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The Illinois Institute for Rural Affairs (IIRA) works to improve the quality of life for rural residents by partnering with public and private agencies on local development and enhancement efforts.



**Western Illinois
University**

Marijuana Use: Differences Between Metro and Nonmetro Regions

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Adee Athiyaman¹

Market demand for recreational marijuana in Illinois on the very first day of public sales was \$3.196mil². IBIS estimates revenue growth for marijuana products³ at 19.7% per annum, for the 2021-2026 time period⁴. Applied to Illinois, the growth numbers suggest approximately \$3billion in recreational marijuana sales in 2026.

What are the drivers of demand for Cannabis products in Illinois? Does marijuana use differ between metro and nonmetro regions? What are the characteristics of marijuana users? This paper addresses these and other related questions.

Concepts, Data, and Insights

Concepts

The study of consumer behavior involves two types of variables: environment or external (to the person) variables and variables describing differences in persons⁵. Environment includes a point in time and space⁶. What concepts could be used to categorize “marijuana use”?

¹ Professor, Illinois Institute for Rural Affairs, Western Illinois University.

² Public sales were facilitated by the Cannabis Regulation and Tax Act, January 1, 2020; see *Chicago Daily Herald*, January 3, 2020.

³ Marijuana products include edibles, flower products, concentrates, pre-rolled joints, cartridges, accessories, and topicals.

⁴ IBIS Industry Report, OD4142, March 2021.

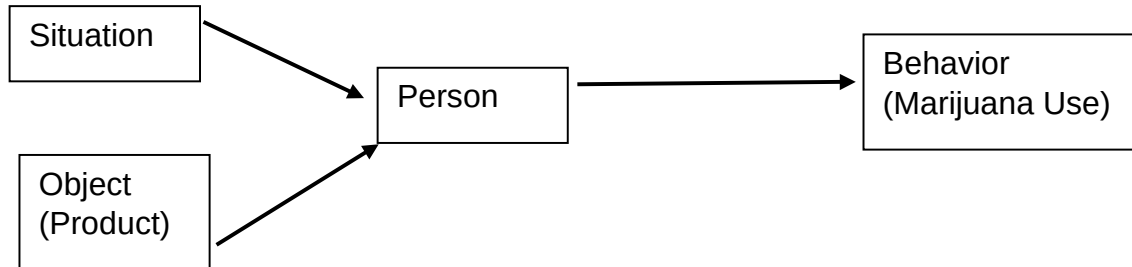
⁵ See, for example, Athiyaman, A. (2021). Telemedicine in Illinois: Ecological Explanations. Research Brief, 3(4), February 21, 1-8.

⁶ This research focuses on the years 2019-2020 (time) and rural and urban population (space) as the behavioral setting to describe marijuana use.

Figure 1 shows the answer, both situation and object are stimuli that elicit the response, marijuana use. The person

variable lists the general characteristics of the individual such as gender and race.

Figure 1: Determinants of Marijuana Use



Situational variables assessed in this paper include *physical surroundings* (number of marijuana dispensary in the county, *social surroundings* (population of adults in the county, 21+ age group), *temporal dimension* (number of days of marijuana use in a 30-day time period), and *task variable* (user roles, medical or nonmedical use of marijuana). Gender, race, education, and income are the personal variables studied. Marijuana product form includes flower or bud and vape cartridges filled with cannabis oil. Industry sources suggest that these two product forms account for approximately 60% of industry revenue⁷. For the purposes of this paper, all cannabis product forms are grouped into one superlative category, marijuana use.

Data

Data sources include Bureau of Labor Statistics and 2019 National Survey on Drug Use and Health (NSDU). Marijuana

use was gathered from the NSDU question, “During the past 30 days, on how many days did you use marijuana or hashish?”. Responses were grouped to reflect “current marijuana users”, people who use it for one day or more, and “daily marijuana users”, people who use the drug for 20 to 30 days. Demographics of the respondents, for example, gender, race, and income, were cross-tabulated with usage data.

Insights

According to the Bureau of Labor Statistics, there are 1108 cannabis dispensaries or sales outlets in Illinois⁸. Of these, 88% of the dispensaries are in metro counties; however, on a per-capita basis, there are more stores per person in the nonmetro regions (Table 1).

⁷ Same reference as footnote 4; US cannabis industry revenue is estimated at \$18.6bil.

⁸ <https://www.bls.gov/cew/downloadable-data-files.htm>; data are for NAICS 453998, 2020 numbers.

Table 1: Cannabis Dispensaries in Illinois: Metro and Nonmetro Counties

Metro County	No. of Stores	No. of Persons, 21+ Age	No. of Persons per Store
Alexander	2	4589	2294
Boone	1	37851	37851
Champaign	18	147575	8199
Clinton	6	28527	4754
Cook	375	3867517	10313
DeKalb	8	72847	9106
DeWitt	4	11933.068	2983
DuPage	111	682859	6152
Ford	1	9833	9833
Grundy	4	36176	9044
Henry	6	36507	6084
Jackson	5	42091	8418
Kane	37	373026	10082
Kankakee	6	79548	13258
Kendall	7	84582	12083
Lake	71	498046	7015
Macon	8	77880	9735
Macoupin	4	34188	8547
Madison	17	197258	11603
McHenry	35	223400	6383
McLean	10	120114	12011
Menard	1	9291	9291
Mercer	1	11739	11739
Monroe	5	25558	5112
Peoria	16	131960	8247
Piatt	1	12186	12186
Rock Island	12	105891	8824
Sangamon	19	146071	7688
St. Clair	20	191769	9588
Stark	1	4118	4118
Tazewell	12	99097	8258
Vermilion	5	56311	11262
Will	41	486656	11870
Williamson	8	50259	6282
Winnebago	26	208203	8008
Woodford	2	27748	13874

Table 1, Continued

Nonmetro County	No. of Stores	No. of Persons, 21+ Age	No. of Persons per Store
Adams	8	49101	6138
Bureau	4	25007	6252
Carroll	1	11356	11356
Cass	2	9020	4510
Christian	3	25291	8430
Clark	1	11536	11536
Clay	3	9965	3322
Coles	8	38053	4757
Crawford	1	14646	14646
Douglas	4	13972	3493
Edgar	1	13421	13421
Effingham	6	24954	4159
Fayette	1	16433	16433
Franklin	2	29075	14538
Fulton	1	26951	26951
Hancock	2	13685	6843
Henderson	1	5386	5386
Iroquois	3	20942	6981
Jefferson	5	28375	5675
Jo Daviess	7	16947	2421
Knox	6	37881	6314
LaSalle	9	82083	9120
Lawrence	1	12682	12682
Livingston	3	27138	9046
Logan	1	22013	22013
Marion	5	28005	5601
Mason	1	10475	10475
Montgomery	5	22255	4451
Morgan	6	25925	4321
Moultrie	1	10585	10585
Ogle	2	37707	18854
Randolph	3	25029	8343
Richland	1	11635	11635
Saline	1	18091	18091
Shelby	3	16477	5492
Stephenson	4	34000	8500
Union	2	12862	6431
Washington	1	10656	10656
Wayne	2	12203	6102
White	2	10512	5256
Whiteside	6	41564	6927

Table 2 shows that one in ten rural residents use marijuana; slightly more people in the metro, 12% of the metro population, use marijuana or hashish. In general, more males than females use marijuana products. Contrary to the

popular belief that educated will use less of the product, more associate degree holders use marijuana. Unemployment status is also associated with a higher proportion of marijuana use (Table 2)⁹.

Table 2: Marijuana Use Classified by Situational and Personal Variables

Characteristic	Current Marijuana Use		Daily Marijuana Use	
	Medical Condition ¹⁰ (N=1246478)	No Medical Condition (N=670664)	Medical Condition (N=1062585)	No Medical Condition (N=568620)
Nonmetro				
Overall (N= 37,752,622)	3.3%	1.78%	2.81%	1.51%
Sex				
Male (N=18,301,261)	4.22%	1.82%	3.65%	1.62%
Female (N=19,451,361)	2.44%	1.74%	2.03%	1.4%
Race/ethnicity				
White (N=30,612,765)	3.36%	1.75%	2.89%	1.37%
Black (N=2,847,101)	2.39%	2.17%	2.19%	1.47%
Hispanic (N=2,512,587)	2.91%	1.37%	1.84%	2.71%
Others (N=1,780,169)	4.24%	2.1%	3.94%	2.15%
Education				
Less than high school (N=8,109,178)	3.48%	1.38%	2.09%	1.27%
High school (N=11,126,584)	3.46%	1.99%	3.67%	1.67%
Some college / Assoc Degree (N=11,349,766)	3.63%	1.75%	3.2%	1.92%
College graduate (N=7,167,095)	2.33%	1.94%	1.7%	0.87%
Income				
Less than \$20,000 (N=7,234,137)	4.62%	2.24%	4.91%	2.38%
\$20,000 - \$49,999 (N=12,368,642)	3.44%	2.17%	2.62%	1.79%
\$50,000 - \$74,999 (N=6,611,889)	2.42%	1.63%	2.15%	1.83%
\$75,000 or More (N=11,537,956)	2.84%	1.15%	2.09%	0.47%
Employment status				
Employed full time (N=15,865,246)	3.77%	1.74%	3.28%	1.25%
Employed part time (N=4,182,757)	2.59%	1.37%	3.21%	2.41%
Unemployed (N=1,248,314)	6.11%	5.85%	7.68%	3.9%

⁹ Statistical tests did not reject independence between marijuana use and situational / personal variables; discussions pertaining to Table 2 are based on observed differences in cannabis use among the metro and the nonmetro population.

¹⁰ Medical comorbidity question, "Has a doctor, nurse, or other health professional ever told you that you had any of the following?"; responses contained 11 categories including asthma and cancer. A positive response to at least one chronic illness was classified as having medical conditions.

Table 2, continued.

Characteristic	Current Marijuana Use		Daily Marijuana Use	
	Medical Condition ¹¹ (N=10,977,451)	No Medical Condition (N=4,789,916)	Medical Condition (N=8,043,540)	No Medical Condition (N=3,908,869)
Metro				
Overall (N= 234,172,327)	4.69%	2.05%	3.43%	1.67%
Sex				
Male (N=113,403,134)	5.28%	2.57%	4.49%	2.09%
Female (N=120,769,193)	4.13%	1.55%	2.45%	1.27%
Race/ethnicity				
White (N=138,713,562)	4.81%	2.18%	3.58%	1.95%
Black (N=29,733,026)	5.39%	2.40%	4.77%	1.72%
Hispanic (N=44,068,274)	4.21%	1.68%	2.85%	1.02%
Others (N=21,657,465)	3.89%	1.44%	1.84%	1.14%
Education				
Less than high school (N=45,364,499)	4.37%	1.41%	2.78%	1.11%
High school (N=48,986,767)	4.57%	2.08%	4.45%	1.93%
Some college / Assoc Degree (N=64,892,685)	5.38%	2.40%	5.18%	2.48%
College graduate (N=74,928,376)	4.36%	2.10%	1.66%	1.14%
Income				
Less than \$20,000 (N=32,376,968)	5.97%	2.88%	4.20%	2.74%
\$20,000 - \$49,999 (N=64,304,761)	4.52%	2.05%	3.95%	1.78%
\$50,000 - \$74,999 (N=36,428,351)	4.17%	2.17%	4.19%	1.76%
\$75,000 or More (N=101,062,248)	4.57%	1.73%	2.59%	1.22%
Employment status				
Employed full time (N=107,316,463)	5.45%	1.91%	4.28%	1.49%
Employed part time (N=28,140,151)	5.94%	2.48%	3.58%	2.12%
Unemployed (N=8,463,329)	8.53%	2.67%	5.96%	3.21%

¹¹ Medical comorbidity question, “Has a doctor, nurse, or other health professional ever told you that you had any of the following?”; responses contained 11 categories including asthma and cancer. A positive response to at least one chronic illness was classified as having medical conditions.

Summary and Conclusion

Marijuana and marijuana medical products are legally sold in 37 US states¹². In Illinois, recreational cannabis sales, in 2020, exceeded \$660mil and the state collected more than \$175mil in tax revenue¹³. Demand for marijuana products comes from the unemployed, low-income, with some college education or associate degree. Racial group wise, Blacks consume more marijuana products.

Theoretically, marijuana legalization could lead to an increased supply of marijuana at the marketplace and thus increase marijuana use. However, since marijuana was already widely available, for example, 75% of 12th graders report that they could easily obtain marijuana if they wanted it¹⁴, legalization should not increase demand for the product. Rather, legalization should divert business away from the black market to licensed marijuana shops. In conclusion, legal marijuana sales should benefit communities, in terms of higher tax revenues. How much did Illinois counties generate in cannabis tax revenues in 2020? This topic is explored in *Research*

Brief 3(8), expected to be online at the IIRA website later this month, May 2021.

¹² See

<https://medicalmarijuana.procon.org/legal-medical-marijuana-states-and-dc/>.

¹³ Moore, B. (2021). Higher and Higher Watch now: Recreational pot made \$175mil in Illinois tax revenue... *The Pantagraph* (Bloomington, IL), February 21, 2021.

¹⁴ Miech, R. A. et al (2020). *Monitoring the future: National survey results on drug use, 1975-2019*. Vol 1: *Secondary School Students*. Ann Arbor, MI: Institute for Social Research.