How much does craving contribute to use among substance users not attempting to abstain?
Ecological Momentary Assessment study among substances users in harm reduction programs

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INTRODUCTION

Craving was a strong predictor of substance use after an exposition of cues: **"cues-craving-use" as behavioral model of addiction** *(Fatseas, 2015)*

Validated among patient in addiction outpatient clinic during the first 2 weeks of treatment in daily life

Model of addiction "cues-craving-use" could be influenced by treatment context, due to reduce or stop substance use due to external factors

Way in which experiments are developed has been recognized as a determinant of experienced craving *(Tiffany, 2012)*

Interest to determine if the prospective link between craving and substance use behavior (use, infection risk practices) is found in active substance users in an environment that is substance-use-friendly as harm reduction (HR) programs

HR interventions aim to reduce the harm that substance cause to individuals without necessarily reducing substance use

OBJECTIVE

To determine whether craving predict substance use among active substance users recruited in Harm reduction programs a substance-use friendly environment

METHODS

Participants

Active problematic substance use and Current substance use disorder for :
  Opiates, sedatives, cocaine or other stimulant
Harm reduction setting (needle exchange program)
  Bordeaux, South West, France
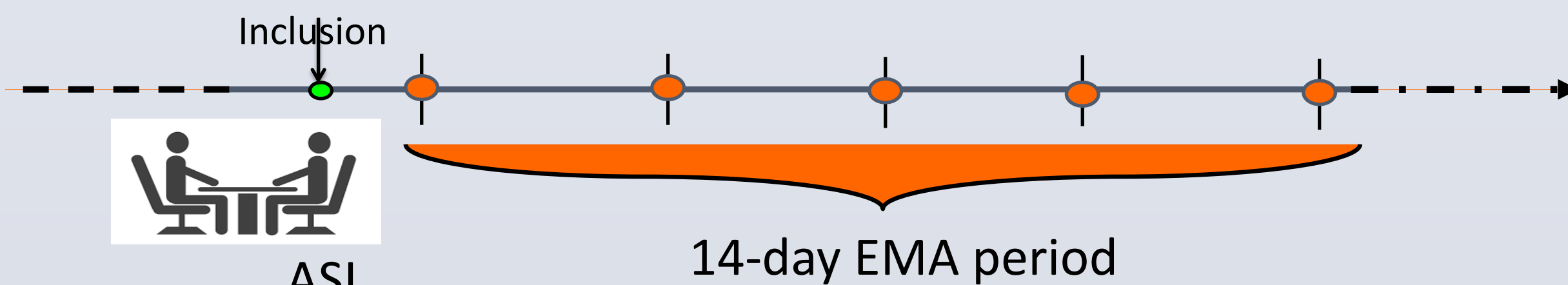**Used by injected or based route**

EMA: Ecological Momentary Assessment (EMA)
  Real-time data collection
  Evaluation in the natural environment of the subject
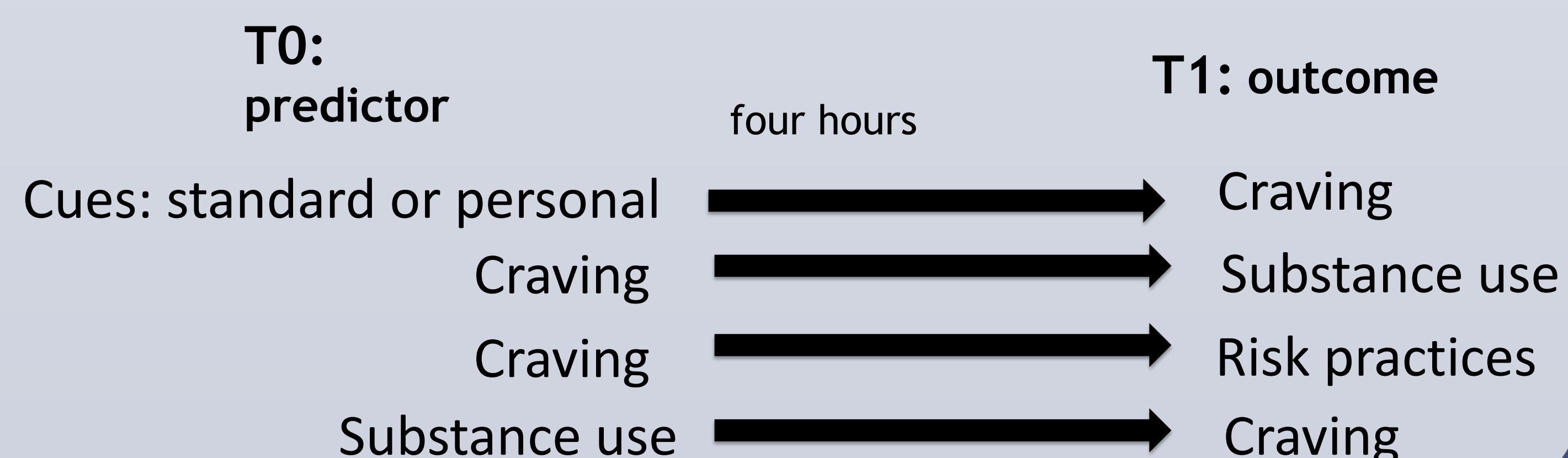 Repeated assessments across the day

Procedures

Inclusion

ASI
MINI-Plus

14-day EMA period

Substance use
  Main problematic substance (yes/no)
  Number of use of main substance (mean)
Craving intensity (Seven-point scale)
  Maximum level since the last assessment
Cues exposure
  Standards cues
  Personal cues
Infectious risk practices
  Reuse or sharing of substance use

Electronic Interviews
○ 4 per day
○ Beep call

Statistical Analyses
Hierarchical linear and non-linear models :

T0: predictor — four hours — T1: outcome

Cues: standard or personal → Craving
Craving → Substance use
Craving → Risk practices
Substance use → Craving

RESULTS

Sample characteristics
  –N=19, 37.1 y.o. (SD: 9)
  –58 % males
  –Unemployed 95%

EMA Reports
Response rate to electronic interview: 75%

EMA reports (observations=793)*	%	n	Mean	SD	Min	Max
Main problematic substance use	51.3	407	1.55	2.10	0	10
Risk practices	9.98	79				
Others substance use	77.4	613	1.37	1.08	0	7
Craving intensity			5.16	2.04	1	7
Number of substance-specific cues			7.72	5.54	0	25
Number of person-specific cues			5.13	2.97	0	13
Total number of cues			12.9	7.81	0	35

*Frequencies, percentages and means are based on the total number of valid electronic interviews over the assessment period.
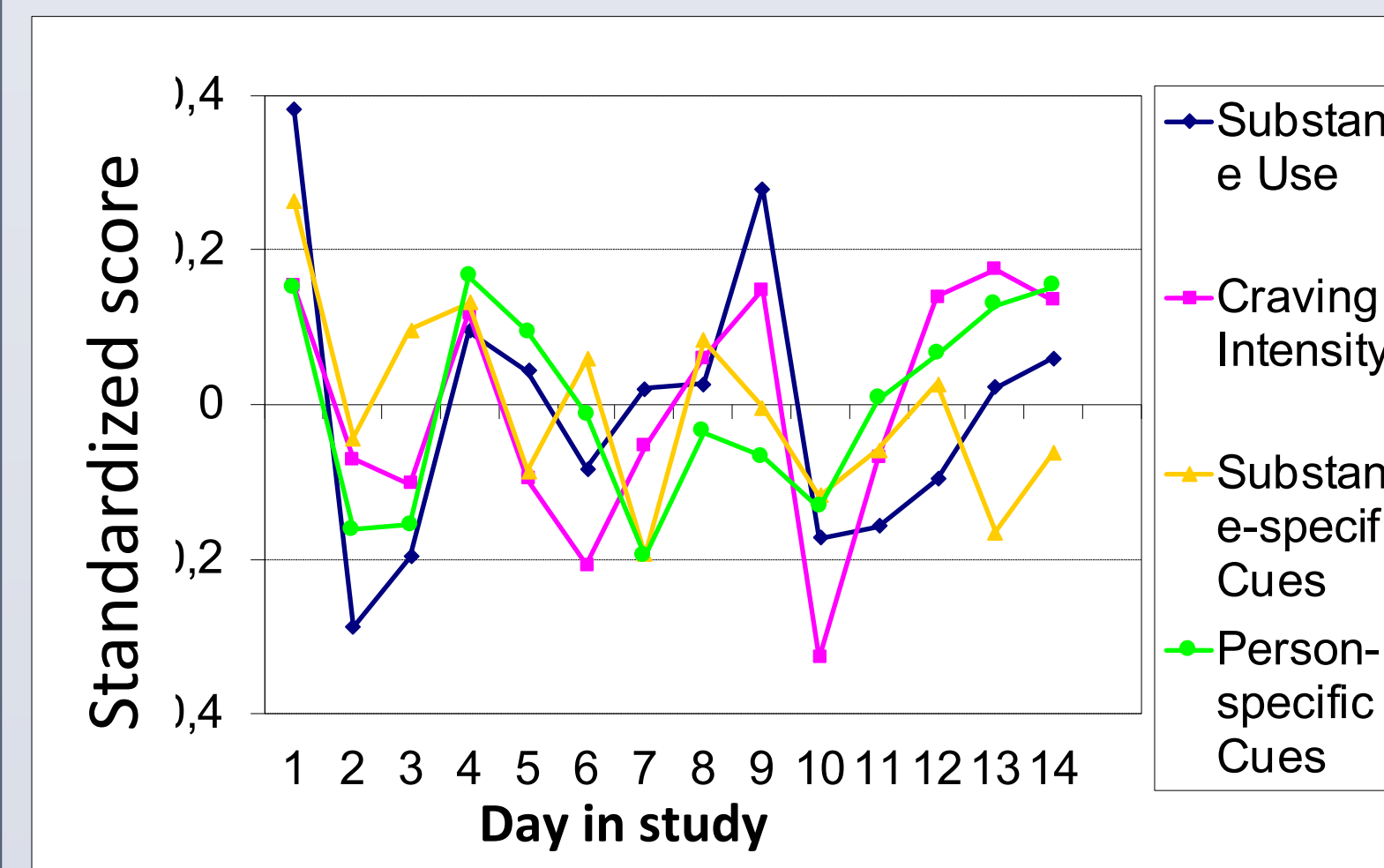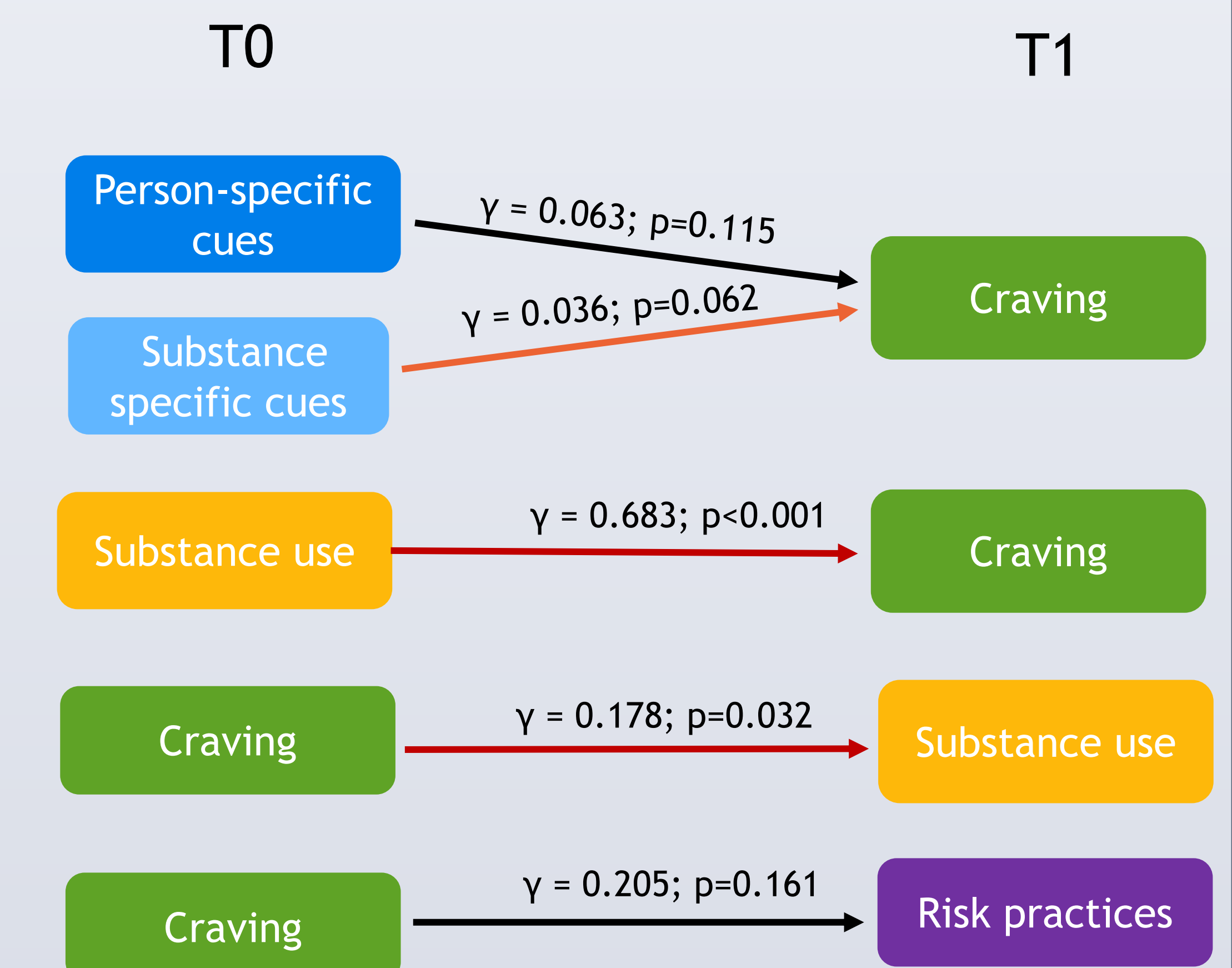
As the day of the study progressed, no significant change were observed in the intensity of craving (p=0.723), the frequency of substance use (p=0.758), and the number of substance-specific and person-specific cues (p=0.076 and p=0.937)

Main problematic substance use
  Cocaine 11 (57.9%)
  Other stimulants 3 (15.8%)
  Opiates 3 (15.8%)
  Sedative 2 (10.5%)

Determinants of craving, use and infectious risk practices

T0 — T1

Person-specific cues → γ = 0.063; p=0.115 → Craving
Substance specific cues → γ = 0.036; p=0.062 → Craving

Substance use → γ = 0.683; p<0.001 → Craving

Craving → γ = 0.178; p=0.032 → Substance use

Craving → γ = 0.205; p=0.161 → Risk practices

DISCUSSION

Predictor of Craving
Contrary to literature person-specific cues not predict Craving *(Fatseas et al. 2015)*
Substance use was a strong predictor of increased craving intensity → High level of craving; use aggravates intensity of craving

Predictor of Use and infection risk practices
Increased level of craving as predictor of substance use
→ Use increase craving forcing to use again to relieve the craving increased = Loss of control
If craving is managed a decreased of use and controlled use is it possible?
Need increased the sample size, adjusted by substances, age, gender and for the T0 outcome
Craving seems to be the core of the loss of control dimension of addiction disorder among active substance users