Substance Use Patterns of Ecstasy Users:
EDM event visitors in the UK and the Netherlands.

Part of the ALAMA Nightlife Project

The Netherlands
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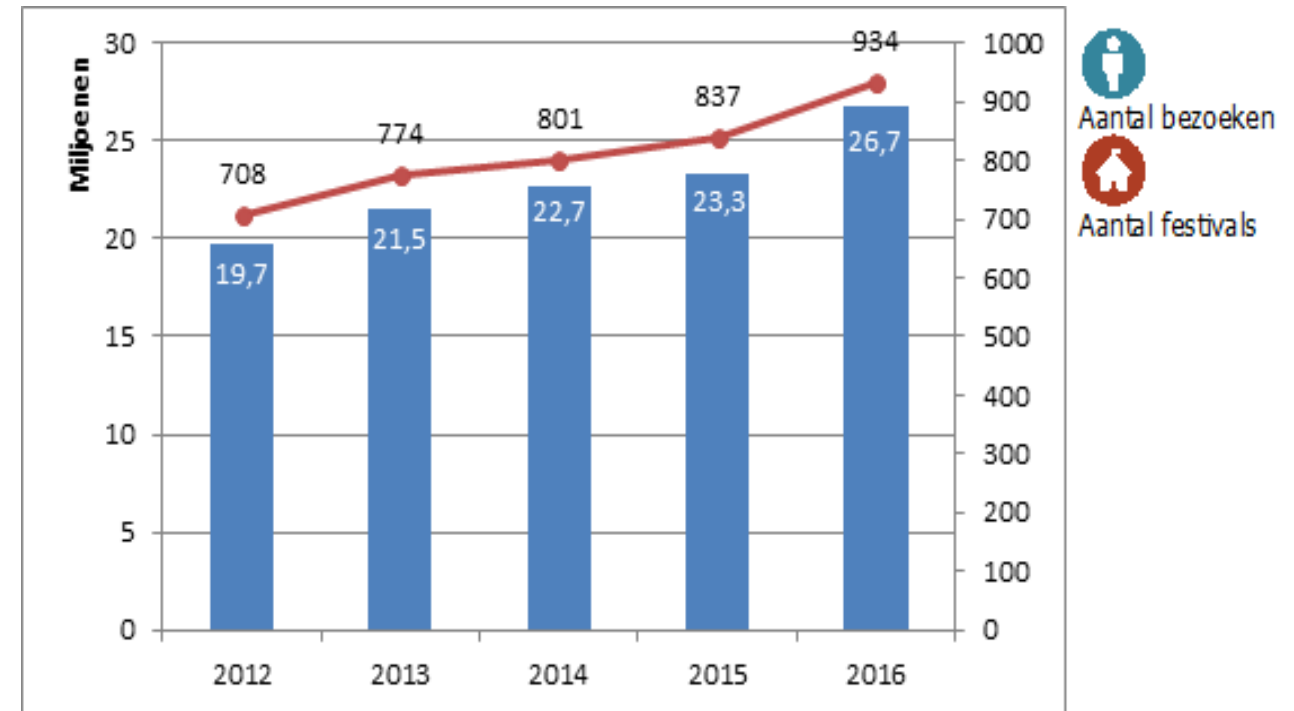Netherlands Institute of
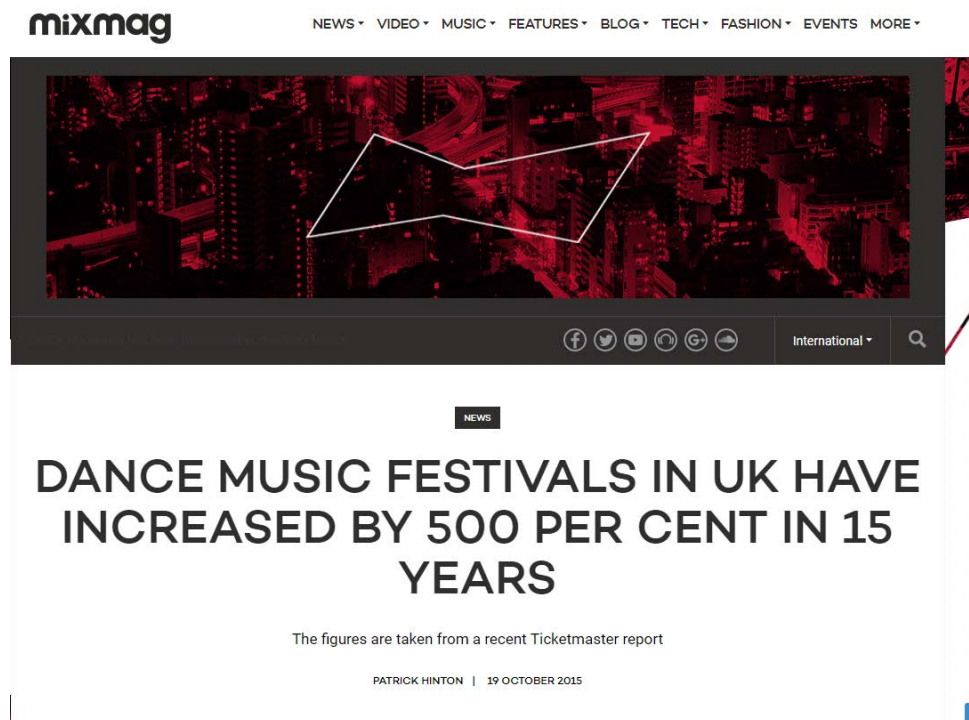Mental Health and Addiction

Overview

- Background
- Aims
- Methods
- Results
- Conclusions

Background

- Increase in nightlife economy (Electronic Dance Music in particular) (MixMag.com, Respons.nl Festival Monitor)
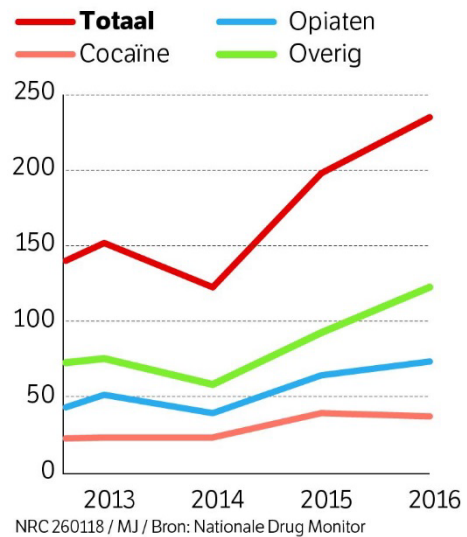
Background

- Increase in nightlife economy
- Drugs are used in the nightlife (Mark 'Gurning Rave Guy', internet)

Background

- Increase in nightlife economy
- Drugs are used in the nightlife
- Increase in drug related deaths (National Drug Monitor, 2017)

NRC 260118 / MJ / Bron: Nationale Drug Monitor

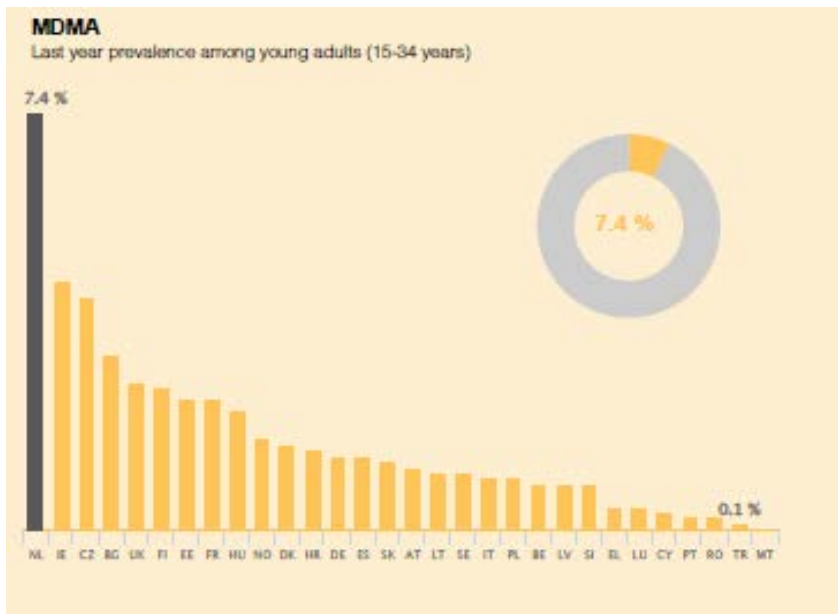# Background

- Increase in nightlife economy
- Drugs are used in the nightlife
- Increase in drugs related deaths
- Poly-drug health incidents are increasing (Monitor Drug Incident, 2018)
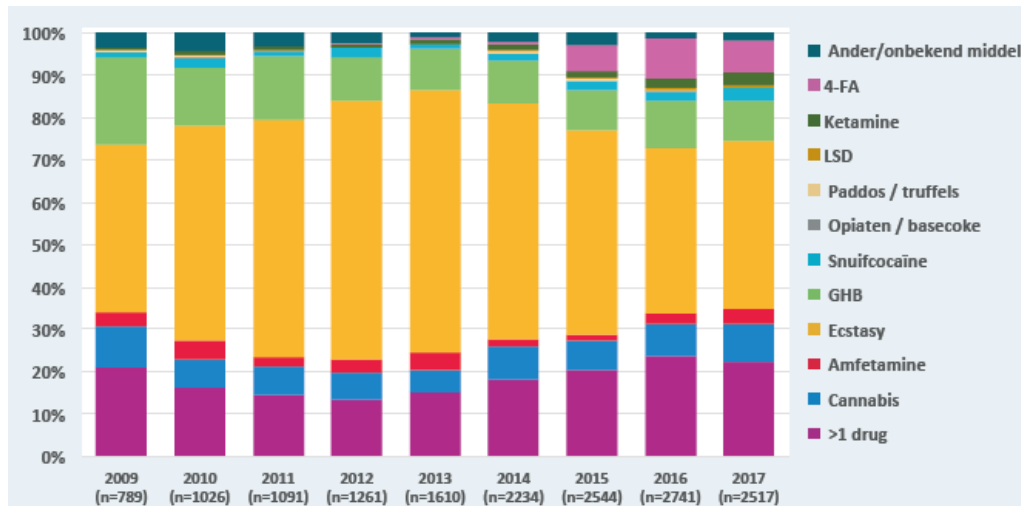
Background

- Ecstasy is most used (illicit) in the Netherlands (EMCDDA Country Report Netherlands , 2018)

- Finding subtypes of MDMA user may help prevention/harm reduction efforts

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Background

- Subtype research so far:
  - Different populations (MDMA users, high school students, nightlife attendees, etc.) (Carlson, Wang, Falck, & Siegal, 2005; Brooks-Russell et al., 2015; Hanneman, Kraus, Piontek, 2017)
  - Different countries (Germany, Brasil, USA, etc.) (Hanneman, Kraus, Piontek, 2017; Sanudo, Andreoni, & Sanchez, 2015; Fernández-Calderón, Cleland, & Palamar, 2018)
  - Mostly urban areas (Hanneman, Kraus, Piontek, 2017; Sanudo, Andreoni, & Sanchez, 2015; Fernández-Calderón, Cleland, & Palamar, 2018)
- Studies mostly find 3 or 4 subtypes
  - Low, moderate, and high, sometimes with an additional stimulant or psychedelic subgroup

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Background

- Limitations of subtype research so far
  - Mostly single city studies (München, Sao Paolo, New York) (Hanneman, Kraus, Piontek, 2017; Sanudo, Andreoni, & Sanchez, 2015; Fernández-Calderón, Cleland, & Palamar, 2018)
  - Often a small selection of substances
  - None in the Netherlands, none recently in the United Kingdom
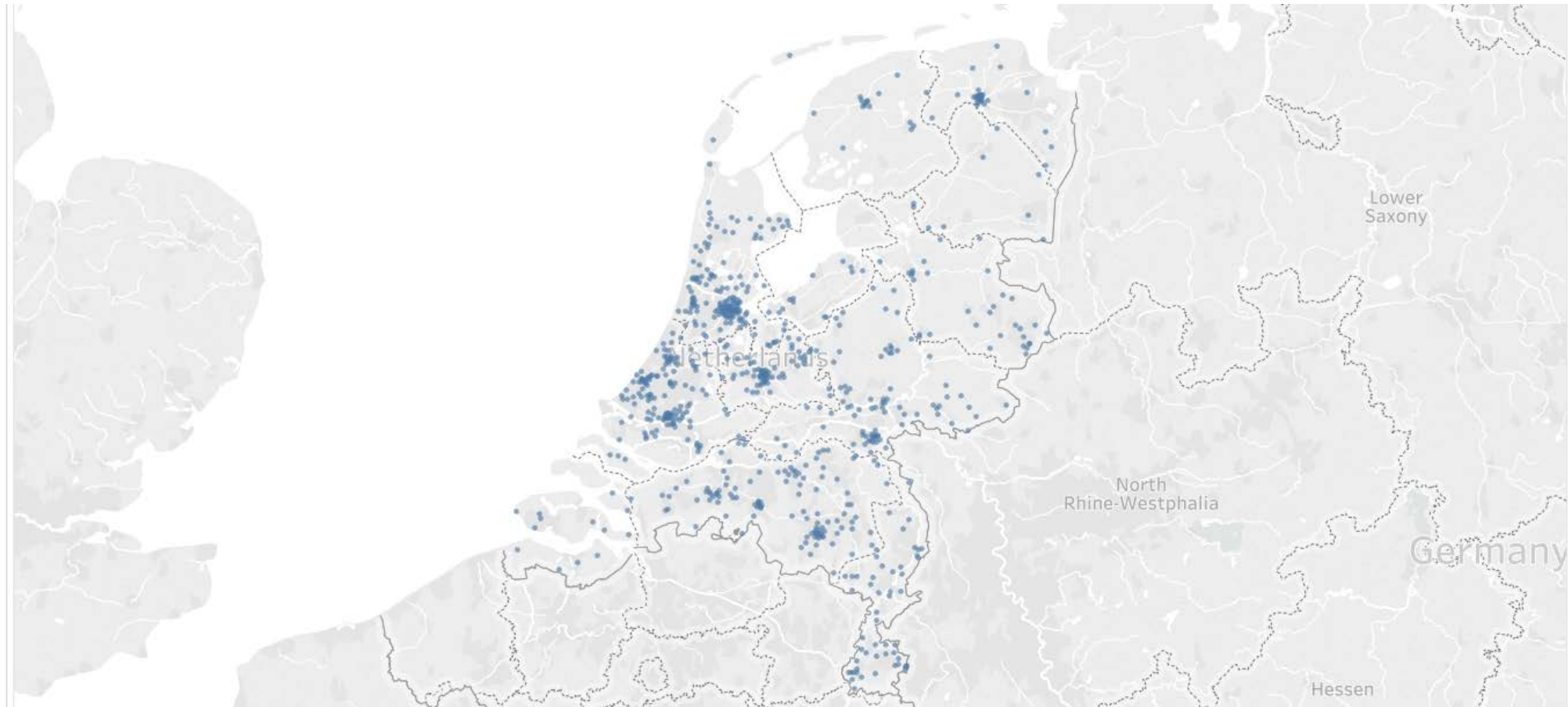 - None directly comparing different countries

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Aims

- To find subtypes of ecstasy users in the Electronic Dance Music scene in the United Kingdom and the Netherlands using Latent Class Analysis
  - Do subtypes differ in terms of substances used?
  - Do subtypes differ between the UK and NL?
  - Do these subtypes differ in terms of their intention to change drug use?

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Methods

- ALAMA project
  - Electronic Music Scene Survey (EMSS, UK and NL data)
- Sampling online + offline (> 6 EDM events LY, > 3 MDMA LY)
- Analysis: Latent Class Analysis
- Indicators for LCA
  - Last Year Substance use: Alcohol, Tobacco, Cannabis, Synthetic Cannabinoids, Benzodiazepines, Prescription Opiates, Heroin, LSD, Magic Mushrooms, DMT, Synthetic Hallucinogens, Cocaine, Amphetamine, 4F-A, MDA, Mephedrone, Nitrous Oxide, GHB, Ketamine, Synthetic dissociatives, Amyl Nitrates.
- Intention to change substance use
- R 3.6 (PoLCA 1.4.1, GGplot 3.1.1) and Mplus 7.2.

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Results

Results

		UK		NL		Significance test
Sample size		1077		1178		
Age		23.10	4.009 (SD)	23.74	4.069 (SD)	t(2253)=-3.815, p<.000, D= 0.161
Female %		33.70%		31.58%		X(2)=11.360, p=.003, Phi=.003
Urbanicity	Large town/city	77.6%		64.0%		
	Small to mid-sized town	17.2%		26.1%		
	Rural/ countryside	4.6%		9.0%		X(3)=51,599, p=.000, Cramer's V = .151

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Results

		UK	NL	Significance test
Pub visits LY	Not in the last 12 months	4,2%	8,0%	
	Three times or less in the year	1,0%	4,5%	
	Every two or three months	4,2%	11,5%	
	Monthly	8,8%	17,4%	
	Fortnightly	20,7%	20,7%	
	Weekly	47,5%	34,5%	
	Three times a week or more	13,6%	3,4%	$X2(6)=200.391, p<.000,$ Cramer's V= .298

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Results

		UK	NL	Significance test
Night Club Visits LY	Not in the last 12 months	0,9%	7,6%	
	Three times or less in the year	1,9%	10,9%	
	Every two or three months	10,7%	21,2%	
	Monthly	23,8%	25,6%	
	Fortnightly	28,6%	22,0%	
	Weekly	30,2%	12,1%	
	Three times a week or more	3,9%	0,5%	X2(6)=292.638, p<.000, Cramer's V= .36

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Results

		UK	NL	Significance test
Festival / Rave Visits LY	Not in the last 12 months	3,9%	0,6%	
	Three times or less in the year	47,1%	8,1%	
	Every two or three months	27,2%	33,4%	
	Monthly	13,3%	41,6%	
	Fortnightly	5,8%	11,9%	
	Weekly	2,5%	4,2%	
	Three times a week or more	0,2%	0,3%	X2(6)=542.271, p<.000, Cramer's V= .490

Results

Last Year Substance Use

Results

Percentage of substance use last year given class UK

Percentage of substance use last year given class NL
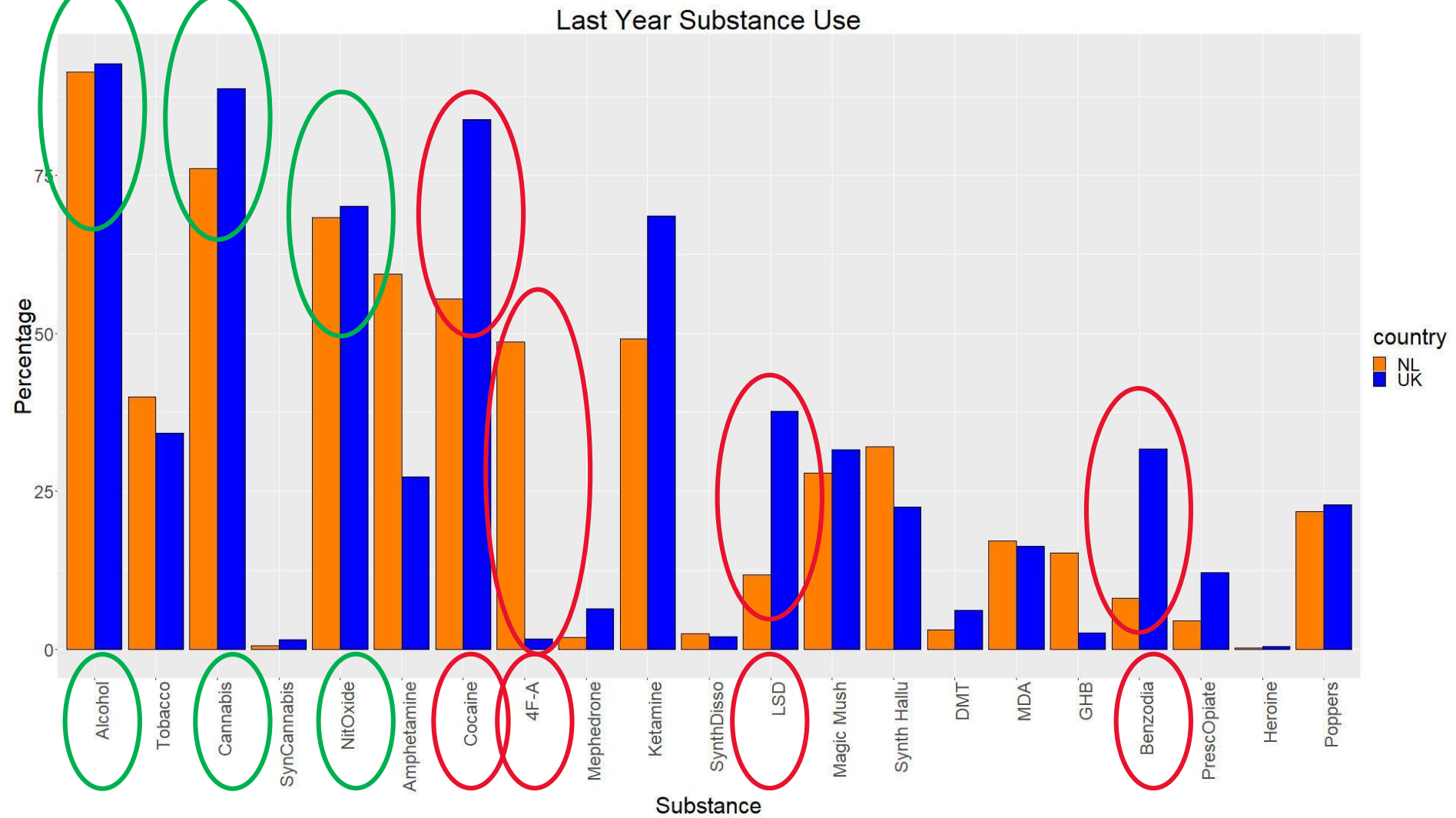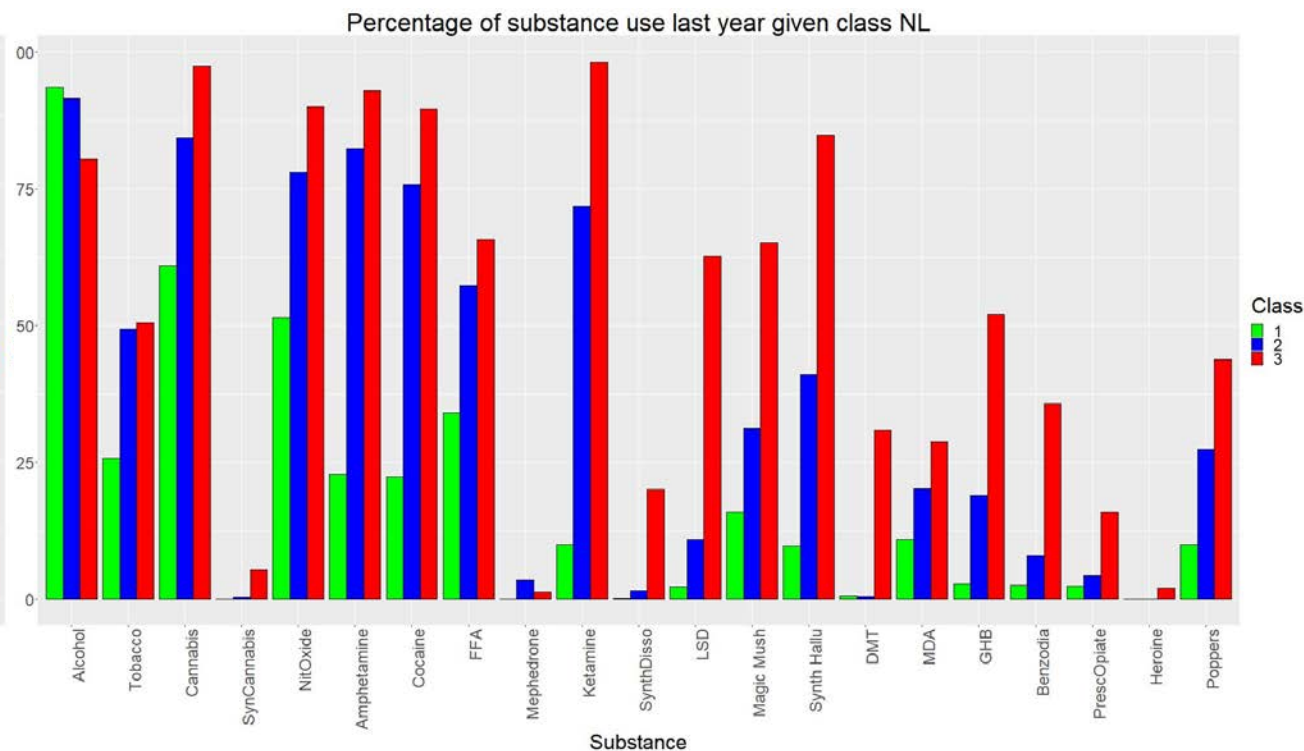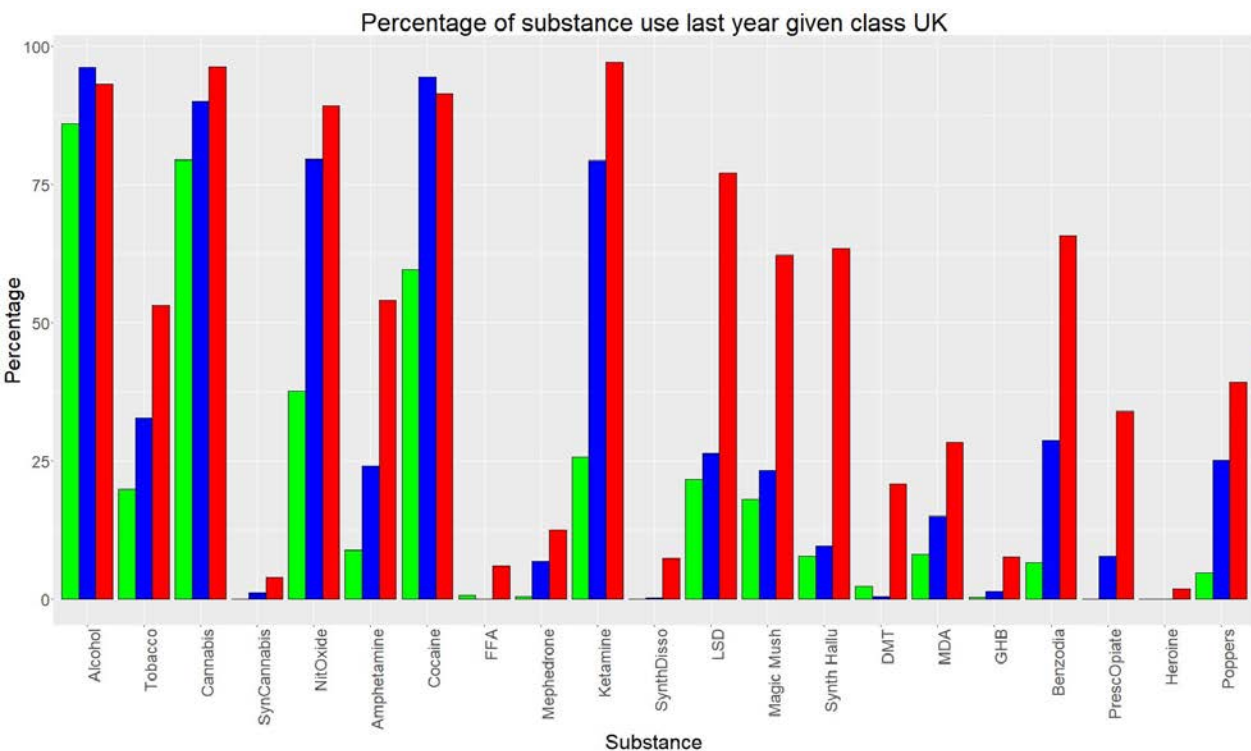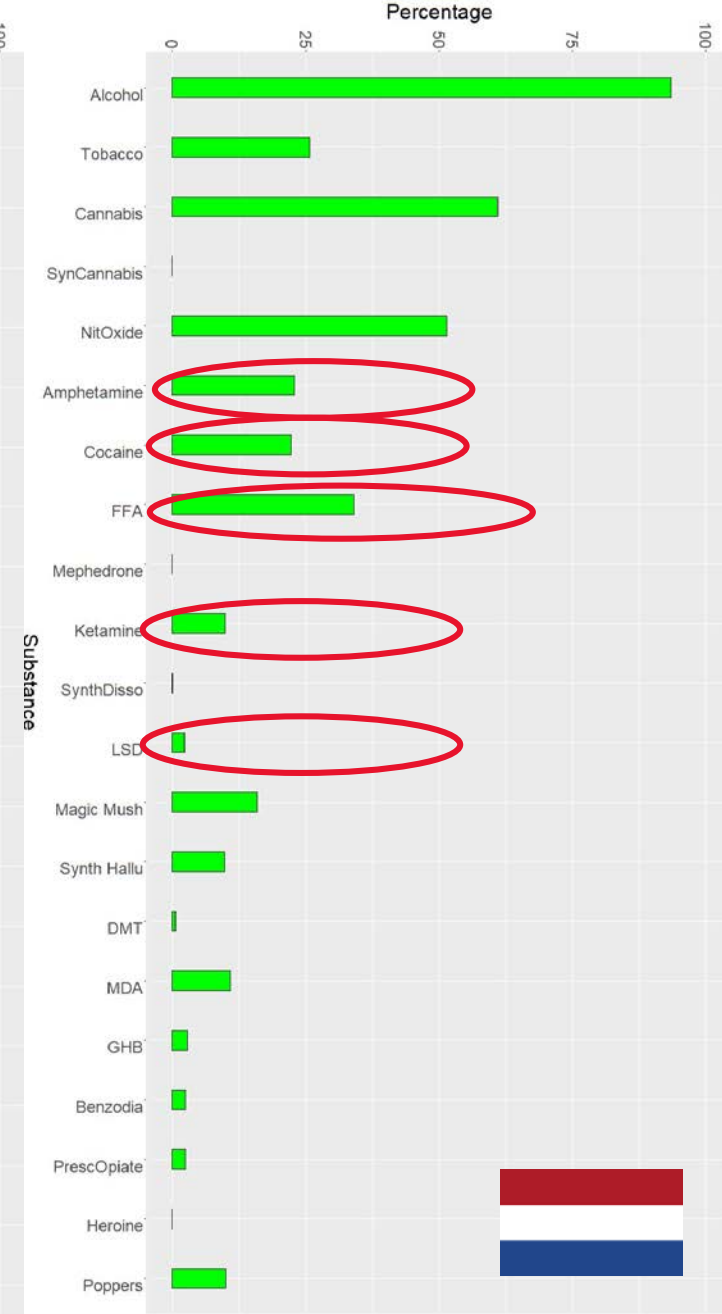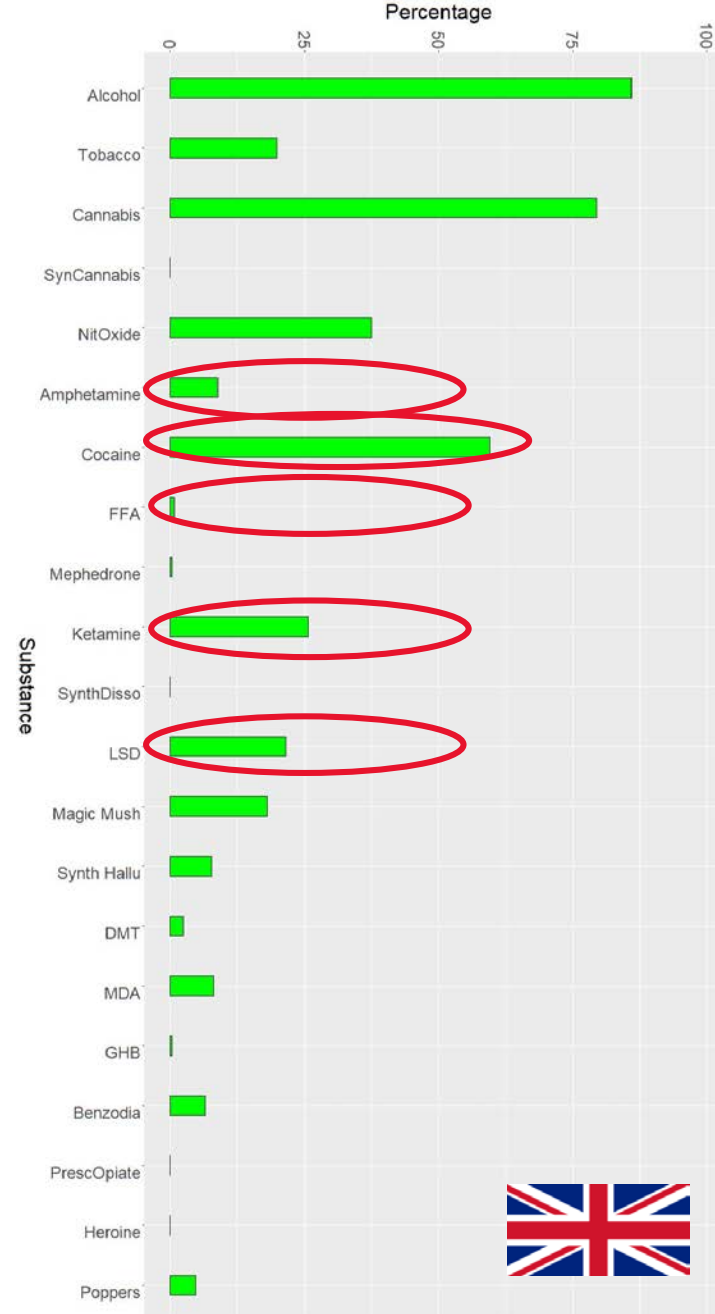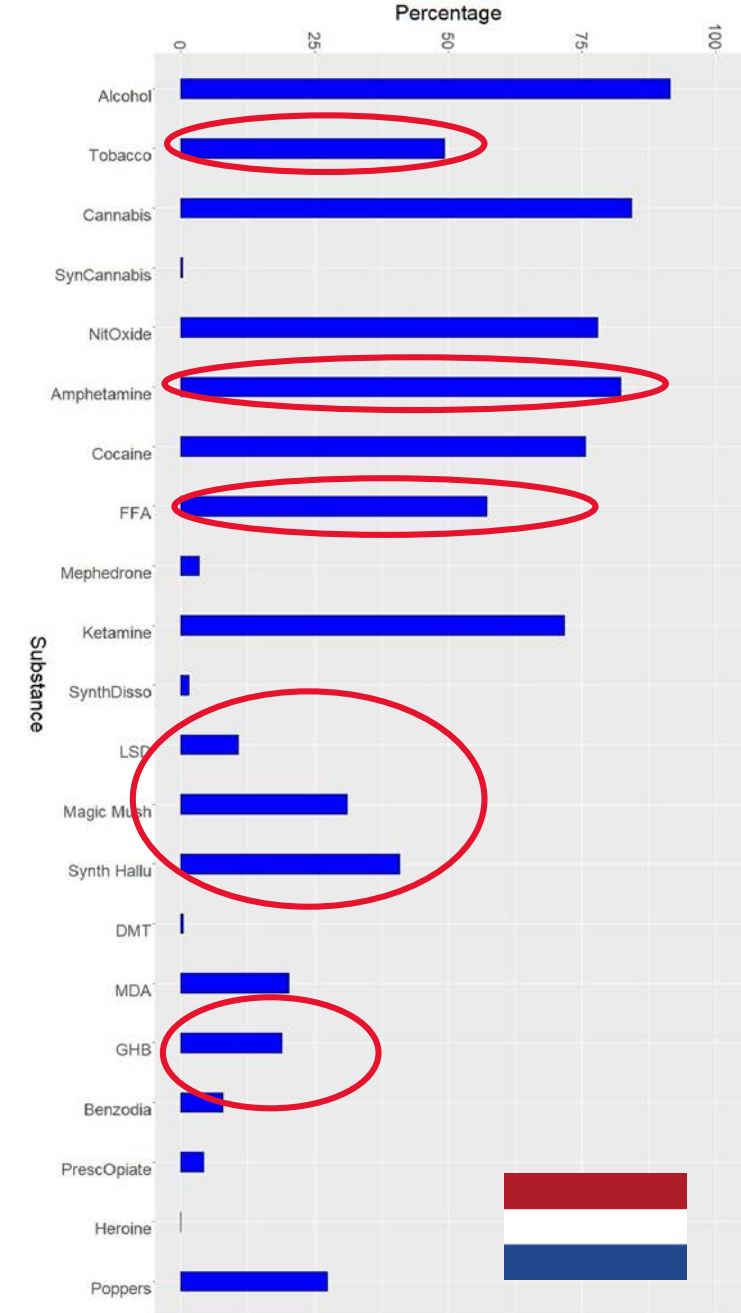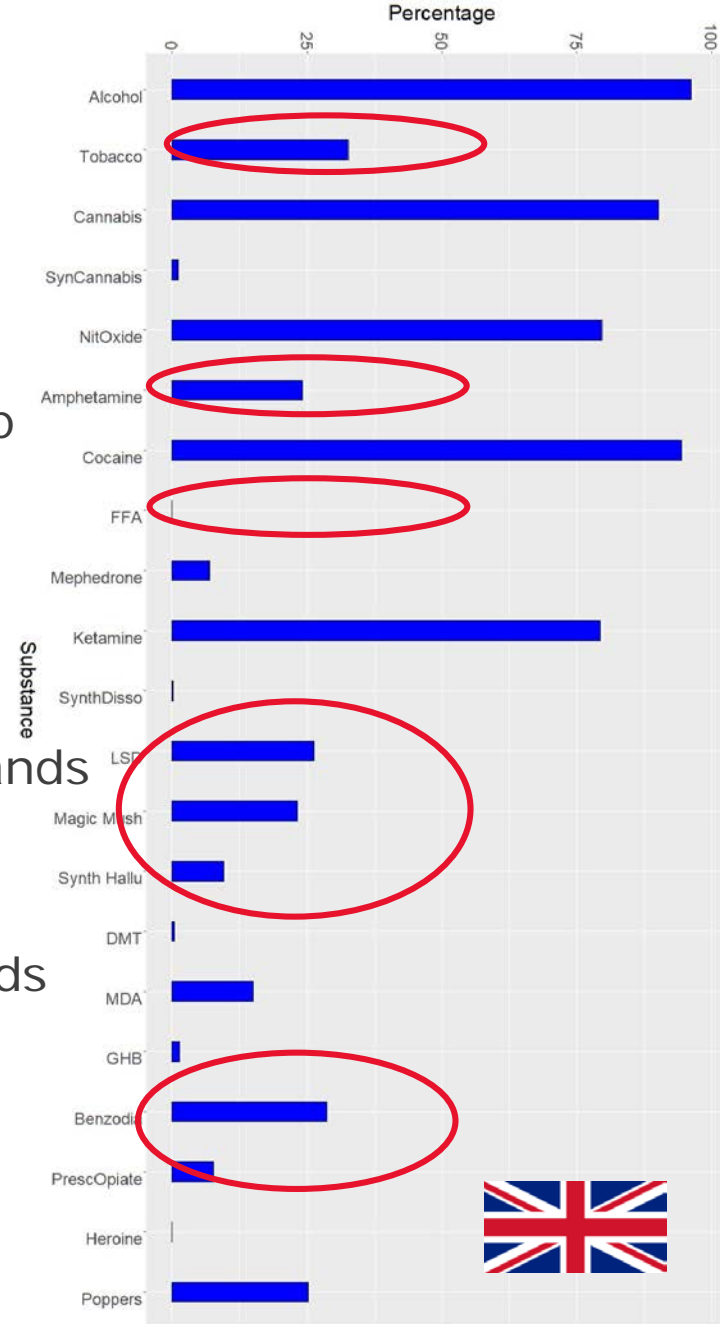
Results

Low polydrug use group
- 28.4% UK
- 39.6% NL
- Difference in distribution of stimulants
- Ketamine & LSD higher in UK
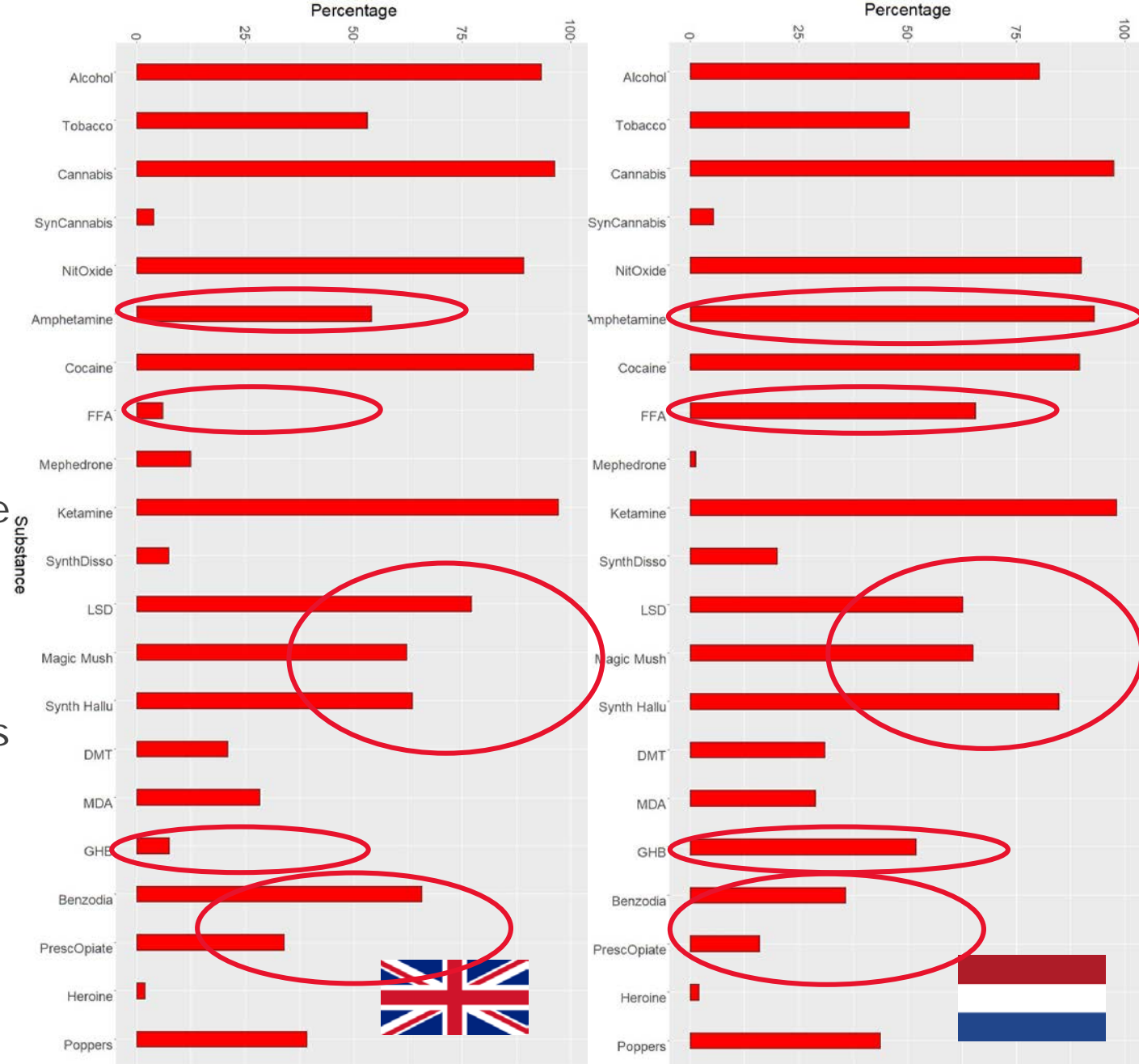
Results

Moderate polydrug use group

- 47.6% UK
- 52.9% NL
- Tobacco use lower in UK
- Amphetamine and 4F-A
  use higher in the Netherlands
- Difference in distribution
  of psychedelics
- GHB use in the Netherlands
- Use of benzo's in the UK

Results

High polydrug use group
- 24.0% UK
- 7.5% NL
- Amphetamine and 4F-A use higher in the Netherlands
- Difference in distribution of psychedelics
- GHB use in the Netherlands
- Use of benzo's and prescription opiates in the UK

Results

UK		Class 1 (Low polydrug use group)	Class 2 (Moderate polydrug use group)	Class 3 (High polydrug use group)	
Intention	Yes - I intend to stop using alcohol and/or drugs	3.6%	1.4%	1.6%	
	Yes - I intend to decrease my use a lot	10.8%	13.1%	15.1%	
	Yes - I intend to decrease my use a little	31.4%	42.9%	45.3%	
	No - I intend my drug use to stay the same	49.3%	37.2%	34.5%	
	Yes - I intend to increase my use a little	4.9%	5.5%	3.5%	
	Yes - I intend to increase my use a lot	0.0%	0.0%	0.0%	$X(8) = 26.674$, $p = .001$, Cramer's V= .111

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Results

NL		Class 1 (Low polydrug use group)	Class 2 (Moderate polydrug use group)	Class 3 (High polydrug use group)	
Intention	Yes - I intend to stop using alcohol and/or drugs	1.5%	0.2%	1.1%	
	Yes - I intend to decrease my use a lot	5.1%	10.0%	13.6%	
	Yes - I intend to decrease my use a little	34.0%	46.1%	53.4%	
	No - I intend my drug use to stay the same	56.1%	40.8%	29.5%	
	Yes - I intend to increase my use a little	3.0%	2.6%	2.3%	
	Yes - I intend to increase my use a lot	0.2%	0.5%	0.0%	$X(10) = 49.772$, $p < .000$, Cramer's V= .145

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Conclusions

- We found three subtypes (low, moderate, & high) of ecstasy users in both countries.
  - But! The distribution of groups is different, high polydrug use group is smaller in NL
- They are similar in some respects
  - Cannabis, alcohol, nitrous oxide, stimulant use
- But they also differ
  - Stimulant preferences, psychedelic preferences
  - Cocaine and ketamine slightly more popular in UK
  - Use of prescription drugs more prevalent in UK
- Most regular ecstasy users do not have the desire to stop use
  - The majority of the low polydrug groups mostly want to remain using the same
  - Heavy polydrug use ectasy users have a higher intention to decrease use, but only a little a little

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