

# Craving: an early marker of addiction? one-year prospective study.

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## INTRODUCTION

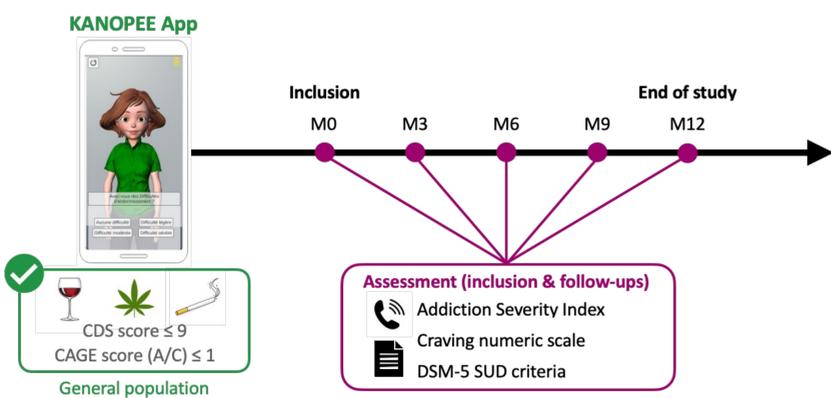
**Craving**, defined as an intense and unwanted desire to use, could play a key role in Substance Use Disorders (SUD). Craving is both a core (loss of control) diagnostic criterion for SUD in DSM-5 and a dynamic phenomenon with daily variations that are prospectively associated with use (Cleveland et al., 2021; Serre et al., 2015).

These characteristics give craving a prognostic and potential etiological value in addictive disorders. Item response theory (IRT) analysis showed that craving was the most **prevalent** criterion, i.e., the most frequent; and the most **discriminant**, i.e., the one that best distinguished those with, from those without the disorder (Kervran et al., 2020; Shmulewitz et al., 2021).

A recent network analysis showed that craving was the most **central** criterion among SUD networks (Gauld, Baillet et al., 2023). Also, the presence of craving in subjects with mild severity SUD (Chung et al., 2012) and its endorsement in all SUD severity levels (Fink et al., 2022) suggest that it could be among the **earliest** symptom to appear making craving a candidate early marker of addiction. However, it has been little studied in users without or with mild severity SUD.

The main objective was to explore whether craving was an early marker of addiction. For that, we considered that the endorsement of craving would be associated to more SUD criteria (other than craving), more quantity/frequency of use.

## METHODS



### Analysis strategy:

Participants classified based on craving criterion endorsement at baseline and last follow-up:

**Cpositive** If always endorsed

**Cunstable** If endorsed sometimes (baseline or follow-up)

**Cnegative** If never endorsed

At 12-months follow-up, number of endorsed **SUD criteria**, **frequency** (number of day use in the last 30 days) and **quantities** used (quantity/day in the last 30 days) compared with Kruskal-Wallis test between each group based on **craving groups**. If the test was significant, post-hoc analyses with Bonferroni correction were used for multiple comparisons.

Analysis performed with JMP® Pro (Version 16.0.0) and R (4.1.0)

## RESULTS

N=85

47%  
n=40

46.3 y.o.  
(15.3)

15.4 y.  
(2.5)

Retention  
79%

**ALCOHOL USERS**  
(n=75)

**TOBACCO USERS**  
(n=40)

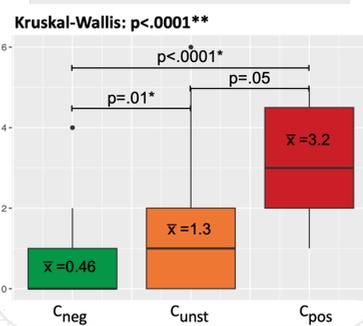
**Number of SUD criteria at baseline and at 12-months follow-up**

An average of 1.85 (SD=2.04) SUD criteria were present in the last 12-months at the baseline and 0.99 (SD=1.42) in the last 3-months at the 12-months follow-up.

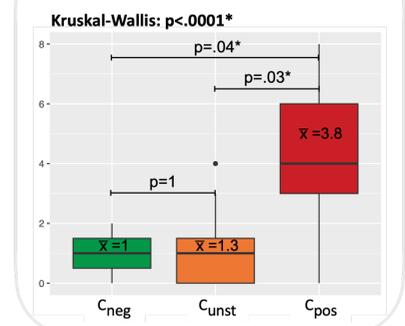
**Number of SUD criteria at baseline and at 12-months follow-up**

An average of 5.22 (SD=2.21) SUD criteria were present in the last 12-months at the baseline and 3.9 (SD=2.59) in the last 3-months at the 12-months follow-up.

**Number of endorsed DSM-5 SUD criteria<sup>a</sup> at 12-months**

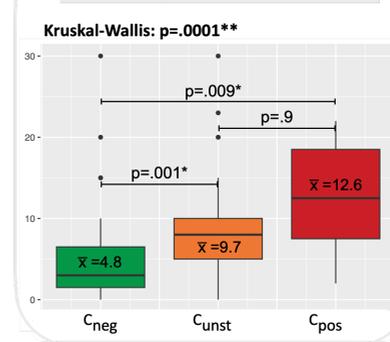


**Number of endorsed DSM-5 SUD criteria<sup>a</sup> at 12-months**

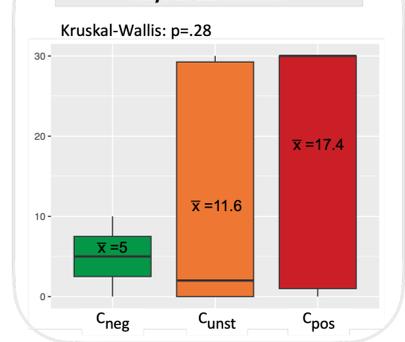


<sup>a</sup>except craving criterion

**Frequency of day use in the last 30 days at 12-months**



**Number of use days in the last 30 days at 12-months**



## DISCUSSION

A gradual **increase in severity** (more SUD criteria and more use) was found across the continuum of craving groups: no craving group, unstable craving group and craving group.

**Limitations:** Size sample and inclusion by KANOPEE App targeting population concerned with identifying possible addiction problems.

## CONCLUSION

Presence of craving overtime is associated with more severity. **Compatible with craving occurring early.**

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**Financial support:** PhD doctoral grant to E. Baillet by French Cancer and Public Health institutes

**Conflict of interest:** None.

