Are Faster Transitions in Early Cannabis Use Associated with Later Cannabis-Related Outcomes?

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Background

- Global prevalence of cannabis use amongst those aged 15-64 is estimated at 2.7% - 4.9%.[1]

- Literature on early substance use onset suggests speed of progression through early substance use stages may provide insight into the likelihood of developing later dependence.[2,3,4,5]

- The transition from first to second use of cannabis is an understudied early transition.

- We expect faster speed of transition to be associated with elevated lifetime risks for future frequent and problematic cannabis use.

Aims

Test whether faster speed of transition from first to second use of cannabis (Figure 1) is associated with increased likelihood of:
- ➢ Daily cannabis use
- ➢ Cannabis abuse and/or dependence
- ➢ Treatment seeking for cannabis problems

after controlling for known confounders (see Figure 3).

Figure 2. Prevalence of cannabis outcomes by transition speed. All between-group differences are significant (P = <0.0001).
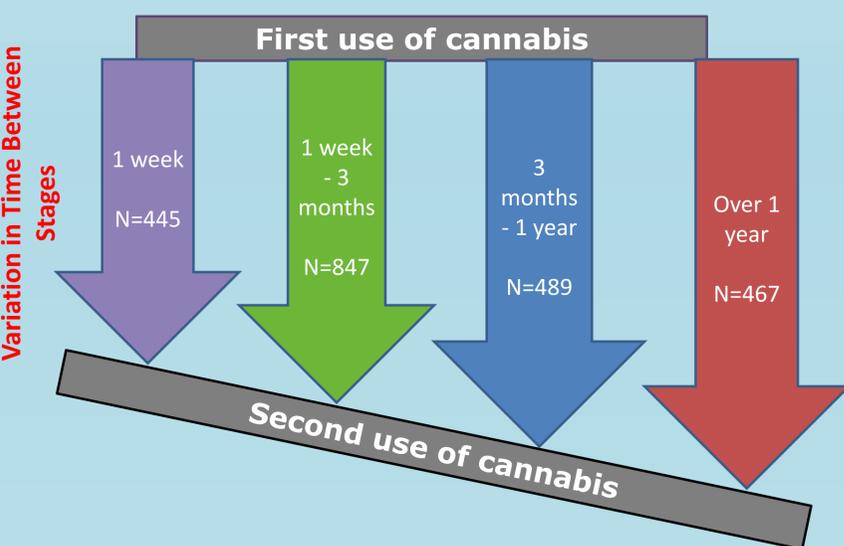

Figure 1. Diagram of transition, including study groups as defined by variation in speed of transition from first to second use.

Methods

- **Sample**: From an epidemiological study of 3824 drawn from the Australian Twin Registry (mean age at time of survey = 31.2 SD = 3.0, range 21-46), 2248 participants had reported using cannabis more than once.

- **Procedure:** Participants took part in telephone interviews with trained researchers.

- **Measures**: Transition speed measured through the item "how soon after you first tried marijuana did you try it again?" (Figure 1). Daily use and treatment seeking measured through interview items. Abuse and dependence assessed in the SSAGA-II[6] using DSM IV criteria.

- **Analysis**: Multinomial logistic regression analyses tested association between the speed of transition categories and the outcomes, with "Over 1 year" set as the reference group. Controlled for socio-demographic, childhood, mental health, peer and licit drug factors (see Figure 3 for full list).

Results

- Significant differences and a linear relationship were observed for all outcome prevalences between transition speed groups (Figure 2).

- After controlling for confounders those in the fastest transition group (within a week) had significantly greater likelihood of daily use (OR 2.70, 95% CI 1.75 – 4.16), abuse and/or dependence (OR 3.37, 95% CI 2.45 – 4.65) and treatment-seeking (OR 2.00, 95% CI 1.10 – 3.65) (Figure 3).

- Second use within 3 months was positively associated with abuse and/or dependence (OR 1.69, 95% CI 1.27 – 2.25) after controlling for confounders (Figure 3).

Figure 3. Odds ratios and 95% confidence intervals for cannabis outcomes by transition speed. Controlled for gender, education, parental problematic alcohol use, childhood sexual abuse, conduct disorder, peer cannabis use, onset of cannabis use <16, preceding regular alcohol use and preceding regular nicotine use.

Discussion

- **Summary**: There is an association between speed of transition and later cannabis-related outcomes, which remains after controlling for factors that would be expected to predispose individuals towards substance use problems.

- **Interpretation**: This association is unlikely to be causal in the traditional sense of this word, but likely reflects individual and contextual factors that we have not controlled for such as availability or personality traits.

- **Implications**: There is potential utility for using this measure to identify groups who would benefit most from substance use prevention interventions.

- **Limitations**: Data were based on retrospective self-report, which introduces the possibility of recall bias.
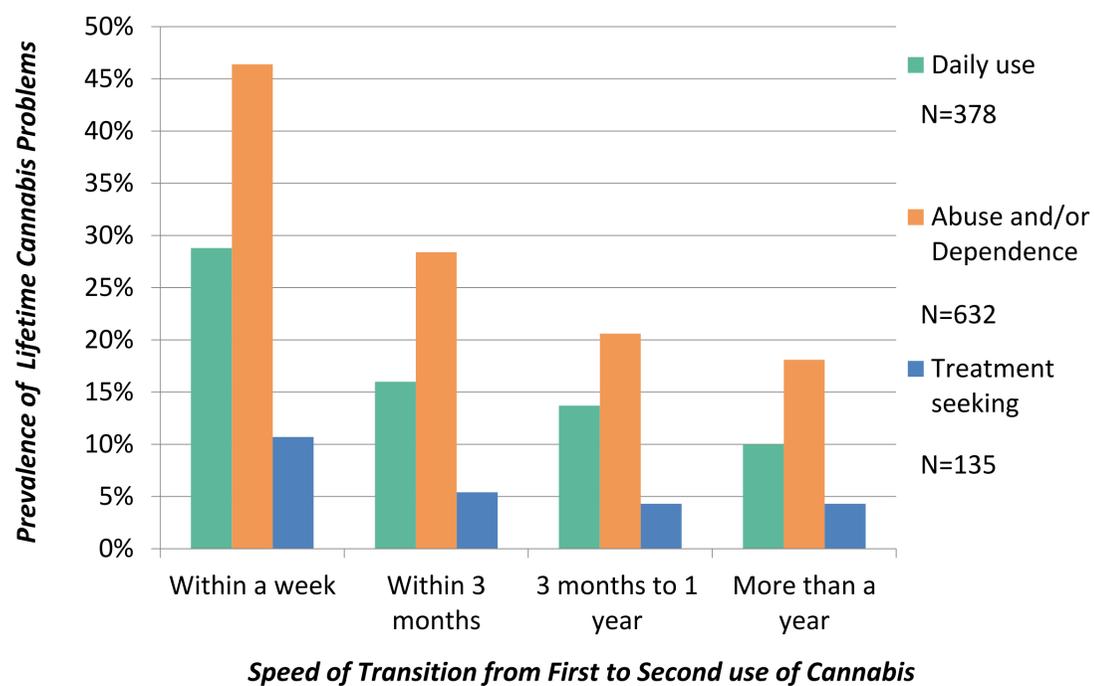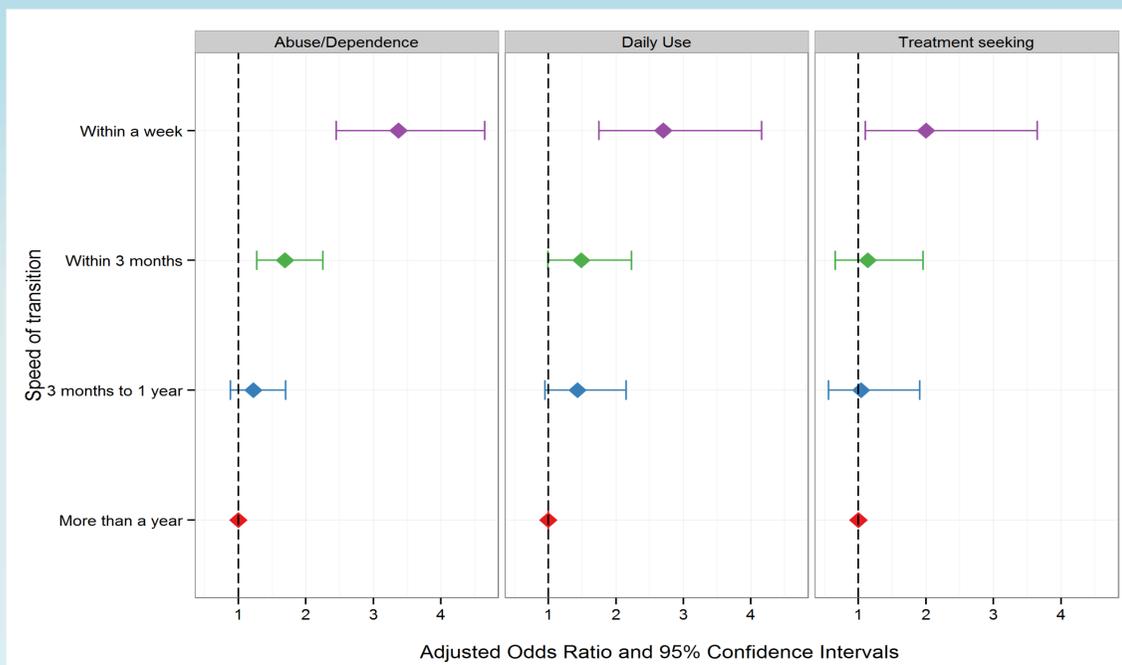
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