

# Callous Versus Anxious and Substance Choices in Adjudicated Adolescents: A Longitudinal Test of the Self-Medication Hypothesis

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**BACKGROUND**

- Substances are pharmacologically distinct
- Self-medication hypothesis argues that individuals take substances to relieve specific psychopathological symptoms
- Little is known about the relationship between CU traits and trait anxiety and substance use choices

**STUDY AIMS**

- Estimate distinct groups of adolescents based on differential patterns of substance use using latent class analysis (LCA)
- Test whether CU traits, trait anxiety, and their interaction predict substance use class membership

**HYPOTHESES**

- AIM 1:** 5 substance use classes (no use, primarily stimulant, primarily sedative, primarily hallucinogenic, polysubstance)
- AIM 2:** Higher levels of CU traits related to primarily stimulant or polysubstance use; higher levels of anxiety related to primarily sedative use; higher levels of CU and anxiety related to polysubstance use

**METHODS**

- Pathways to Desistance Study
  - Multi-site, prospective, longitudinal study of juvenile offenders (7 years, 11 time-points)
  - N: 1,354 (ages 14-17,  $M_{age} = 15.90$ , 13.5% female)
- Substance use assessed at T1-T11 using modified Substance Use/Abuse Inventory
- CU traits assessed at T2 using Youth Psychopathic Traits Inventory (YPI)
- Anxiety assessed at T1 using the Revised Children's Manifest Anxiety Scale (RCMAS)
- Creation of total substance use score for 1) stimulants, 2) sedatives, 3) hallucinogens, excluding commonly used drugs (i.e., cigarettes, alcohol, and marijuana) for each participant

**RESULTS**

**AIM 1: LCA model**

- 2-group model showed best fit (Table 1, Fig. 3)
  - Group 1 (low use group): N = 1221, 90%
  - Group 2 (high use group): N = 132, 9.8%

**AIM 2: Bivariate Regression Model**

- CU traits and trait anxiety were not significant predictors of class membership (Table 2, Fig. 1-2)

**CONCLUSIONS**

- Maladaptive traits such as CU traits and trait anxiety do not appear to significantly predict substance use class membership
- Study limited by reliance on self-report, use of high-risk sample, and capping of drug offenses at 15%
- Other factors (e.g., drug access, impulse control, deviant peer association) may serve as more effective targets for treatment

# Callous-Unemotional and Anxious Traits Were Not Significant Predictors of Substance Use Class Membership

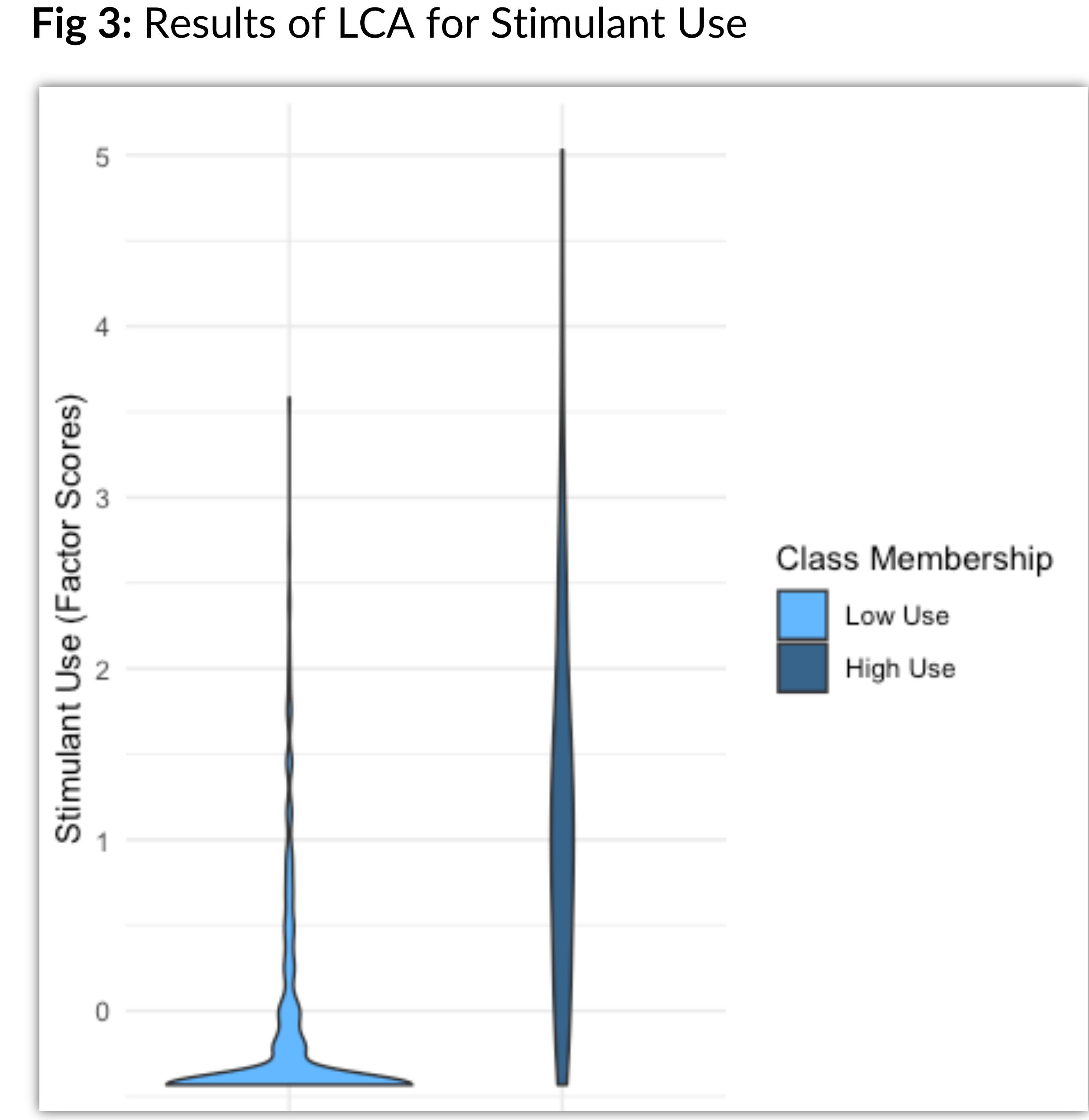
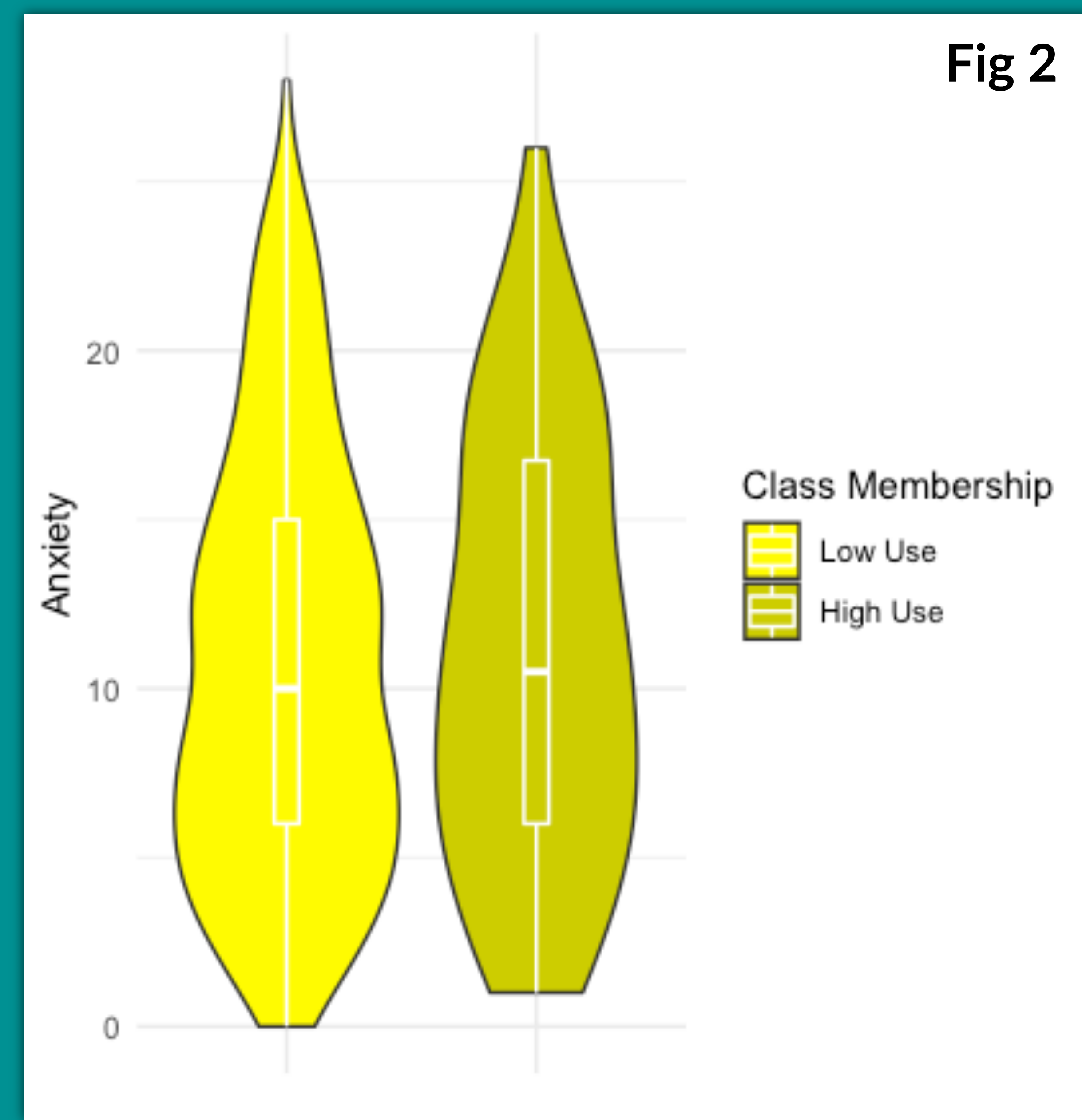
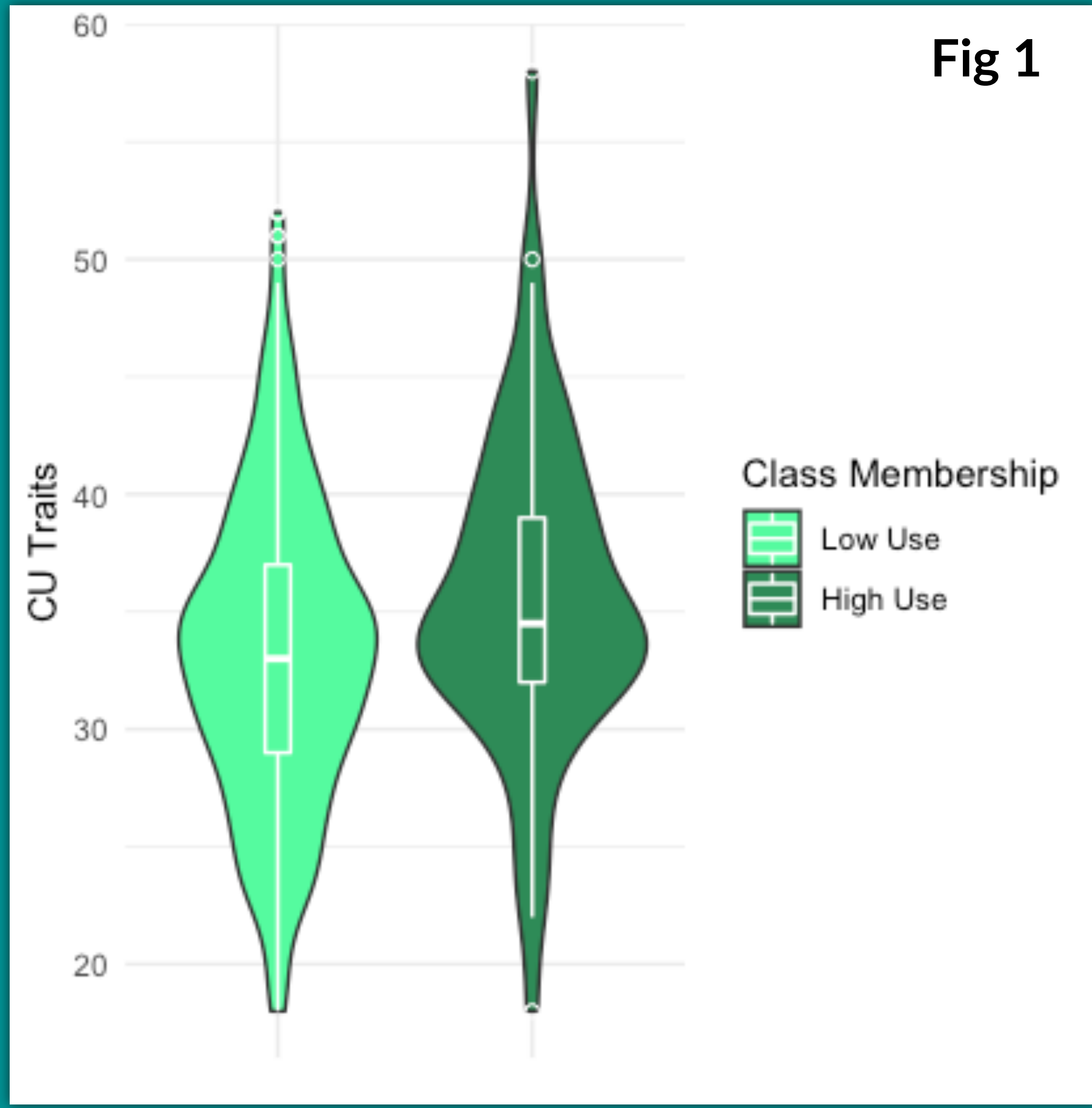


Table 1: Summary of latent profile analysis

	BIC	AIC	Entropy	Adj. LRT test
<b>Two classes</b>	7722.36	7670.26	.97	1661.33, $p < .05$
Three classes	7147.88	7074.94	.97	583.10, $p = .09$
Four classes	6744.96	6651.18	.97	417.29, $p = .42$
Five classes	6491.5	6376.88	.97	272.84, $p = .61$
Six classes	6198.17	6062.71	.97	280.46, $p = .35$

Note: BIC=Bayesian Information Criterion; lower values suggest better model fit; Adj LRT = Lo Mendell-Rubin Adjusted Likelihood Ratio Test

Table 2: Results of Binomial Logistic Regression

Covariates	Model 1 (without interaction)		Model 2 (with interaction)	
	SE	B	SE	B
Site	.27	-.16	.27	-.17
Setting	.28	-.18	.28	-.17
Age	.10	.21	.10	.21
White	.34***	1.82	.34***	1.85
Hispanic	.34**	.86	.34**	.86
Sex	.35	.15	.35	.14
Impulse Control	.14***	-.90	.14***	-.90
SES	.01	-.18	.01	-.18
Deviant Peer Association	.14**	.79	.14**	.82
<b>Variables of Interest</b>				
Anxiety	.02	-.05	.02	-.12
CU Traits	.02	.08	.02	.01
Anxiety by CU Traits	--	--	.00	.74

Note:  $p < .05^*$ ,  $p < .01^{**}$ ,  $p < .001^{***}$ , two-tailed.



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