Analysis of the 2017 Imagine RIT Attendees' Perceptions of Opioids and the Opioid Epidemic

Working Paper #2017-9
August 2017

Nate LeMahieu	Jose Gratereaux	Thomas Noel, Ph.D.
Research Assistant	Research Assistant	Research Associate

John Klofas, Ph.D.
Program Director
jmkgcj@rit.edu

Irshad Altheimer, Ph.D.
Deputy Director
ixagcj@rit.edu

www.rit.edu/cla/criminaljustice/cpsi

Introduction

The present report is an addendum to a previous study that identified perceptions of opioid use and addiction, as well as the policies that combat opiate usage and addiction. The data were collected through a survey taken by attendees of the 2017 Imagine RIT Festival.[1] Imagine RIT is an innovation and creativity festival held annually at the Rochester Institute of Technology, drawing thousands of visitors each year. The purpose of the original study was to identify the festival attendees' perceptions of opioids and the opioid epidemic. To accomplish this, the Center for Public Safety Initiatives (CPSI) designed and distributed a survey exploring peoples' experiences with and perceptions of opioid prescription and addiction, as well as three major policy initiatives revolving around opioid usage and addiction. A convenience sampling strategy was used, where individuals who were willing to take the survey were included in the sample. The three policies explored in the survey that are associated with the rise in opioid addiction and overdose were: treating drug addicts as criminals, availability of over-the-counter (OTC) Narcan®, and supervised injection sites. Overall, 359 surveys were collected that can be used for the analysis.

The results of the survey indicated that the festival attendees supported political agendas that were less punitive and more rehabilitative in regards to managing the rising opioid problem in the United States. Furthermore, a large percentage of respondents disclosed that they had been prescribed opioids in the past (41.3%), knew someone who had been prescribed opioids (56.6%), or knew someone with drug or addiction problems (57.6%).

---

[1] To view CPSI's report which includes: descriptive statistics, methodology, and survey development, see: https://www.rit.edu/cla/criminaljustice/cpsi/work

The purpose of this report is to further explore the opioid survey data acquired from the Imagine RIT Festival through the use of advanced statistics. The motivation to analyze these data was to identify whether or not significant variation existed between respondent demographics, as well as place of residence. Furthermore, statistical analyses were conducted in order to explore the relationships between variables, especially regarding survey responses on policy choices. Subsequent sections of this paper describe the rationale for the statistical test used, as well as the results of the analysis.

Data

The dependent variable explored within this analysis was a scale that was recoded from three questions that were asked to respondents regarding opioid policy. The name of that scale is the "rehabilitative policy scale." The three questions included in that scale were: Q1 "Do you think people who abuse drugs should be treated as criminals," Q2 "Do you support the availability of OTC emergency treatments to prevent overdose," and Q3 "Do you think that medically supervised sites where drug users can inject safely should be available?"

Q2 and Q3 were coded so that agreement to either question would add one point to the rehabilitative policy scale. Q1 was reverse coded so that disagreement to the question would add a point to the scale. Therefore, our scaled policy measure ranged between 0 and 3 points overall. An individual would score three points on the policy scorecard if he/she agreed to the availability of OTC emergency treatments and medically supervised injection sites, as well as disagreed that people who abuse drugs should be treated as criminals. In other words, scoring higher on the rehabilitative policy scale would indicate that the individual supported leniency in punishments for drug abusers, as well as implementing rehabilitative strategies to combat opioid usage.

Statistical Analyses

Regression modeling was the analytic technique used in this report.[2] Conducting regression analyses allows for examination of the relationship between independent variables (e.g., age) and the dependent variable ("rehabilitative policy scale"; Cottingham et al., 2005). OLS (Ordinary Least Squares) multiple linear regression analysis was used to develop a model for predicting differences in the Imagine RIT Festival's policy question. The variables used in the predictive model include: age, education, place of residence, knowledge of a person who has abused or is addicted to drugs, self-disclosed opiate prescription, and knowledge of a friend, family member, or coworker that has been prescribed an opiate.

Results

See Table 1 for the full list of predictors, predictor coefficients, and results of the overall model. Within the model, the constant or comparison variable was participants between 18 to 24 years of age. Of the independent variables, being 18 to 24 years of age (p <.001), being between 45 and 54 years of age (p <.05), and knowing someone who had abused or been addicted to drugs (p <.001) were statistically significant predictors of the rehabilitative policy scale. The eleven predictor model accounted for 42% of the variance in policy responses, F (10, 295) = 20.547, p <.001).

---

[2] ANOVA tests were conducted in order to analyze pre-existing relationships in our data. However, as the ANOVA tests confirm the findings of the regression analyses, the results of the ANOVA tests are not discussed within this paper. For reference, the results of the ANOVA analysis are enclosed within this footnote:
One-Way Analysis of Variance (ANOVA) for the Policy Scale with "Do you Know Someone That Has Abused or Have Been Addicted to Drugs" (N=325) (F(1, 13) = 177.19, p<.05)
One-Way Analysis of Variance (ANOVA) for the Policy Scale with Participants Aged 18 to 24 (N=325) F(1,13) = 5.29, p< .05

The rehabilitative policy score increased 2.148 with participants who were 18 to 24, decreased .218 with participants who were between the ages of 45 and 54, and decreased 1.024 when participants knew someone who had abused or been addicted to drugs. In other words, all else constant, participants between the ages of 18 and 24 would predict 2.148 points on the policy scale (p<.001).

Table 1: Summary of Multiple Regression Analyses for Variables Predicting Imagine RIT Participants' Responses to Rehabilitative Policies (N=359)

Variable	B	S EB	β
Constant	2.148***	0.10	
confidence intervals	(2.23, 2.61)		
Gender (Male)	0.09	0.07	0.06
confidence intervals	(-.055, .23)		
Ages 25 to 34	-0.05	0.13	-0.02
confidence intervals	(-.3, .21)		
Ages 35 to 44	-0.12	0.12	-0.05
confidence intervals	(-.35, .114)		
Ages 45 to 54	-0.218*	0.10	-0.116*
confidence intervals	(-.42, -.02)		
Ages 55 to 64	-0.07	0.13	-0.03
confidence intervals	(-.32, 19)		
Ages 65 and older	-0.10	0.13	-0.04
confidence intervals	(-.35, .16)		
Attended Graduate School	0.02	0.08	0.01
confidence intervals	(-.14, .17)		
Knows a friend, family member, or coworker that has taken an opiate	0.14	0.08	0.09
confidence intervals	(-.02, .29)		
Had been prescribed an opiate	0.08	0.07	0.05

confidence intervals	(-.07, .26)		
Knows someone that has abused or been addicted to drugs	-1.02***	0.08	0.64***
confidence intervals	(-1.18, -.87)		

$R^2=.42$
Note: *p < .05 ** p <.01 *** p <.001

Conclusion

The results of our statistical analyses indicated that predictive inferences can be made in regards to variations in our scaled rehabilitative policy measure. The significant predictors of the analysis were: age groups between 18-24, age groups between 45 and 54, and knowing someone who has abused or has been addicted to drugs.

The largest predictor in variations within the rehabilitative policy scale were participants between the ages of 18 to 24. According to our regression analyses, individuals who were within this age group accounted for support of approximately two more policy questions than those who were in other age groups. In other words, individuals between the ages of 18 to 24 years old were in larger support of more rehabilitative and less punitive policies in combatting opioid usage and addiction. One limitation in this finding, however, is related to our sampling method. The Imagine RIT Festival was held in an academic environment, where most of the festival attendees were within the 18 to 24 age group and accounted for the largest proportion of our individuals that took the survey (n=132). Thus, the correlations and statistical significance may be due to oversampling rather than statistically significant differences. This was identified in our ANOVA analyses where the mean difference between 18 to 24 year olds in comparison to other age groups was only 0.2 (Table 3). This difference could however be due to the fact that institutions

of higher education tend to foster environments where liberal ideologies are more prevalent (Phelan, Link, Stueve, & Moore, 1995).

The next major predictor was individuals who knew someone who has been addicted to or has abused drugs. According to the regression analysis, individuals who did know someone who abused or has been addicted to drugs were less supportive of increased rehabilitative and decreased punitive strategies regarding opioid use and addiction. This finding was unexpected and rejects our initial hypotheses. Anecdotally speaking, individuals who have experienced opioid and drug abuse in their social circles could be less forgiving of those who have encountered issues with drug usage and dependency. This statement however is not supported by literature and should be taken provisory.

The weakest predictor that was statistically significant in our model were individuals between the ages of 45 and 54. According to the regression, individuals between the ages of 45 and 54 scored approximately .2 less on the policy scale. According to extant literature, individuals of older age tend to hold more conservative political ideologies and hold more punitive views in comparison to individuals of younger demographics (King & Maruna, 2009). However, this difference is minimal considering that each policy question is worth a single point. In other words, falling within this age category cannot definitively account for variation within a single question.

In conclusion, the statistical analyses that were performed can help deliver insight in regards to various predictors in regards to support, or lack of support, for various policies that help withstand the emerging opioid epidemic. The results should however be carefully considered due to our sampling method, and is not applicable to the general population due to

aforementioned biases in our sampling. However, the results could be used to inform support for

local policies to combat recent issues pertaining to opioid use and abuse.

References

Cottingham, K. L., Lennon, J. T., & Brown, B. L. (2005). Knowing when to draw the line: designing more informative ecological experiments. *Frontiers in Ecology and the Environment*, *3*(3), 145-152.

King, A., & Maruna, S. (2009). Is a conservative just a liberal who has been mugged? Exploring the origins of punitive views. *Punishment & Society*, *11*(2), 147-169.

Phelan, J., Link, B. G., Stueve, A., & Moore, R. E. (1995). Education, social liberalism, and economic conservatism: Attitudes toward homeless people. *American Sociological Review*, 126-140.