

L'âge de la première consommation des drogues est
associé à la dépendance à l'âge adulte : Une analyse
transversale de l'Enquête nationale sur l'usage des
drogues et la santé de 2002-2019

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Déclaration des liens d'intérêts

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Introduction



- Illicit drugs are increasingly used by adolescents worldwide and are a public health problem
- In 2021, approximately 13.5 million young people aged 15-16 years had used marijuana in the past year
- Increase in the supply and demand for illicit drugs,
- Young people are increasingly exposed to these drugs

Objectif



- This is what we propose in this study by exploring data from the *National Survey on Drug Use and Health (NSDUH)* to investigate the association between the **age of first use of illicit substances** and the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) **dependence** on each substance.

Données et Méthodes

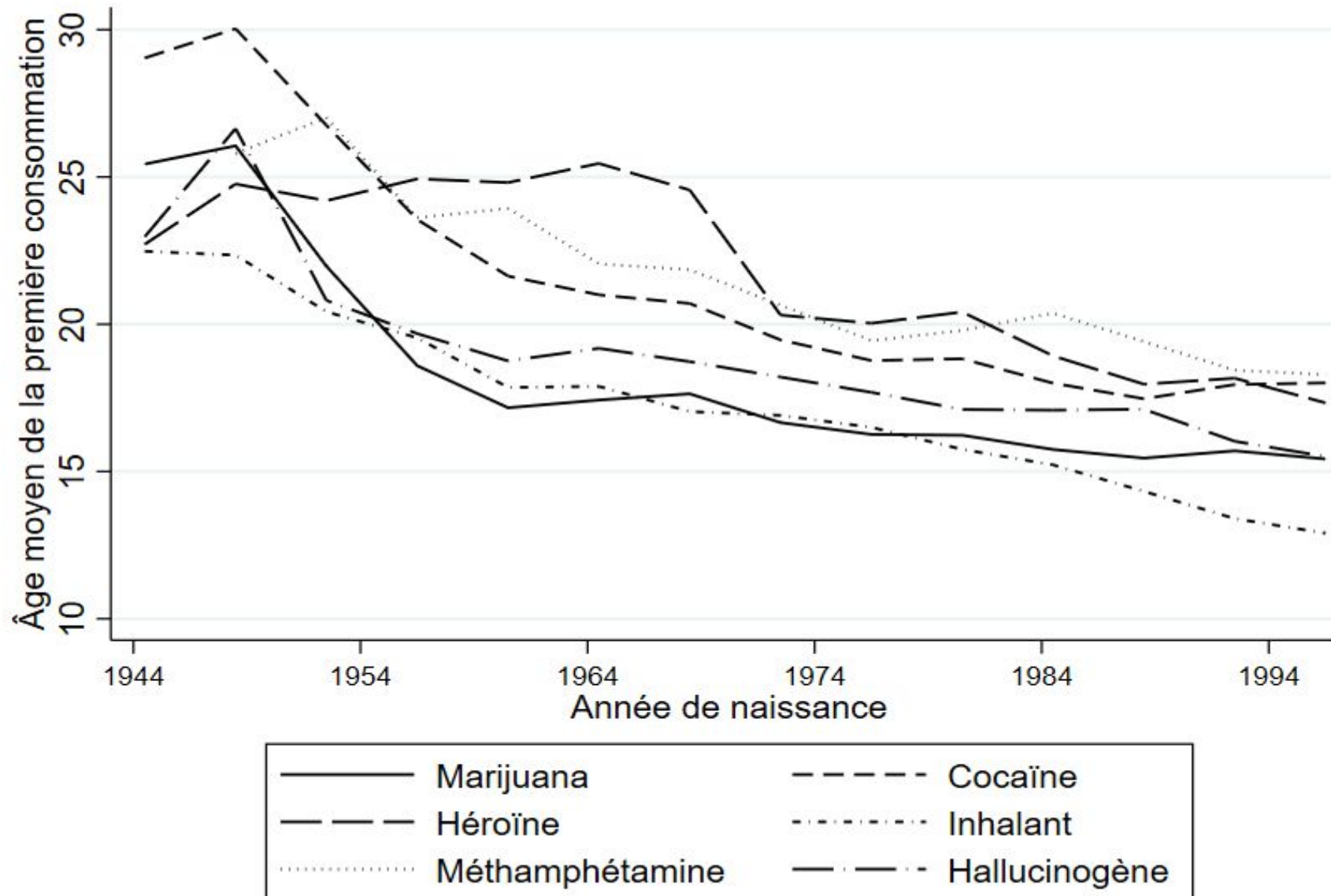
- **Data:** the National Survey on Drug Use and Health (NSDUH) from 2002-2019
(<https://www.datafiles.samhsa.gov>).
- **Inclusion criterion:** participants who reported using an illicit substance at least once
- **Outcome (Dependence):** $\geq 3/6$ questions of the criteria of the American Psychiatric Association (APA) and the Diagnostic and Statistical Manual of Mental Disorders 4th Edition (DSM IV). [*marijuana, cocaine, heroin, methamphetamine, inhalants and hallucinogen*]
- **Covariable:** *age of first use*, frequency of use, poverty, age, sex, race, marital status and education level.
- **Statistical analysis:** logistic regression model (robust standard errors)

Résultats 1/4

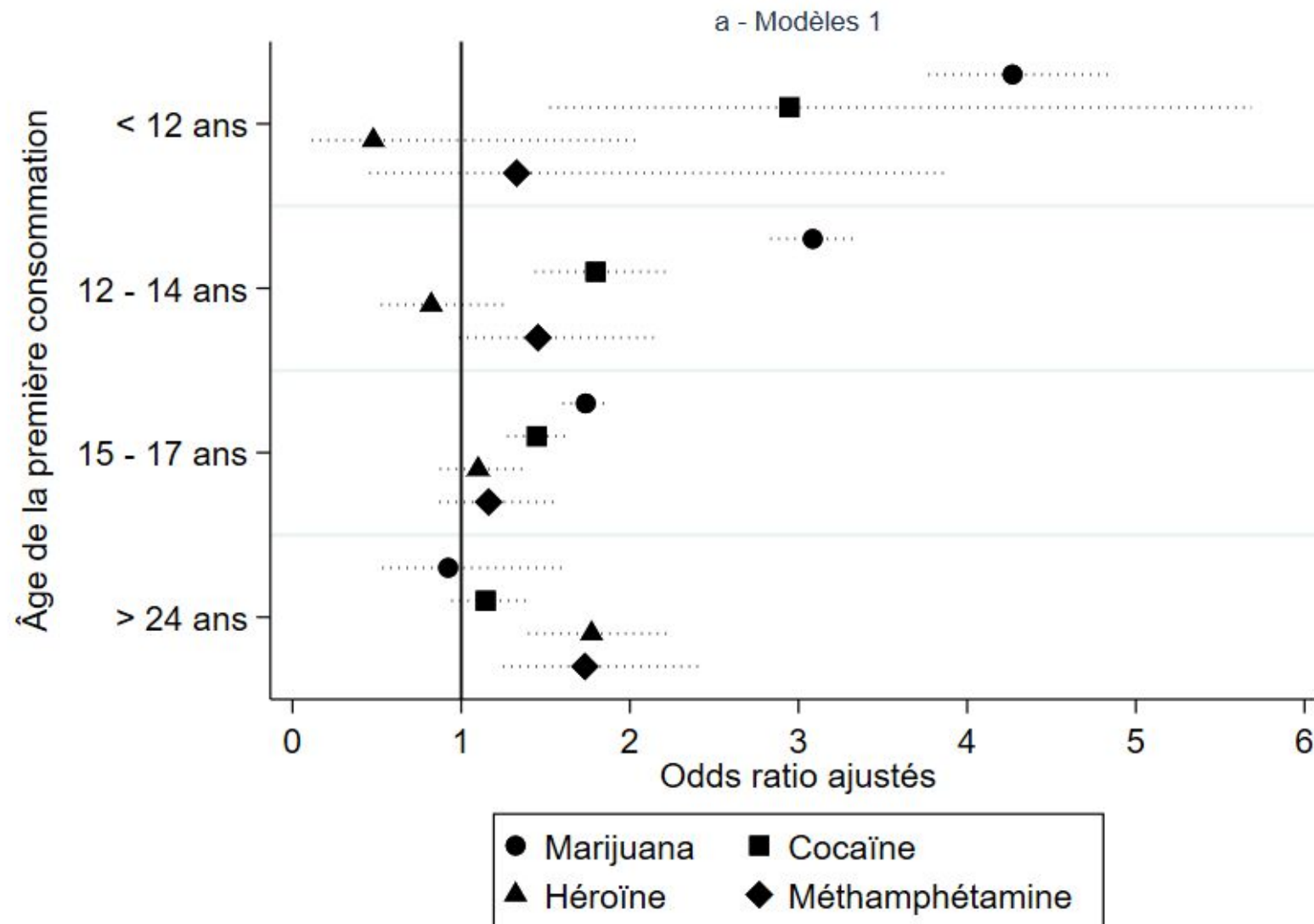
	Marijuana	Cocaine	Heroin	Methamphetamine	Inhalants	Hallucinogen
Observations	411 283	117 604	14 856	12 750	73 944	99 643
Age category						
12-17 years old	53 761 (3.9)	4 829 (1.02)	728 (1.23)	237 (0.5)	21 214 (9.85)	9 041 (2.58)
18-25 years old	160 921 (16.1)	41 084 (12.0)	5 353 (12.9)	2 107 (6.4)	26 842 (16.8)	45 698 (17.9)
26-34 years old	65 613 (18.3)	21 279 (17.7)	3 143 (21.0)	3 097 (17.9)	9 842 (21.2)	16 568 (22.0)
35-49 years old	87 413 (30.3)	34 565 (36.2)	3 642 (29.9)	4 653 (31.5)	12 628 (33.8)	20 891 (33.4)
50 or older	43 575 (31.4)	15 847 (33.2)	1 990 (35.0)	2 656 (43.7)	3 418 (18.3)	7 445 (24.2)
Gender						
Male	208 663 (53.9)	66 226 (60.2)	8 980 (68.1)	7 030 (59.9)	42 785 (65.1)	55 644 (60.2)
Female	202 620 (46.1)	51 378 (39.8)	5 876 (31.9)	5 720 (40.1)	31 159 (34.9)	43 999 (39.8)
Age when first used						
< 12 years	14 695 (2.3)	545 (0.3)	135 (0.6)	127 (0.6)	7 322 (6.0)	1 132 (0.6)
12-14 years	97 319 (17.2)	5 496 (2.8)	794 (3.3)	801 (5.1)	19 155 (18.5)	9 999 (7.2)
15-17 years	165 325 (36.7)	29 381 (18.5)	2 965 (15.0)	3 030 (21.8)	23 889 (32.2)	39 828 (34.5)
18-24 years	118 618 (36.5)	69 391 (60.5)	7 982 (53.1)	6 452 (50.0)	18 052 (33.9)	45 365 (50.9)
25 or more	12 123 (6.7)	11 771 (17.1)	2 808 (26.9)	2 226 (21.5)	1 655 (6.1)	3 319 (6.8)
Missing	3 203 (0.6)	1 020 (0.9)	172 (1.1)	114 (1.0)	3 871 (3.3)	0 (0.0)
Dependence						
Yes	19 529 (2.5)	3 715 (2.2)	1 798 (8.7)	888 (5.2)	0 (0.0)*	0 (0.0)*
No	391 754 (97.5)	113 889 (97.8)	13 058 (91.3)	11 862 (94.8)	73 944 (100.0)	99 643 (99.7)

Unweighted frequency (weighted percentage); * very weak and missing data;

Résultats 2/4

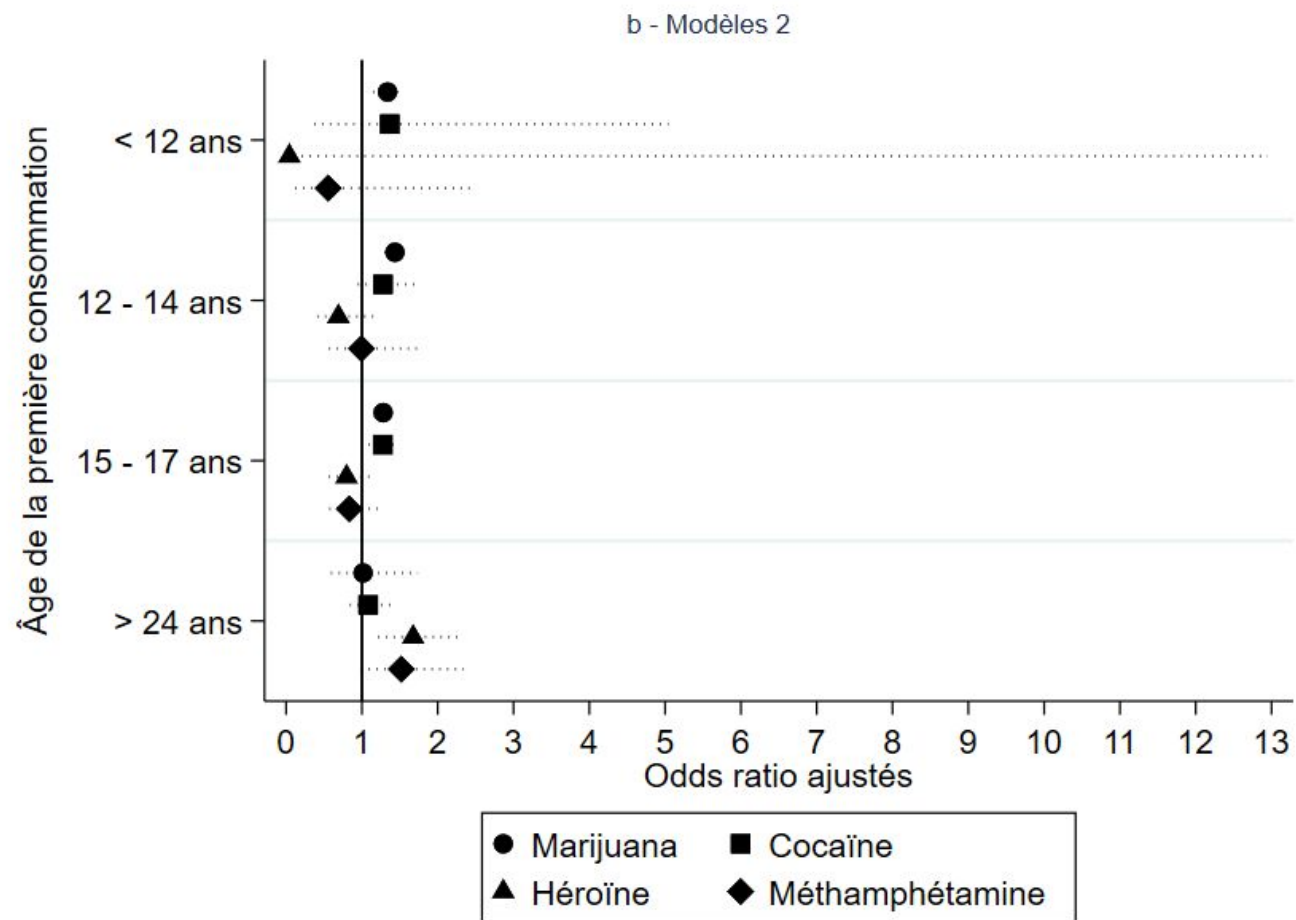
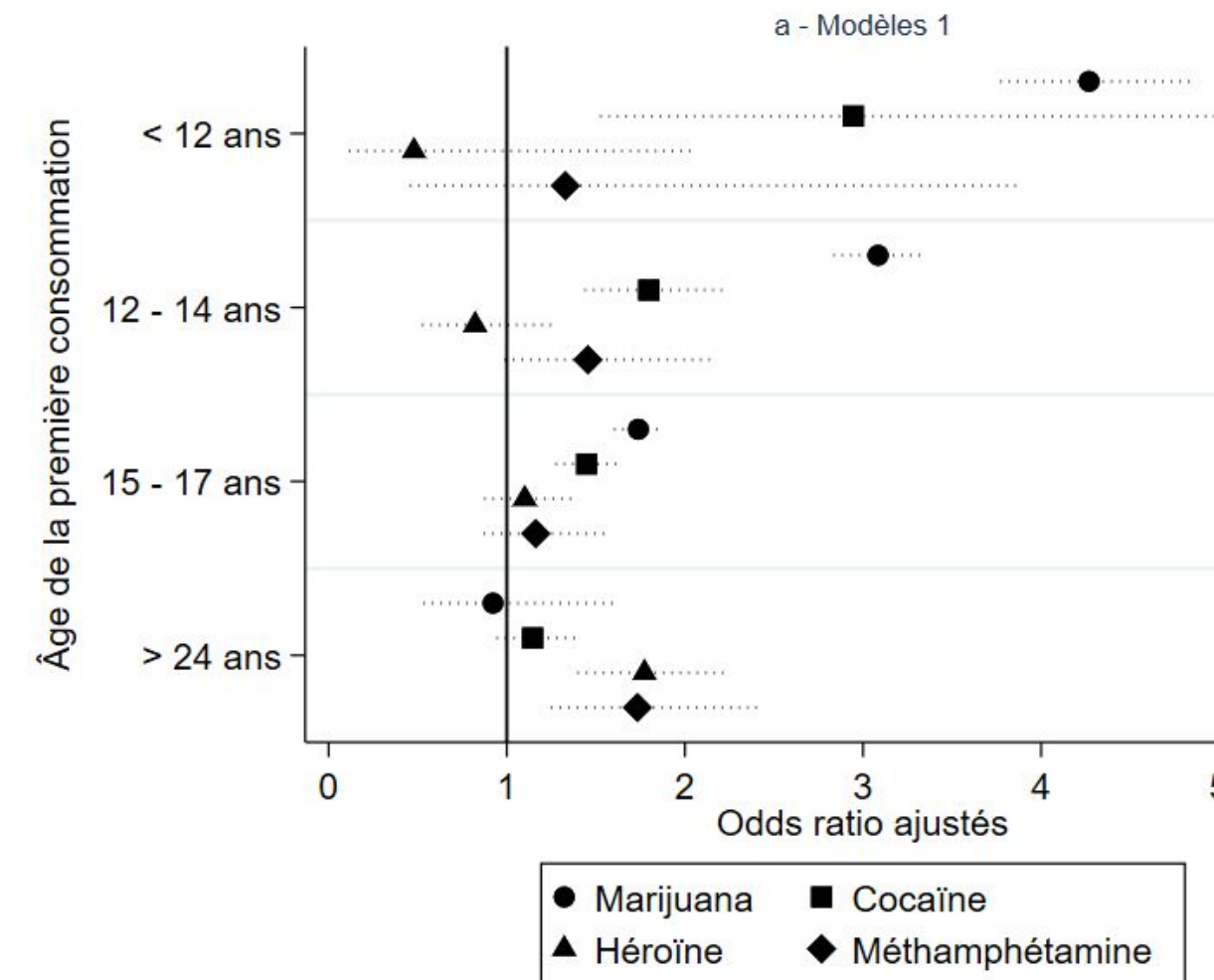


Résultats 3/4



Multiple logistic regression of the effect of age of the first use of a substance on dependence, adjusted for age, sex, race, marital status, education level, and income (models 1)

Résultats 3/4



Model 2 = Model 1 + **frequency of use**

Discussion

- La consommation précoce est associée à l'abus puis à la dépendance plus tard;
- Plusieurs études vont dans le sens de nos résultats;
- Les systèmes nerveux des enfants sont immatures et les processus pharmacologiques et neurobiologiques, responsables d'altérations du cerveau et du comportement cognitif peuvent expliquer leur faible capacité de contrôle par rapport à celle des adultes;
- **Avantage de l'étude** : base de données de la population représentative ;
- **Limites** : données transversales, données déclaratives, extrapolation en Europe ?! France ?!

Conclusion

Les jeunes sont vulnérables, exposés et susceptibles de consommer des drogues illicites.

Ils sont plus touchés par les conséquences de la consommation.

Les politiques devraient être plus orientées vers la prévention primaire, l'accompagnement, l'éducation et la possibilité pour les jeunes de faire des choix sains et éclairés pour leur santé.

MERCI

Annexe 1

six dependency criteria:

- 1- I spent a lot of time over a month getting, using or overcoming the effects of the substance.
- 2- Unable to meet substance use limits or used more often than expected.
- 3- I had to use the substance more than before to achieve the desired effects or I noticed that using the same amount had less effect than before.
- 4- Unable to reduce or stop using the substance every time they try or want.
- 5- Continued to use a substance even if it caused emotional, nervous, mental or physical health problems.
- 6- Reduced or discontinued participation in major activities due to substance use.

Annexe 2

	Marijuana	Cocaine	Heroin	Methamphetamine	Inhalants	Hallucinogen
Observations	411 283	117 604	14 856	12 750	73 944	99 643
Age category						
12-17 years old	53 761 (3.9)	4 829 (1.02)	728 (1.23)	237 (0.5)	21 214 (9.85)	9 041 (2.58)
18-25 years old	160 921 (16.1)	41 084 (12.0)	5 353 (12.9)	2 107 (6.4)	26 842 (16.8)	45 698 (17.9)
26-34 years old	65 613 (18.3)	21 279 (17.7)	3 143 (21.0)	3 097 (17.9)	9 842 (21.2)	16 568 (22.0)
35-49 years old	87 413 (30.3)	34 565 (36.2)	3 642 (29.9)	4 653 (31.5)	12 628 (33.8)	20 891 (33.4)
50 or older	43 575 (31.4)	15 847 (33.2)	1 990 (35.0)	2 656 (43.7)	3 418 (18.3)	7 445 (24.2)
Gender						
Male	208 663 (53.9)	66 226 (60.2)	8 980 (68.1)	7 030 (59.9)	42 785 (65.1)	55 644 (60.2)
Female	202 620 (46.1)	51 378 (39.8)	5 876 (31.9)	5 720 (40.1)	31 159 (34.9)	43 999 (39.8)
Education						
Less than high school	49 346 (10.4)	18 208 (12.8)	3 172 (20.1)	1 953 (13)	8 519 (10.9)	14 638 (11.7)
High school graduate	108 794 (26.6)	35 105 (28.5)	5 027 (31.8)	4 070 (29.8)	16 206 (24.3)	28 853 (27.8)
Some college	116 666 (29.8)	36 192 (30.9)	4 412 (32.6)	4 663 (37.9)	16 136 (26.1)	28 491 (29.8)
College graduate	82 716 (29.4)	23 270 (26.9)	1 517 (14.2)	1 827 (18.8)	11 869 (28.8)	18 620 (28.0)
12- to 17-year-old	53 761 (3.9)	4 829 (1.0)	728 (1.2)	237 (0.5)	21 214 (9.85)	9 041 (2.6)
Poverty						
Living in Poverty	73 688 (12.4)	20 494 (13.1)	3 693 (22.1)	2 842 (17.2)	12 716 (11.9)	16 995 (12.0)
Income Up to 2X fed Pov Thresh	87 433 (17.4)	25 831 (18.3)	3 833 (24.1)	3 198 (22.6)	16 187 (17.8)	21 948 (18.0)
Income > 2x fed pov thresh	244 957 (69.8)	70 649 (68.5)	7 292 (53.7)	6 703 (60.2)	44 286 (69.9)	59 664 (69.7)
Missing	5 205 (0.4)	630 (0.1)	38 (0.1)	7 (0.0)	755 (0.4)	1 036 (0.3)
Age when first used						
< 12 years	14 695 (2.3)	545 (0.3)	135 (0.6)	127 (0.6)	7 322 (6.0)	1 132 (0.6)
12-14 years	97 319 (17.2)	5 496 (2.8)	794 (3.3)	801 (5.1)	19 155 (18.5)	9 999 (7.2)
15-17 years	165 325 (36.7)	29 381 (18.5)	2 965 (15.0)	3 030 (21.8)	23 889 (32.2)	39 828 (34.5)
18-24 years	118 618 (36.5)	69 391 (60.5)	7 982 (53.1)	6 452 (50.0)	18 052 (33.9)	45 365 (50.9)
25 or more	12 123 (6.7)	11 771 (17.1)	2 808 (26.9)	2 226 (21.5)	1 655 (6.1)	3 319 (6.8)
Missing	3 203 (0.6)	1 020 (0.9)	172 (1.1)	114 (1.0)	3 871 (3.3)	0 (0.0)
Dependence						
Yes	19 529 (2.5)	3 715 (2.2)	1 798 (8.7)	888 (5.2)	0 (0.0)*	0 (0.0)*
No	391 754 (97.5)	113 889 (97.8)	13 058 (91.3)	11 862 (94.8)	73 944 (100.0)	99 643 (99.7)

Annexe 3

Models 1		Marijuana	Cocaine	Heroin	Methamphetamine
Age when first used substance					
	0-11 years	4.3[3.8 - 4.8]***	2.9[1.5 - 5.7]***	0.5[0.1 - 2.0]	1.3[0.5 - 3.9]
	12-14 years	3.1[2.8 - 3.4]***	1.8[1.4 - 2.2]***	0.8[0.5 - 1.3]	1.5[1.0 - 2.1]*
	15-17 years	1.7[1.6 - 1.9]***	1.4[1.3 - 1.6]***	1.1[0.9 - 1.4]	1.2[0.9 - 1.6]
	18-24 years	Ref.	Ref.	Ref.	Ref.
	25 or more	0.9[0.5 - 1.6]	1.1[0.9 - 1.4]	1.8[1.4 - 2.2]***	1.7[1.2 - 2.4]***
Age					
	12-17 Years Old	3.3[2.9 - 3.8]***	1.5[1.1 - 1.9]***	2.1[1.2 - 3.5]***	1.8[0.9 - 3.6]*
	18-25 Years Old	3.7[3.3 - 4.1]***	1.4[1.2 - 1.7]***	2.7[2.1 - 3.6]***	1.6[1.2 - 2.2]***
	26-34 Years Old	2.0[1.8 - 2.2]***	1.4[1.2 - 1.6]***	2.0[1.6 - 2.6]***	1.3[1.0 - 1.8]**
	35-49 Years Old	Ref.	Ref.	Ref.	Ref.
	50 or Older	0.4[0.4 - 0.6]***	0.5[0.4 - 0.6]***	0.6[0.4 - 0.9]***	0.4[0.3 - 0.6]***
Male (vs Female)		1.5[1.5 - 1.6]***	1.2[1.1 - 1.3]***	1.1[0.9 - 1.3]	1.2[1.0 - 1.6]*
Race					
	No Hisp White	Ref.	Ref.	Ref.	Ref.
	No Hisp Black/Afr	1.4[1.3 - 1.5]***	3.1[2.6 - 3.6]***	1.5[1.1 - 2.1]**	1.0[0.5 - 1.8]
	No Hisp Native Am/AK Native	1.1[0.9 - 1.3]	0.6[0.3 - 0.9]**	0.6[0.3 - 1.2]	1.0[0.6 - 1.9]
	No Hisp Native HI/Other Pac Isl	0.9[0.6 - 1.3]	1.1[0.6 - 2.3]	1.1[0.3 - 3.6]	3.3[1.5 - 7.4]***
	No Hisp Asian	1.1[0.9 - 1.4]	0.8[0.4 - 1.5]	0.5[0.2 - 1.9]	0.5[0.1 - 1.6]
	No Hisp > 1 race	1.3[1.1 - 1.5]***	1.0[0.7 - 1.4]	0.7[0.4 - 1.2]	0.8[0.5 - 1.4]
	Hispanic	1.0[1.0 - 1.1]	1.0[0.9 - 1.2]	1.4[1.1 - 1.9]**	1.3[1.0 - 1.8]*
Marital status					
	Married	Ref.	Ref.	Ref.	Ref.
	Widowed	1.3[0.8 - 2.2]	2.7[1.7 - 4.2]***	2.3[1.0 - 5.2]*	2.6[1.2 - 5.4]**
	Divorced or Separated	2.0[1.7 - 2.3]***	3.1[2.5 - 3.8]***	1.5[1.1 - 2.1]**	2.0[1.4 - 2.9]***
	Never Been Married	2.8[2.6 - 3.2]***	3.3[2.7 - 4.0]***	2.9[2.2 - 3.8]***	2.9[2.0 - 4.0]***
Poverty					
	Living in Poverty	1.1[1.0 - 1.2]***	1.4[1.2 - 1.6]***	1.5[1.2 - 1.9]***	1.6[1.2 - 2.1]***
	Income Up to 2X Fed Pov Thresh	Ref.	Ref.	Ref.	Ref.
	Income > 2X Fed Pov Thresh	0.9[0.8 - 0.9]***	0.9[0.7 - 1.0]**	0.9[0.8 - 1.1]	0.7[0.5 - 1.0]**
Education					
	Less than high school	Ref.	Ref.	Ref.	Ref.
	High school graduate	0.8[0.8 - 0.9]***	0.8[0.7 - 0.9]***	1.1[0.9 - 1.4]	1.1[0.8 - 1.5]
	Some college	0.9[0.8 - 1.0]***	0.6[0.5 - 0.7]***	1.0[0.8 - 1.3]	0.9[0.6 - 1.2]
	College graduate	0.7[0.7 - 0.8]***	0.4[0.4 - 0.5]***	0.6[0.4 - 0.9]**	0.5[0.3 - 0.8]***

Annexe 4

Models 2		Marijuana	Cocaine	Heroin	Methamphetamine
Age when first used substance					
	0-11 years	1.3[1.2 - 1.6]***	1.4[0.4 - 5.0]	0.0[0.0 - 13.0]	0.6[0.1 - 2.5]
	12-14 years	1.4[1.3 - 1.6]***	1.3[0.9 - 1.7]	0.7[0.4 - 1.2]	1.0[0.6 - 1.7]
	15-17 years	1.3[1.2 - 1.4]***	1.3[1.1 - 1.5]***	0.8[0.6 - 1.1]	0.8[0.6 - 1.2]
	18-24 years	Ref.	Ref.	Ref.	Ref.
	25 or more	1.0[0.6 - 1.7]	1.1[0.8 - 1.4]	1.7[1.2 - 2.3]***	1.5[1.0 - 2.3]*
Frequency of use (days/30)		1.3[1.2 - 1.4]***	2.0[1.9 - 2.1]***	2.0[1.8 - 2.2]***	1.6[1.5 - 1.7]***
Age					
	12-17 Years Old	3.9[3.4 - 4.5]***	1.8[1.3 - 2.5]***	1.8[0.8 - 4.1]	3.9[1.7 - 8.8]***
	18-25 Years Old	2.6[2.3 - 2.9]***	1.5[1.2 - 1.8]***	2.5[1.7 - 3.7]***	1.7[1.1 - 2.6]**
	26-34 Years Old	1.5[1.3 - 1.7]***	1.5[1.2 - 1.8]***	1.7[1.2 - 2.4]***	1.7[1.2 - 2.4]***
	35-49 Years Old	Ref.	Ref.	Ref.	Ref.
	50 or Older	0.4[0.3 - 0.5]***	0.4[0.3 - 0.6]***	0.7[0.4 - 1.1]	0.4[0.2 - 0.7]***
Man (vs Woman)		1.1[1.1 - 1.2]***	1.1[1.0 - 1.3]	1.0[0.8 - 1.3]	1.3[0.9 - 1.8]
Race					
	Non Hisp White	Ref.	Ref.	Ref.	Ref.
	Non Hisp Black/Afr	1.4[1.3 - 1.5]***	1.5[1.2 - 2.0]***	0.8[0.5 - 1.4]	1.5[0.7 - 2.9]
	Non Hisp Native Am/AK Native	1.3[1.1 - 1.6]***	0.4[0.2 - 0.8]***	0.7[0.3 - 1.7]	1.1[0.5 - 2.7]
	Non Hisp Native HI/Other Pac Isl	1.1[0.7 - 1.7]	0.2[0.0 - 1.5]	0.8[0.1 - 5.3]	4.1[1.7 - 9.8]***
	Non Hisp Asian	1.5[1.2 - 1.8]***	0.5[0.2 - 1.2]	0.4[0.1 - 1.3]	0.3[0.1 - 1.4]
	Non Hisp > 1 race	1.1[0.9 - 1.3]	1.0[0.7 - 1.5]	0.5[0.3 - 1.0]**	0.9[0.3 - 2.3]
	Hispanic	1.2[1.1 - 1.3]***	0.9[0.7 - 1.1]	1.2[0.8 - 1.9]	1.5[1.0 - 2.3]**
Marital status					
	Married	Ref.	Ref.	Ref.	Ref.
	Widowed	1.0[0.6 - 1.8]	2.1[1.1 - 4.1]**	2.3[0.7 - 7.4]	2.4[1.1 - 5.3]**
	Divorced or Separated	1.6[1.4 - 1.9]***	2.9[2.3 - 3.7]***	1.7[1.1 - 2.6]***	1.8[1.1 - 2.9]**
	Never Been Married	1.9[1.7 - 2.1]***	2.5[2.0 - 3.1]***	2.3[1.6 - 3.5]***	2.6[1.7 - 4.0]***
Poverty					
	Living in Poverty	1.2[1.1 - 1.3]***	1.4[1.1 - 1.7]***	1.5[1.1 - 2.0]**	1.3[0.9 - 1.9]
	Income Up to 2X Fed Pov Thresh	Ref.	Ref.	Ref.	Ref.
	Income > 2X Fed Pov Thresh	1.0[0.9 - 1.0]	1.0[0.8 - 1.2]	0.9[0.7 - 1.2]	0.8[0.6 - 1.2]
Education					
	Less than high school	Ref.	Ref.	Ref.	Ref.
	High school graduate	0.8[0.7 - 0.9]***	0.9[0.8 - 1.1]	1.0[0.8 - 1.4]	1.0[0.6 - 1.5]
	Some college	0.9[0.8 - 0.9]***	0.9[0.7 - 1.1]	0.9[0.7 - 1.2]	0.8[0.5 - 1.2]
	College graduate	0.9[0.8 - 1.0]**	0.7[0.5 - 0.9]***	0.3[0.1 - 0.8]**	0.4[0.2 - 1.0]**
Observations		370 965	108 846	13 574	9 900