covariates}_{it} + \alpha_i$

*Models for binary symptom subtypes are identical to those outlined above except a logit link function is used.

SubPsy_{it} = Total subclinical psychotic symptoms for individual i at time t

Weekly_{it} = Current weekly marijuana use for individual i at time t

Prior1Yr_{it} = One year of prior weekly marijuana use for individual i at time t

Prior2Yr_{it} = Two or more years of prior weekly marijuana use for individual i at time t

PriorYrs_{it} = Number of years of prior weekly marijuana use (truncated at 2) for individual i at time t

Age = Age of individual i at time t

Age^2 = Squared age of individual i at time t

α_i = a fixed constant for each individual i

$\sum\beta_z\text{Covariates}_{it}$ = Sum of the effect of all time-varying covariates for individual i at time t

$\text{PriorYrsNoUse}_{it}$ = Number of years of prior weekly marijuana use (truncated at 2) for time-points when individual i reports no marijuana use in the past year

PriorYrsUse_{it} = Number of years of prior weekly marijuana use (truncated at 2) for time-points when individual i reports using marijuana at least once in the past year

TABLE S2

Results from Models With Covariates Predicting Changes in Subclinical Psychotic Symptoms from Ages 13 to 18

	Total symptoms (N= 657)[a]		Paranoia (N=343)[a]		Hallucinations (N=218)[a]		Bizarre thoughts (N=511)[a]	
	IRR	[95% C.I.]	OR	[95% C.I.]	OR	[95% C.I.]	OR	[95% C.I.]
Weekly marijuana use	1.12	[0.93, 1.35]	2.04**	[1.29, 3.23]	0.94	[0.49, 1.82]	0.90	[0.59, 1.39]
Weekly alcohol use	1.07	[0.90, 1.27]	0.77	[0.49, 1.23]	1.15	[0.62, 2.14]	1.36	[0.92, 2.03]
Daily tobacco use	1.06	[0.91, 1.24]	1.21	[0.80, 1.83]	1.45	[0.84, 2.50]	1.06	[0.76, 1.49]
Any other illicit drug use	1.12	[0.91, 1.39]	1.17	[0.64, 2.14]	1.57	[0.78, 3.16]	1.28	[0.78, 2.11]
Prior weekly marijuana use								
1 year	1.15	[0.91, 1.46]	2.75**	[1.53, 4.94]	1.94	[0.87, 4.35]	0.88	[0.50, 1.53]
2 years	1.51*	[1.08, 2.11]	4.96***	[2.14, 11.50]	3.64*	[1.07, 12.38]	1.41	[0.63, 3.16]
Prior weekly alcohol use								
1 year	1.07	[0.85, 1.34]	1.00	[0.56, 1.77]	1.26	[0.60, 2.68]	1.00	[0.59, 1.71]
2 years	1.20	[0.85, 1.69]	1.08	[0.44, 2.62]	0.74	[0.22, 2.48]	1.94	[0.87, 4.35]
Prior daily tobacco use								
1 year	0.91	[0.75, 1.11]	0.84	[0.49, 1.43]	1.45	[0.74, 2.88]	0.66	[0.43, 1.01]
2 years	0.96	[0.75, 1.23]	1.42	[0.72, 2.81]	1.17	[0.47, 2.92]	0.55*	[0.32, 0.96]
3 years	0.86	[0.62, 1.21]	0.89	[0.38, 2.07]	2.57	[0.83, 7.95]	0.44*	[0.22, 0.91]
Prior hard drug use	0.94	[0.73, 1.20]	0.34**	[0.16, 0.71]	0.85	[0.36, 2.00]	1.40	[0.79, 2.49]
Psychotic symptoms (T-1)	0.99	[0.93, 1.05]	0.65**	[0.49, 0.87]	0.51***	[0.36, 0.72]	0.58***	[0.47, 0.72]
Internalizing	1.07***	[1.05, 1.08]	1.20***	[1.15, 1.25]	1.09**	[1.04, 1.15]	1.12***	[1.08, 1.16]
Externalizing	1.03***	[1.02, 1.04]	1.10***	[1.07, 1.13]	1.07***	[1.04, 1.11]	1.05***	[1.02, 1.07]
Age	0.79***	[0.70, 0.90]	0.73	[0.53, 1.02]	1.20	[0.81, 1.78]	0.72*	[0.56, 0.93]
Age^2	1.01	[0.99, 1.03]	1.01	[0.97, 1.06]	0.92**	[0.87, 0.98]	0.99	[0.96, 1.04]

Note. IRR=incidence rate ratio. OR=odds ratio. For variables indexing the effect of prior substance use, the contrast condition is the combined effect of assessment waves that preceded the onset of the substance use frequency indicated.

[a]Sample sizes vary because participants who experience no within-person change in the dependent variable are dropped from the analysis by default.

*p<.05; **p<.01; ***p<.001

TABLE S3

Changes in Concurrent and Cumulative Psychotic Symptoms Influencing Fluctuations in Weekly Marijuana Use from Ages 13 to 18

| | Weekly marijuana use ($N = 248$) | | | |
| | Without covariates | | With covariates | |
	OR	[95% C.I.]	OR	[95% C.I.]
Current psychotic symptoms				
0 symptoms	---	---	---	---
1 symptom	1.47	[0.99, 2.18]	0.85	[0.53, 1.37]
2+ symptoms	1.98*	[1.08, 3.61]	1.14	[0.54, 2.40]
Test of linear trend	1.44*	[1.09, 1.89]	0.96	[0.69, 1.34]
Prior years of 2+ symptoms				
0 years	---	---	---	---
1 year	0.38*	[0.18, 0.80]	0.35*	[0.15, 0.80]
2+ years	0.66	[0.22, 1.98]	0.61	[0.17, 2.17]
Test of linear trend	0.77	[0.47, 1.26]	0.65	[0.37, 1.13]

Note. OR=Odds ratio. Observation count was 1,384. Sample size is 248 because participants who experienced no within-person change in weekly marijuana use are dropped from the analysis by default. Age and age^2 are included as predictors in all models. Covariates were weekly marijuana use at T-1, concurrent internalizing and externalizing problems, current weekly alcohol use, daily tobacco use, and other illicit drug use.   Contrast condition for effect of prior symptoms is the set of time-points that preceded the onset of 2+ symptoms.   For linear trend analysis, the number of current subclinical symptoms (truncated to 2) and the number of prior years participants experienced 2 or more symptoms (truncated to 2 years) were treated as continuous predictors.

*p<.05; **p<.01; ***p<.001