Addiction Treatment as a Sociological Outcome

Christopher Carbonaro

Addiction Treatment as a Sociological Outcome

Christopher Carbonaro

December 10th, 2019

Addiction
Treatment as
a Sociological
Outcome

Christopher Carbonaro

Introduction

Drug Use in the U.S.

Addiction Treatment as a Sociological Outcome

Christopher Carbonaro

■ 60.2% (164.8 Million) of Americans have consumed alcohol, tobacco, or an illicit drug within the past month

Drug Use in the U.S.

Addiction
Treatment as
a Sociological
Outcome

Christopher Carbonaro

- 60.2% (164.8 Million) of Americans have consumed alcohol, tobacco, or an illicit drug within the past month
- Of these users, 31.9 million used an illicit drug within the past month

Drug Use in the U.S.

Addiction Treatment as a Sociological Outcome

Christopher Carbonaro

- 60.2% (164.8 Million) of Americans have consumed alcohol, tobacco, or an illicit drug within the past month
- Of these users, 31.9 million used an illicit drug within the past month
- 20% of Americans are estimated to have used an illicit drug within the past year (SAMHSA, 2019, p. 3-8)

Addiction Treatment in the U.S.

Addiction Treatment as a Sociological Outcome

Christopher Carbonaro

Approximately "21.2 million people aged 12 or older needed substance use treatment" in 2018 (SAMHSA, p. 3).

Unfortunately, while this comprises 7.8% of the U.S. population, only 1.4 received treatment within the past year (p. 3).

This Project's Focus

Addiction Treatment as a Sociological Outcome

Christopher Carbonaro

Given the disparity between the number of individuals in need of treatment and the number who receive it, we are motivated to ask:

What sociological factors best predict whether an individual will undergo substance abuse treatment?

Addiction
Treatment as
a Sociological
Outcome

Christopher Carbonaro

Literature Review

Current Research

Addiction Treatment as a Sociological Outcome

Christopher Carbonaro

This project eschews studying addiction as a neurological phenomenon (see Venniro et al., 2017).

Instead, it builds on work which looks at sociological factors which predict addiction (Boyle, Polinsky, & Hser, 2000; Taylor, Caudy, Blasko, & Taxman, 2017; Battjes, Gordon, O'Grady, Kinlock, & Carswell, 2003).

Addiction Treatment as a Sociological Outcome

Christopher Carbonaro

Limitations of current research:

 Small sample sizes (Boyle et. al., 2000; Battjes et. al., 2003)

Addiction Treatment as a Sociological Outcome

Christopher Carbonaro

- Small sample sizes (Boyle et. al., 2000; Battjes et. al., 2003)
- No use of analytic tools other than multiple regression (*Ibid.*)

Addiction Treatment as a Sociological Outcome

Christopher Carbonaro

- Small sample sizes (Boyle et. al., 2000; Battjes et. al., 2003)
- No use of analytic tools other than multiple regression (*Ibid.*)
- Luongo et. al. (2016) conducted a Canadian study which produced results conflicting with Boyle et. al. (2000) and Battjes et. al. (2003) regarding the importance of:

Addiction Treatment as a Sociological Outcome

Christopher Carbonaro

- Small sample sizes (Boyle et. al., 2000; Battjes et. al., 2003)
- No use of analytic tools other than multiple regression (*Ibid.*)
- Luongo et. al. (2016) conducted a Canadian study which produced results conflicting with Boyle et. al. (2000) and Battjes et. al. (2003) regarding the importance of:
 - Severity of substance being abused

Addiction Treatment as a Sociological Outcome

Christopher Carbonaro

- Small sample sizes (Boyle et. al., 2000; Battjes et. al., 2003)
- No use of analytic tools other than multiple regression (*Ibid.*)
- Luongo et. al. (2016) conducted a Canadian study which produced results conflicting with Boyle et. al. (2000) and Battjes et. al. (2003) regarding the importance of:
 - Severity of substance being abused
 - Gender

Addiction Treatment as a Sociological Outcome

Christopher Carbonaro

- Small sample sizes (Boyle et. al., 2000; Battjes et. al., 2003)
- No use of analytic tools other than multiple regression (*Ibid.*)
- Luongo et. al. (2016) conducted a Canadian study which produced results conflicting with Boyle et. al. (2000) and Battjes et. al. (2003) regarding the importance of:
 - Severity of substance being abused
 - Gender
 - Ethnicity

Addiction Treatment as a Sociological Outcome

Christopher Carbonaro

- Small sample sizes (Boyle et. al., 2000; Battjes et. al., 2003)
- No use of analytic tools other than multiple regression (*Ibid.*)
- Luongo et. al. (2016) conducted a Canadian study which produced results conflicting with Boyle et. al. (2000) and Battjes et. al. (2003) regarding the importance of:
 - Severity of substance being abused
 - Gender
 - Ethnicity
 - Age

Addiction
Treatment as
a Sociological
Outcome

Christopher Carbonaro

- Small sample sizes (Boyle et. al., 2000; Battjes et. al., 2003)
- No use of analytic tools other than multiple regression (*Ibid.*)
- Luongo et. al. (2016) conducted a Canadian study which produced results conflicting with Boyle et. al. (2000) and Battjes et. al. (2003) regarding the importance of:
 - Severity of substance being abused
 - Gender
 - Ethnicity
 - Age
 - Education

Addiction
Treatment as
a Sociological
Outcome

Christopher Carbonaro

Works Cited

Resources

Treatment as a Sociological Outcome Christopher Carbonaro

Addiction

Carswell, M. A. (2003). Factors that Predict Adolescent Motivation for Substance Abuse Treatment. *Journal of Substance Abuse Treatment*, 24(3), 221–232. doi: 10.1016/s0740-5472(03)00022-9

Battjes, R. J., Gordon, M. S., Ogrady, K. E., Kinlock, T. W., &

Boyle, K., Polinsky, M. L., & Hser, Y.-I. (2000). Resistance to Drug Abuse Treatment: A Comparison of Drug Users Who Accept or Decline Treatment Referral Assessment. Journal of *Drug Issues*, 30(3), 555–574. doi: 10.1177/002204260003000304 Cohen, J., Ilumoka, A., & Salehi, I. (2015). Neural Network-Based Drug Abuse Treatment Optimization. Procedia Computer Science, 61, 454–459. doi: 10.1016/j.procs.2015.09.186

Resources (cont.)

Addiction Treatment as a Sociological Outcome

Christopher Carbonaro

Hastie, T., Tibshirani, R., & Friedman, J. (2009). The Elements of Statistical Learning Data Mining, Inference, and Prediction, Second Edition (2nd ed.). New York, NY: Springer New York.

James, G., Witten, D., Hastie, T., & Tibshirani, R. (2017). *An Introduction to Statistical Learning: With Applications in R.*New York: Springer.

Resources (cont.)

Addiction
Treatment as
a Sociological
Outcome

Christopher Carbonaro The Substance Abuse and Mental Health Services Administration. (2019). The Key Substance Use and Mental Health Indicators in the United States: Results from the 2018 National Survey on Drug Use and Health. Retrieved from https://www.samhsa.gov/data/sites/default/files/cbhsqreports/NSDUHNationalFindingsReport2018/NSDUHNationalFindingsReport2018.pdf

Luongo, N. M., Dong, H., Kerr, T. H., Milloy, M. J. S., Hayashi, K., & Richardson, L. A. (2017). Income Generation and Attitudes Towards Addiction Treatment Among People who use Illicit Drugs in a Canadian Setting. *Addictive Behaviors*, 64, 159–164. doi: 10.1016/j.addbeh.2016.08.041

Resources (cont.)

Addiction Treatment as a Sociological Outcome

Christopher Carbonaro Venniro, M., Caprioli, D., Zhang, M., Whitaker, L. R., Zhang, S., Warren, B. L., . . . Shaham, Y. (2017). The Anterior Insular Cortex→Central Amygdala Glutamatergic Pathway Is Critical to Relapse after Contingency Management. *Neuron*, 96(2). doi: 10.1016/j.neuron.2017.09.024

Yarkoni, T., & Westfall, J. (2017). Choosing Prediction Over Explanation in Psychology: Lessons From Machine Learning. *Perspectives on Psychological Science*, 12(6), 1100–1122. doi: 10.1177/1745691617693393