Drug Consumption

2조

고정민 김관석 김수연 김유경 서상수

목차

STEP 1		STEP 2		STEP 3		STEP 4
문제 및 목표 정의		데이터 설명		데이터 분석		향후 추진 계획
이번 분석의 배경과 문제점을 파악한 후 이를 해결하기 위한 목표 정의	>>	표본 수, 변수 개수 등 기본적인 데이터 형태와 설명변수, 목 적변수에 대한 설명	>>	변수 전처리와 추출 과 더불어 기본적인 EDA 및 시각화 진행	>>	1주차 진행상황에 따른 보완점을 해결 하기 위한 향후 과 제 수립 및 2주차 모 델링 방향 설명

문제 및 목표 정의

배경

- ✓ 2017년 트럼프의 opioid crisis 선언
 마약성 진통제 '오피오이드' 남용에 대한 공중보건 위기사태를 선포함.
- ✓ 코로나로 인한 약물중독 사망자 수 30% 증가
 방역 조치로 인해 약물 중독자를 위한 프로그램이 전혀 진행되지 못 함.
 거리두기로 인한 외로움, 불안감 등이 커진 것도 주요 요인으로 생각됨.

과제 목표

- ✓ 주어진 정보를 바탕으로 한 사람의 약물 중독 여부를 예측
- ✓ 약물의 중독성을 파악하여 위험 대비
- ✓ 나아가 성격적인 특성이 약물 중독에 얼마나 영향을 미치는지 분석

Step 2 데이터 설명

	Gender	Education	Country	Ethnicity	Nscore	Escore	Oscore	Ascore	Cscore	Impulsive	SS	Alcohol	Amphet	Amyl	Benzos	Caff	Cannabis	Choo	Coke	Crack	Ecstasy	Heroin	Ketamine	Legalh	LSD	Meth	Mushrooms	Nicotine	Seme	VS A
).49788	0.48246	-0.05921	0.96082	0.126	0.31287	-0.57545	-0.58331	-0.91699	-0.00665	-0.21712	-1.18084	CL5	CL2	CL0	CL2	CL6	CL0	CL5	CL0	CL0	CLO	CL0	CL0	CL0	CL0 (CL0	CL0	CL2	CL0	CL0
0.07854	-0.48246	1.98437	0.96082	-0.31685	-0.67825	1.93886	1.43533	0.76096	-0.14277	-0.71126	-0.21575	CL5	CL2	CL2	CL0	CL6	CL4	CL6	CL3	CL0	CL4	CL0	CL2	CL0	CL2	CL3	CL0	CL4	CL0	CL0
).49788	-0.48246	-0.05921	0.96082	-0.31685	-0.46725	0.80523	-0.84732	-1.6209	-1.0145	-1.37983	0.40148	CL6	CL0	CL0	CL0	CL6	CL3	CL4	CL0	CL0	CL0	CL0	CL0	CL0	CL0 (CL0	CL1	CL0	CL0	CL0
0.95197	0.48246	1.16365	0.96082	-0.31685	-0.14882	-0.80615	-0.01928	0.59042	0.58489	-1.37983	-1.18084	CL4	CL0	CL0	CL3	CL5	CL2	CL4	CL2	CL0	CL0	CL0	CL2	CL0	CL0	CL0	CL0	CL2	CL0	CL0
).49788	0.48246	1.98437	0.96082	-0.31685	0.73545	-1.6334	-0.45174	-0.30172	1.30612	-0.21712	-0.21575	CL4	CL1	CL1	CL0	CL6	CL3	CL6	CL0	CL0	CL1	CL0	CL0	CL1	CL0	CL0	CL2	CL2	CL0	CL0
2.59171	0.48246	-1.22751	0.24923	-0.31685	-0.67825	-0.30033	-1.55521	2.03972	1.63088	-1.37983	-1.54858	CL2	CL0	CL0	CL0	CL6	CL0	CL4	CL0	CL0	CL0	CL0	CL0	CL0	CL0	CL0	CL0	CL6	CL0	CL0
.09449	-0.48246	1.16365	-0.57009	-0.31685	-0.46725	-1.09207	-0.45174	-0.30172	0.93949	-0.21712	0.07987	CL6	CL0	CL0	CL0	CL6	CL1	CL5	CL0	CL0	CL0	CL0	CL0	CL0	CL0	CL0	CL0	CL6	CL0	CL0
).49788	-0.48246	-1.7379	0.96082	-0.31685	-1.32828	1.93886	-0.84732	-0.30172	1.63088	0.19268	-0.52593	CL5	CL0	CL0	CL0	CL6	CL0	CL4	CL0	CL0	CL0	CL0	CL0	CL0	CL0	CL0	CL0	CL0	CL0	CL0
).49788	0.48246	-0.05921	0.24923	-0.31685	0.62967	2.57309	-0.97631	0.76096	1.13407	-1.37983	-1.54858	CL4	CL0	CL0	CL0	CL6	CL0	CL6	CL0	CL0	CLO	CL0	CL0	CL0	CL0 (CL0	CL0	CL6	CL0	CL0
0 0	0.07854	0.07854 -0.48246 0.49788 -0.48246 0.95197 0.48246 0.49788 0.48246 1.09449 -0.48246 0.49788 -0.48246	0.07854 -0.48246 1.98437 0.49788 -0.48246 -0.05921 0.95197 0.48246 1.16365 0.49788 0.48246 1.98437 2.59171 0.48246 -1.22751 1.09449 -0.48246 1.16365 0.49788 -0.48246 -1.7379	0.07854 -0.48246 1.98437 0.96082 0.49788 -0.48246 -0.05921 0.96082 0.95197 0.48246 1.16365 0.96082 0.49788 0.48246 1.98437 0.96082 2.59171 0.48246 -1.22751 0.24923 1.09449 -0.48246 1.16365 -0.57009 0.49788 -0.48246 -1.7379 0.96082	0.07854 -0.48246 1.98437 0.96082 -0.31685 0.49788 -0.48246 -0.05921 0.96082 -0.31685 0.95197 0.48246 1.16365 0.96082 -0.31685 0.49788 0.48246 1.98437 0.96082 -0.31685 2.59171 0.48246 -1.22751 0.24923 -0.31685 1.09449 -0.48246 1.16365 -0.57009 -0.31685 0.49788 -0.48246 -1.7379 0.96082 -0.31685	0.07854 -0.48246 1.98437 0.96082 -0.31685 -0.67825 0.49788 -0.48246 -0.05921 0.96082 -0.31685 -0.46725 0.95197 0.48246 1.16365 0.96082 -0.31685 -0.14882 0.49788 0.48246 1.98437 0.96082 -0.31685 0.73545 2.59171 0.48246 -1.22751 0.24923 -0.31685 -0.67825 1.09449 -0.48246 1.16365 -0.57009 -0.31685 -0.46725 0.49788 -0.48246 -1.7379 0.96082 -0.31685 -1.32828	0.07854 -0.48246 1.98437 0.96082 -0.31685 -0.67825 1.93886 0.49788 -0.48246 -0.05921 0.96082 -0.31685 -0.46725 0.80523 0.95197 0.48246 1.16365 0.96082 -0.31685 -0.14882 -0.80615 0.49788 0.48246 1.98437 0.96082 -0.31685 0.73545 -1.6334 2.59171 0.48246 -1.22751 0.24923 -0.31685 -0.67825 -0.30033 1.09449 -0.48246 1.16365 -0.57009 -0.31685 -0.46725 -1.09207 0.49788 -0.48246 -1.7379 0.96082 -0.31685 -1.32828 1.93886	0.07854 -0.48246 1.98437 0.96082 -0.31685 -0.67825 1.93886 1.43533 0.49788 -0.48246 -0.05921 0.96082 -0.31685 -0.46725 0.80523 -0.84732 0.95197 0.48246 1.16365 0.96082 -0.31685 -0.14882 -0.80615 -0.01928 0.49788 0.48246 1.98437 0.96082 -0.31685 0.73545 -1.6334 -0.45174 2.59171 0.48246 -1.22751 0.24923 -0.31685 -0.67825 -0.30033 -1.55521 1.09449 -0.48246 1.16365 -0.57009 -0.31685 -0.46725 -1.09207 -0.45174 0.49788 -0.48246 -1.7379 0.96082 -0.31685 -1.32828 1.93886 -0.84732	0.07854 -0.48246 1.98437 0.96082 -0.31685 -0.67825 1.93886 1.43533 0.76096 0.49788 -0.48246 -0.05921 0.96082 -0.31685 -0.46725 0.80523 -0.84732 -1.6209 0.95197 0.48246 1.16365 0.96082 -0.31685 -0.14882 -0.80615 -0.01928 0.59042 0.49788 0.48246 1.98437 0.96082 -0.31685 0.73545 -1.6334 -0.45174 -0.30172 2.59171 0.48246 -1.22751 0.24923 -0.31685 -0.67825 -0.30033 -1.55521 2.03972 1.09449 -0.48246 1.16365 -0.57009 -0.31685 -0.46725 -1.09207 -0.45174 -0.30172 0.49788 -0.48246 -1.7379 0.96082 -0.31685 -1.32828 1.93886 -0.84732 -0.30172	0.07854	0.07854	0.07854	0.07854	0.07854	0.07854	0.07854 -0.48246	0.07854 -0.48246 1.98437 0.96082 -0.31685 -0.67825 1.93886 1.43533 0.76096 -0.14277 -0.71126 -0.21575 CL5 CL2 CL2 CL0 CL6	0.07854	0.07854	0.07854 -0.48246 1.98437 0.96082 -0.31685 -0.67825 1.93886 1.43533 0.76096 -0.14277 -0.71126 -0.21575 CL5 CL2 CL2 CL0 CL6 CL4 CL6 CL3 0.49788 -0.48246 -0.05921 0.96082 -0.31685 -0.46725 0.80523 -0.84732 -1.6209 -1.0145 -1.37983 0.40148 CL6 CL0 CL0 CL0 CL6 CL3 CL4 CL0 0.95197 0.48246 1.16365 0.96082 -0.31685 -0.14882 -0.80615 -0.01928 0.59042 0.58489 -1.37983 -1.18084 CL4 CL0 CL0 CL0 CL3 CL5 CL2 CL4 CL2 0.49788 0.48246 1.98437 0.96082 -0.31685 0.73545 -1.6334 -0.45174 -0.30172 1.30612 -0.21712 -0.21575 CL4 CL1 CL1 CL0 CL6 CL3 CL5 CL2 0.49788 -1.22751 0.24923 -0.31685 -0.67825 -0.30033 -1.55621 2.03972 1.63088 -1.37983 -1.54858 CL2 CL0 CL0 CL0 CL6 CL1 CL1 CL1 0.9449 -0.48246 1.16365 -0.57009 -0.31685 -0.46725 -1.09207 -0.45174 -0.30172 0.93949 -0.21712 0.07987 CL6 CL0 CL0 CL0 CL6 CL1 CL5 CL0 0.9449 -0.48246 -1.7379 0.96082 -0.31685 -1.32828 1.93886 -0.84732 -0.30172 1.63088 0.19268 -0.52593 CL5 CL0 CL0 CL0 CL6 CL0 CL4 CL0 0.9449 -0.48246 -1.7379 0.96082 -0.31685 -1.32828 1.93886 -0.84732 -0.30172 1.63088 0.19268 -0.52593 CL5 CL0 CL0 CL0 CL6 CL0 CL4 CL0 0.9449 -0.48246 -1.7379 0.96082 -0.31685 -1.32828 1.93886 -0.84732 -0.30172 1.63088 0.19268 -0.52593 CL5 CL0 CL0 CL0 CL6 CL0 CL4 CL0 0.9449 -0.48246 -1.7379 0.96082 -0.31685 -1.32828 1.93886 -0.84732 -0.30172 1.63088 0.19268 -0.52593 CL5 CL0 CL0 CL0 CL6 CL0 CL4 CL0 0.9449 -0.48246 -1.7379 0.96082 -0.31685 -1.32828 1.93886 -0.84732 -0.30172 1.63088 0.19268 -0.52593 CL5 CL0 CL0 CL0 CL6 CL0 CL4 CL0 0.9449 -0.48246 -1.7379 0.96082 -0.31685 -1.32828 -1.93886 -0.84732 -0.30172 -0.30172 -0.30172 -0.52593 CL5 CL0	0.07854 0.48246 1.98437 0.96082 -0.31685 -0.67825 1.93886 1.43533 0.76096 -0.14277 -0.71126 -0.21575 CL5 CL2 CL2 CL0 CL6 CL4 CL6 CL3 CL0	0.07854	0.07854	0.07854 0.48246 1.98437 0.96082 0.31685 0.67825 1.93886 1.43533 0.76096 0.14277 0.71126 0.21575 CL5 CL2 CL2 CL2 CL0 CL6 CL4 CL6 CL3 CL0 CL4 CL0 CL2 1.49788 0.48246 0.05921 0.96082 0.31685 0.46725 0.80523 0.84732 1.6209 1.0145 1.37983 0.40148 CL6 CL0 CL0 CL0 CL0 CL6 CL3 CL4 CL0 CL0 CL0 CL0 1.6108 0.48246 1.6365 0.96082 0.31685 0.14882 0.80615 0.01928 0.59042 0.58489 1.37983 1.18084 CL4 CL1 CL1 CL1 CL1 CL1 CL2 CL4 CL2 CL4 CL2 CL0 CL0 CL1 1.6108 0.48246 1.98437 0.96082 0.31685 0.73545 1.6334 0.45174 0.30172 1.30612 0.21712 0.21575 CL4 CL1 CL1	0.07854 0.48246 1.98437 0.96082 0.31685 0.67825 1.93886 1.43533 0.76096 -0.14277 0.71126 -0.21575 CL5 CL2 CL0 CL6 CL4 CL6 CL3 CL0 CL4 CL0 CL0	0.07864 0.48246 1.98437 0.96082 -0.31885 -0.67825 1.93886 1.43633 0.76096 -0.14277 -0.71126 -0.21575 CL5 CL2 CL2 CL0 CL6 CL4 CL6 CL3 CL0 CL4 CL0 CL2 CL0 CL2	0.07854 0.48246 1.88437 0.98082 -0.31685 0.67825 1.93886 1.43533 0.76096 -0.14277 -0.71126 -0.21575 CL5 CL2 CL2 CL2 CL2 CL3 CL6 CL4 CL6 CL3 CL0 CL4 CL0 CL2 CL3 CL3	0.07864 0.48246 1.98437 0.96082 0.31685 0.67825 1.93886 1.43533 0.76096 0.14277 0.71126 0.21575 0.15 0.12 0.10 0.10 0.10 0.10 0.10 0.10 0.10 0.10 0.10 0.10 0.10 0.10 0.10 0.10 0.10 0.10 0.10 0.10 0.10 0.10 0.10 0.10 0.10 0.10 0.10 0.10 0.10 0.10 0.10 0.10 0.10 0.10 0.10 0.10 0.10 0.10 0.10 0.10 0.10 0.10 0.10 0.10 0.10 0.10 0.10 0.10 0.10 0.10 0.10 0.10 0.10 0.10 0.10 0.10 0.10 0.10 0.10 0.10 0.10 0.10 0.10 0.10 0.10 0.10 0.10 0.10 0.10 0.10 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0.10 0.10 0.10 0.10 0.10 0	0.07854	0.07854

데이터 설명

설명변수

- Personal traits
- Demographic traits

Age Gen der Edu Cont ury Ethni city

목적변수

- Potential Overdose

A. 인구통계

연령, 성별, 학력수준, 국가, 인종 등의 기본적인 인구통계적인 특 성(Demographic traits)에 대한 분 석



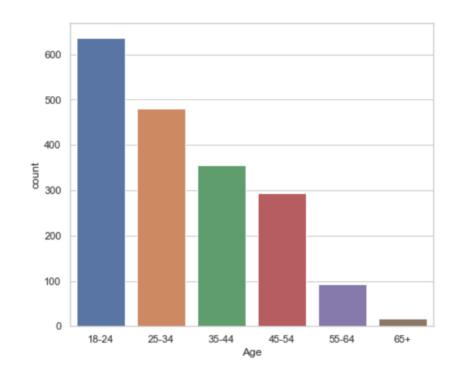
B. 성격지표

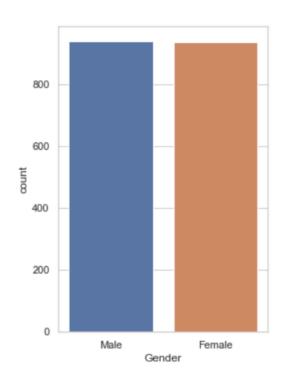
성격심리학의 대표적인 지표 -N(신경증), E(외향성), O(개방성), A(원만성), C(성실성) 등 성격적인 특성(Personality traits)대한 분석

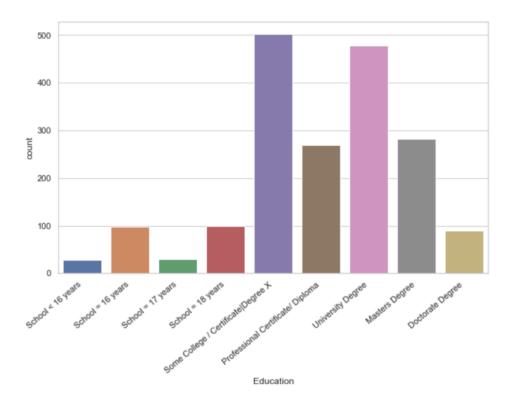
C. 목적변수

알코올, 암페타민, 헤로인 등 총 18가지 약물 간의 관계 및 에 대 한 분석

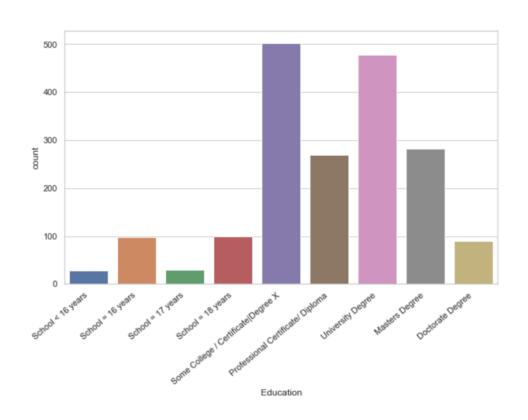
A 인구통계

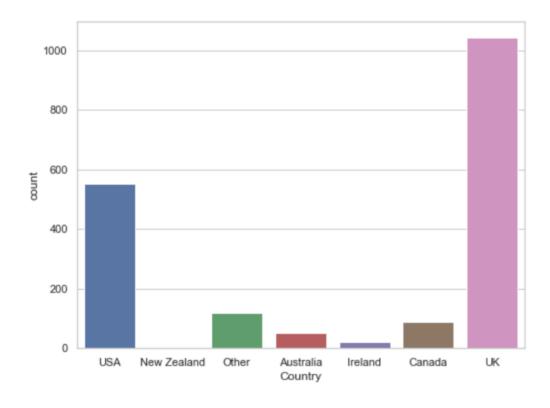




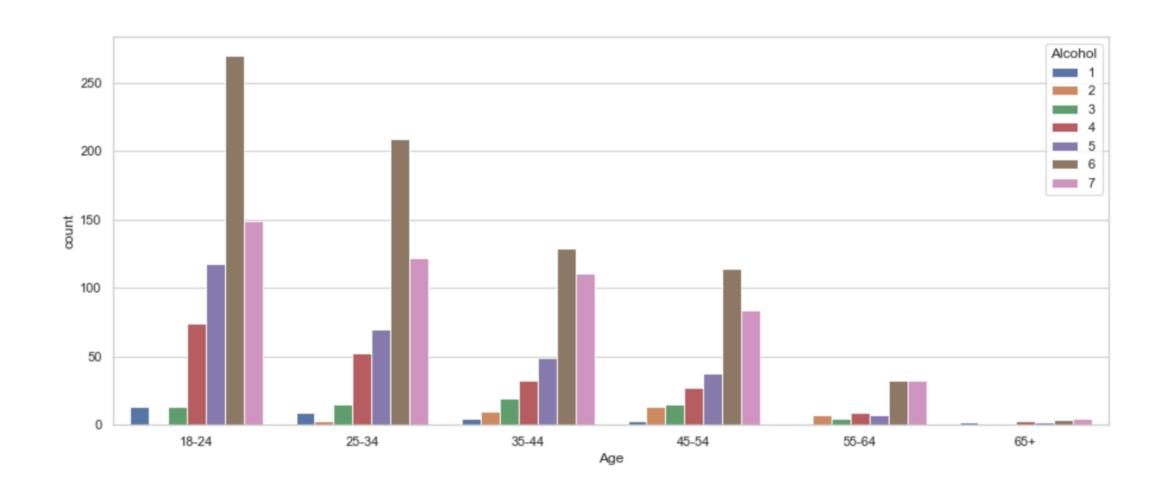


A 인구통계

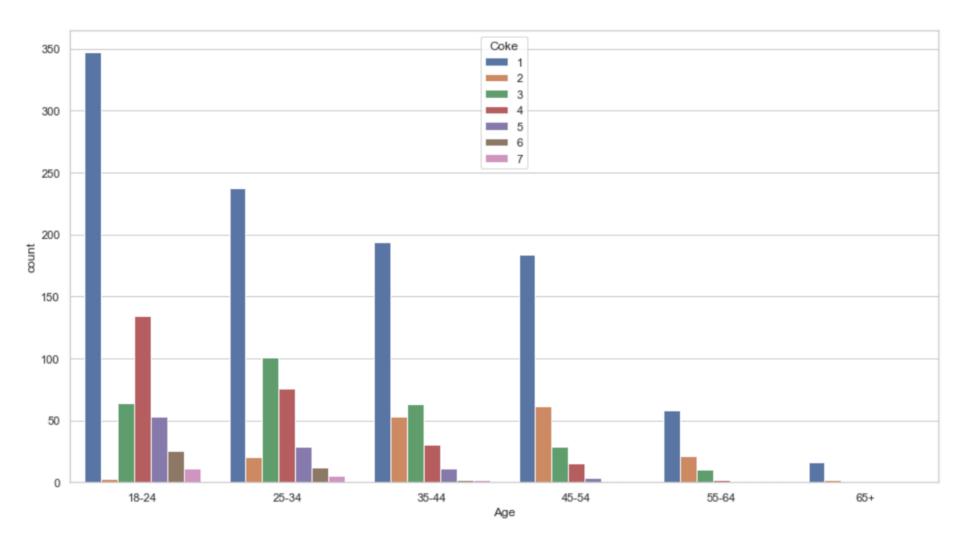




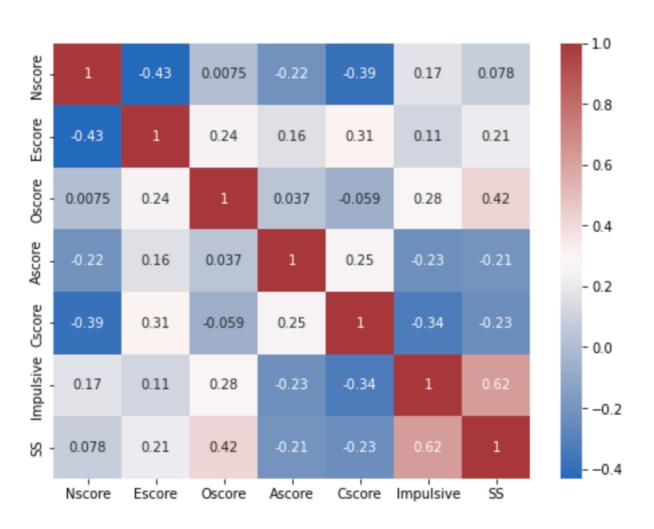
A 인구통계



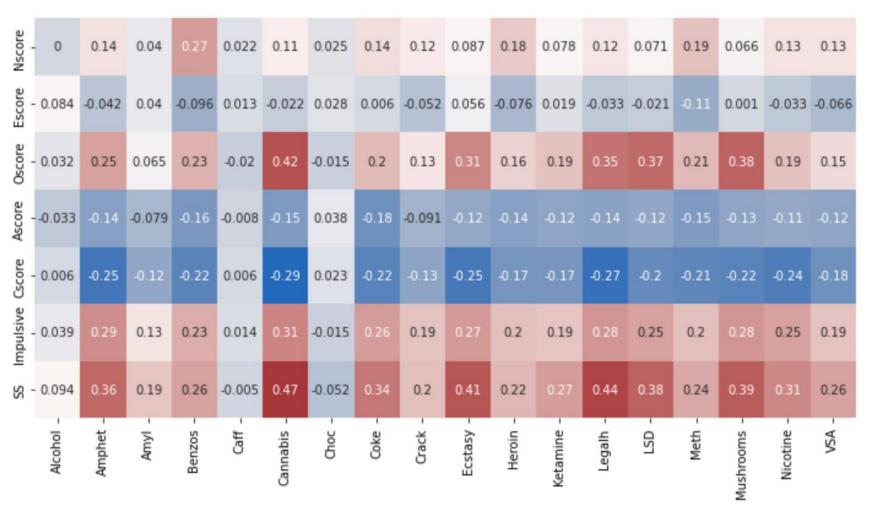
A 인구통계



B.성격지표



B.성격지표



- 0.4

- 0.3

- 0.2

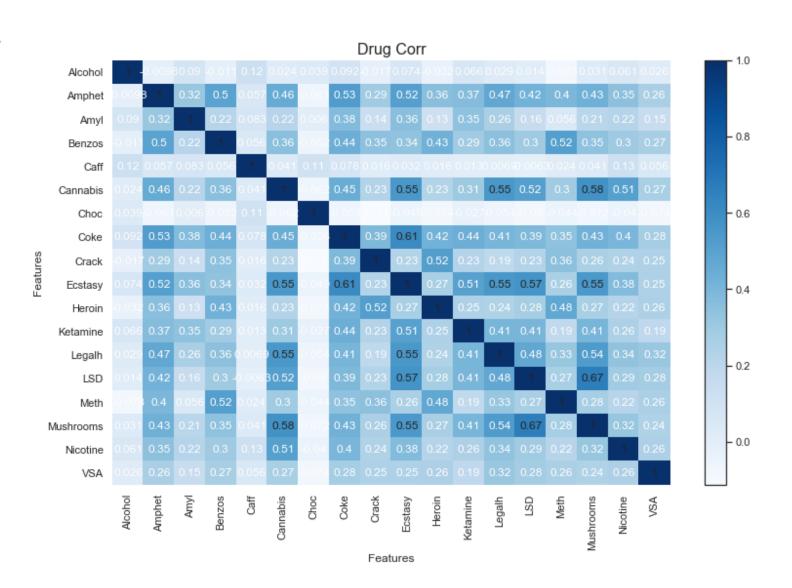
- 0.1

- 0.0

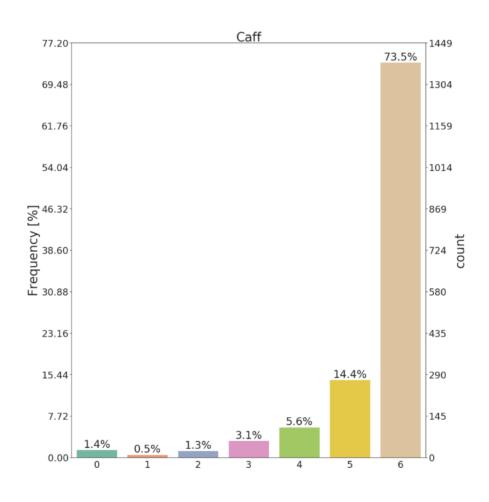
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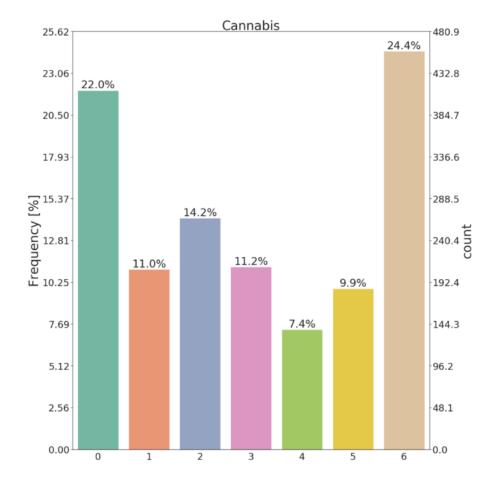
- -0.2

C 목적변수

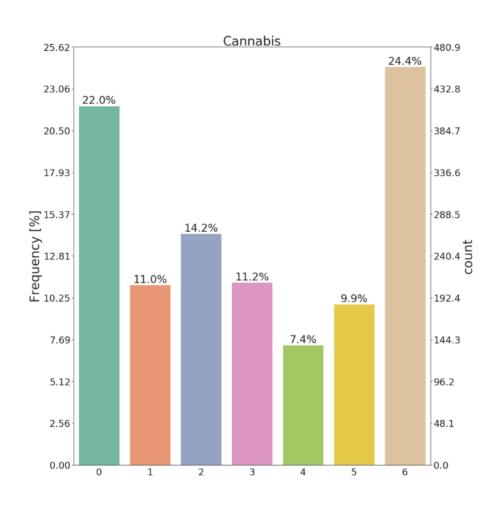


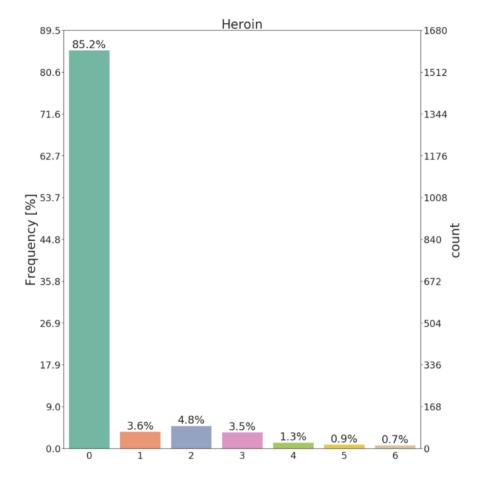
C 목적변수





C 목적변수





향후 추진 계획

설명변수 간의 독립성

- Personality & Demography 그리고 PCA

자료의 편향성

- Imbalanced data : White people, CL0

목적변수 처리 및 응용

- Clustering

모델링

- Individual model vs Softmax

thx