Substance Abuse and Job Growth by Industry

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Background & Literature Review

- "Excessive use of a drug such as alcohol, narcotics, or cocaine"
  - Without any medical diagnosis
- History behind substance abuse and substance abuse research
- Relevancy of substance abuse research
  - Carpenter, 2017
  - Compton, 2014
- Plethora of literature on Substance Abuse
  - Few examine it in individual industries
    - Bush & Lipari, 2015
  - None examine the impact of the Job Growth rate

Hypothesis

Job Growth in high-tech industries will lead to an increase in substance abuse rates among younger groups of people

Data/Variables

- Substance Abuse Data (2016 - 2019)
  - Age Groups (in thousands)
  - SAMHSA
  - Log
- Industry Job Growth Data (2016 - 2019)
  - Bureau of Economic Analysis
- State Unemployment Data (2016 - 2019)
  - Bureau of Labor Statistics
- Mental Illness Data (2016 - 2019)
  - Age Groups (in thousands)
  - SAMHSA

Empirical Model

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$$logSubstanceAbuseAgeGroup=$$

$$B\_0 + \beta\_1\ InformationJobGrowth + \beta\_2\ OtherIndustryJobGrowth +$$

$$\beta\_3\ MentalIllness(AgeGroup) + \beta\_4\ StateUnemploymentRate$$

Summary Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
to25	200	162.1	190.4785	11	1204
Olde26	200	407.195	493.8592	23	3516
Older18	200	569.295	681.8968	35	4720
Nondurable~s	200	1.0085	2.035829	-5.2	8.4
Educationa~s	200	1.0085	2.035829	-5.2	8.4
Healthcare~e	200	1.74	1.050341	-.3	5.2
Information	200	-.2115	3.171135	-18.5	7.7
Profession~a	200	2.2805	1.949377	-7.1	7.5
OlderMI18	200	266.765	299.9827	20	2459
MI18to25	200	41.33	47.18062	2	314
OlderMI26	200	157.08	164.0475	9	1067
Unemployme~e	200	4.0315	.9528892	2.4	6.9
logto25	200	4.591232	1.015908	2.397895	7.093405
logOlde26	200	5.502009	1.025745	3.135494	8.165079
logOlder18	200	5.844261	1.017921	3.555348	8.459564

Correlation Matrix

	Nondur~s	Educat~s	Health~e	Inform~n	Profes~a	OlderM~8	MI18to25	Older~26	Unempl~e
Nondurable~s	1.0000								
Educationa~s	1.0000	1.0000							
Healthcare~e	0.2347	0.2347	1.0000						
Information	0.1569	0.1569	0.4382	1.0000					
Profession~a	0.2648	0.2648	0.2162	0.1216	1.0000				
OlderMI18	0.1065	0.1065	0.1816	0.2289	0.1465	1.0000			
MI18to25	-0.0201	-0.0201	0.2123	0.2479	0.1669	0.7127	1.0000		
OlderMI26	-0.0121	-0.0121	0.2285	0.2700	0.1452	0.7907	0.9749	1.0000	
Unemployme~e	-0.1245	-0.1245	0.0722	-0.0185	-0.2892	0.1605	0.0582	0.1315	1.0000

Summary Table of Regression Analysis

18 to 25

	Model1 b/se	Model2 b/se	Model3 b/se	Model4 b/se
Nondurable Goods	0.006			
	(0.02)			
Information	0.034*	0.040*	0.034*	0.032*
	(0.01)	(0.02)	(0.01)	(0.01)
(Mental Illness) 1~e	0.016***	0.016***	0.016***	0.015***
	(0.00)	(0.00)	(0.00)	(0.00)
Unemployment Rate	0.142**	0.143**	0.142**	0.174***
	(0.05)	(0.05)	(0.05)	(0.05)
Healthcare and Soc~e		-0.036		
		(0.05)		
Educational Services			0.006	
			(0.02)	
Professional, scie~e				0.056*
				(0.02)
constant	3.370***	3.432***	3.370***	3.133***
	(0.20)	(0.21)	(0.20)	(0.22)
R-sqr	0.612	0.613	0.612	0.622
dfres	195	195	195	195
BIC	409.9	409.4	409.9	404.6

* p<0.05, ** p<0.01, *** p<0.001

Summary Table of Regression Analysis

26 and Older

	Model5 b/se	Model6 b/se	Model7 b/se	Model8 b/se
Nondurable Goods	-0.002			
	(0.02)			
Information	0.026	0.029	0.026	0.023
	(0.01)	(0.01)	(0.01)	(0.01)
(Mental Illness) 2~t	0.005***	0.005***	0.005***	0.005***
	(0.00)	(0.00)	(0.00)	(0.00)
Unemployment Rate	0.080	0.082	0.080	0.130**
	(0.04)	(0.04)	(0.04)	(0.05)
Healthcare and Soc~e		-0.025		
		(0.04)		
Educational Services			-0.002	
			(0.02)	
Professional, scie~e				0.077***
				(0.02)
constant	4.416***	4.447***	4.416***	4.061***
	(0.19)	(0.19)	(0.19)	(0.20)
R-sqr	0.676	0.677	0.676	0.695
dfres	195	195	195	195
BIC	377.6	377.3	377.6	365.5

* p<0.05, ** p<0.01, *** p<0.001

Summary Table of Regression Analysis

18 and Older

	Model9 b/se	Model10 b/se	Model11 b/se	Model12 b/se
Nondurable Goods	-0.051*			
	(0.02)			
Information	0.045**	0.040*	0.045**	0.037*
	(0.01)	(0.02)	(0.01)	(0.01)
(Mental Illness) 1~t	0.003***	0.002***	0.003***	0.002***
	(0.00)	(0.00)	(0.00)	(0.00)
Unemployment Rate	0.050	0.065	0.050	0.110*
	(0.05)	(0.05)	(0.05)	(0.05)
Healthcare and Soc~e		0.005		
		(0.05)		
Educational Services			-0.051*	
			(0.02)	
Professional, scie~e				0.070**
				(0.02)
constant	5.034***	4.924***	5.034***	4.611***
	(0.20)	(0.21)	(0.20)	(0.23)
R-sqr	0.615	0.605	0.615	0.621
dfres	195	195	195	195
BIC	409.3	414.3	409.3	406.3

* p<0.05, ** p<0.01, *** p<0.001

Key Findings

- Statistically significant data present for Information Industry
  - Increased job growth leads to increased substance abuse amongst younger groups
  - Competitiveness of the Information Industry
    - Stress/Anxiety
    - Updated skills
    - Sedentariness
  - Competitiveness in Professional, scientific, technical services industry
- Statistically insignificant data mostly present in other industries

Discussion/Recommendations

- More Research should be done
  - Can include more industries and variables
  - More demographics
  - Time Periods
- Existing literature on substance abuse contains the appropriate recommendations
  - Increased Funding
  - More treatment/rehabilitation programs