

Generational Differences in the Association Between Alcohol Abuse and the Use of Various Hard Drugs

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Introduction

- Alcohol abuse is the second most common form of substance abuse in the United States (5.8% of US adults), trailing only tobacco abuse (Harvard Medical School, 2014).
- Alcohol abuse disorder can be defined as unhealthy alcohol use that puts your health at risk or causes other alcohol-related problems (Mayo Clinic, 2018).
- Alcohol consumption has a direct link to the use of other illicit substances, although the exact relationship has yet to be defined (Deza, 2014).
- Drugs can be loosely categorized into hard and soft drugs, with soft drugs being less hazardous to one's health than hard drugs.
- Some examples of hard drugs include heroin, cocaine, amphetamine, LSD, and ecstasy (Ministerie van Justitie en Veiligheid, 2016).
- Drug overdoses are almost exclusively due to hard drug use and are a major cause for concern in the United States currently. In the 12-month period ending in May 2020, 81k+ drug overdoses were recorded, the most recorded in any 12-month period ever. (CDC, 2020)

Research Questions

- Is the presence of alcohol abuse (past and/or present) associated with the rate of hard drug use?
- Does the association between alcohol abuse and use of hard drugs differ for individuals based on the generation they are a part of?

Methods

Sample

- Respondents (n=43093) were drawn from the 2001-2002 National Epidemiology Survey of Drug Use and Health (NESARC), conducted by the National Institute on Alcohol Abuse and Alcoholism (NIAAA).

Measures

- History of alcohol abuse was measured using a variation of the variable that asked participants for the age of onset of their alcohol abuse. Responses with a number signifying an age were given a "yes" for alcohol abuse, while respondents who did not abuse alcohol were originally coded as missing and for this new variable recoded as "no." This variable was coded dichotomously.
- Hard drug use was assessed by combining various variables asking if a person has ever used a specific drug. This question was asked for six hard drugs: cocaine, hallucinogens, inhalants, heroin, opioids, and amphetamines. This variable was coded dichotomously.
- A variable categorizing survey participants by generation was created by using the year of birth variable and collapsing responses into subgroups (generations).

Results

Univariate

- 23.89% of respondents have abused alcohol.
- 10.52% of respondents indicated that they have used hard drugs.
- Generational breakdown: 4.77% millennial, 28.98% Generation X, 36.24% baby boomer, 19.77% silent generation, 10.23% Greatest Generation, 0.009% lost generation (4 respondents out of 43,092)

Bivariate

- A chi-squared test showed that the **use of hard drugs** was significantly and positively associated with **history of alcohol abuse** ($\chi^2=5.4e+03$, $p=0.00$).
- Logistic regression analysis further displayed that the **use of hard drugs** has a significant positive relationship with **history of alcohol abuse** (O.R. 9.09, CI 8.50-9.72)

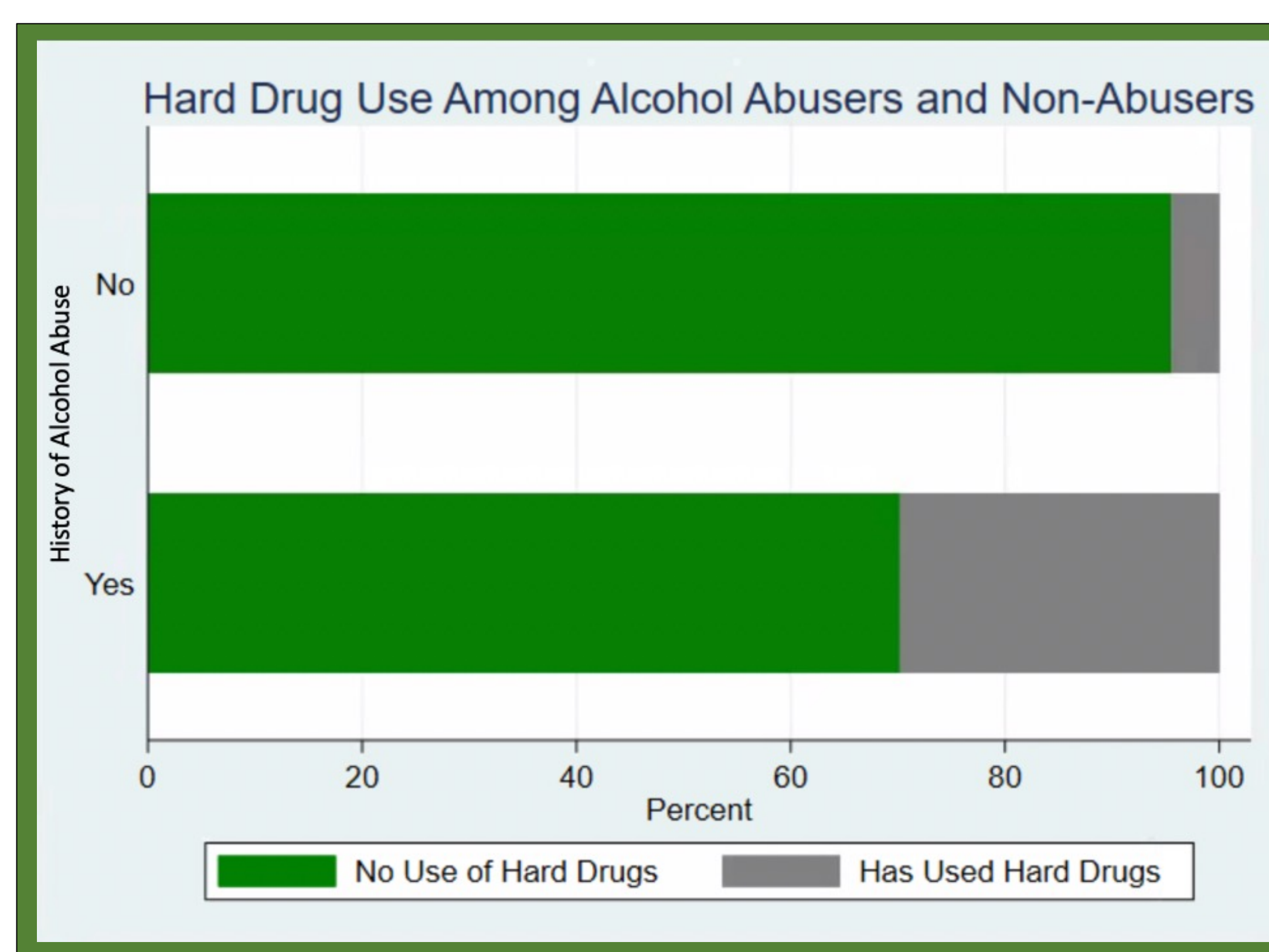


Figure 1. Hard drug use among alcohol abusers and alcohol non-abusers. For example, The "No" bar shows the hard drug use of alcohol non-abusers, with the green representing those who have not used hard drugs and the gray representing those who have used hard drugs.

Multivariate

- Generation appears to affect the relationship between alcohol abuse and hard drug use (figure 2); however, generation cannot be proven as a moderating variable from this multivariate bar graph.
- After controlling for generation, alcohol abuse is still significantly associated with a higher rate of use of hard drugs (O.R. 8.21, CI 7.67-8.79).

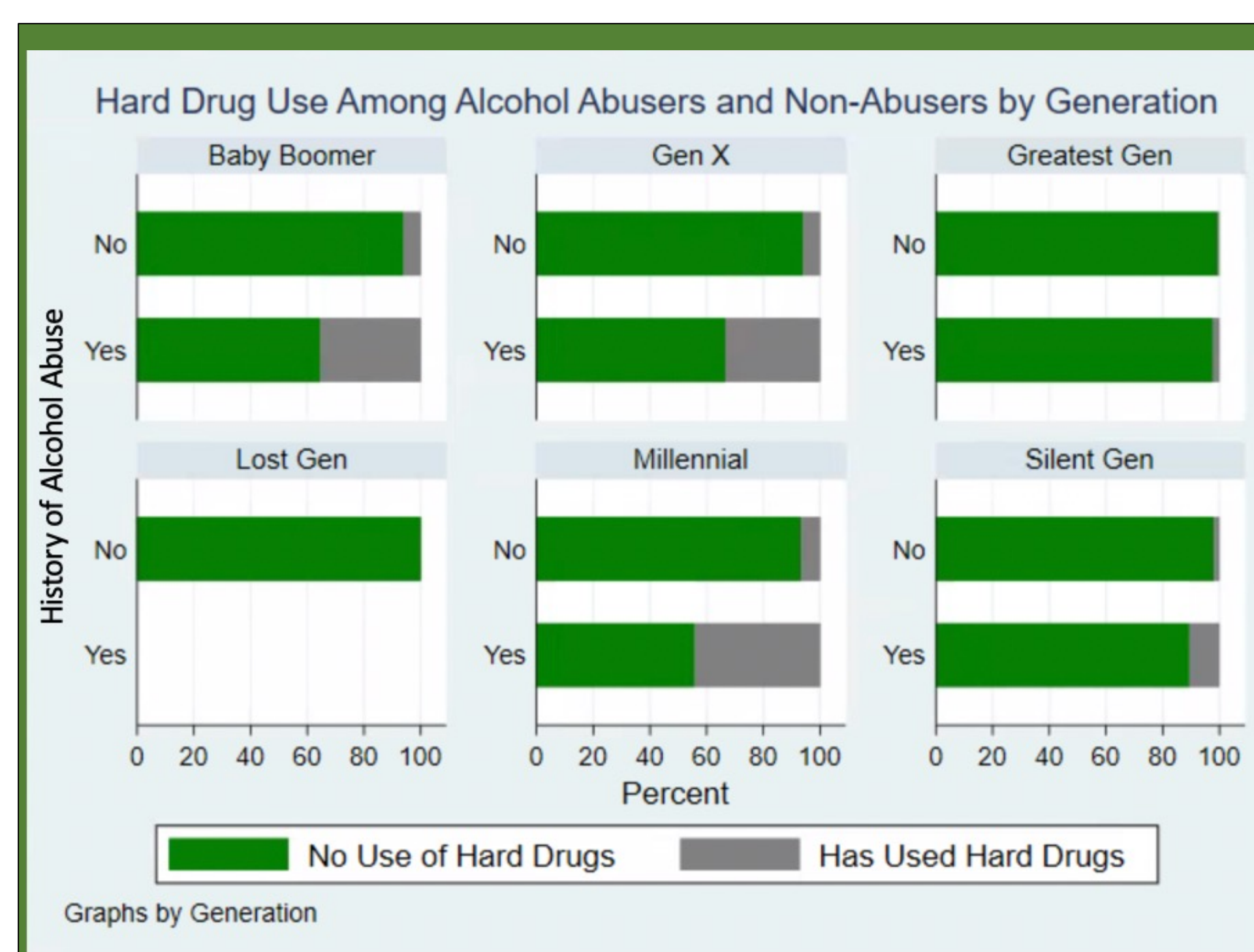


Figure 2. The relationship between history of alcohol abuse and hard drug use broken down by generation. (See figure 1 legend for an explanation on how to read the graph.)

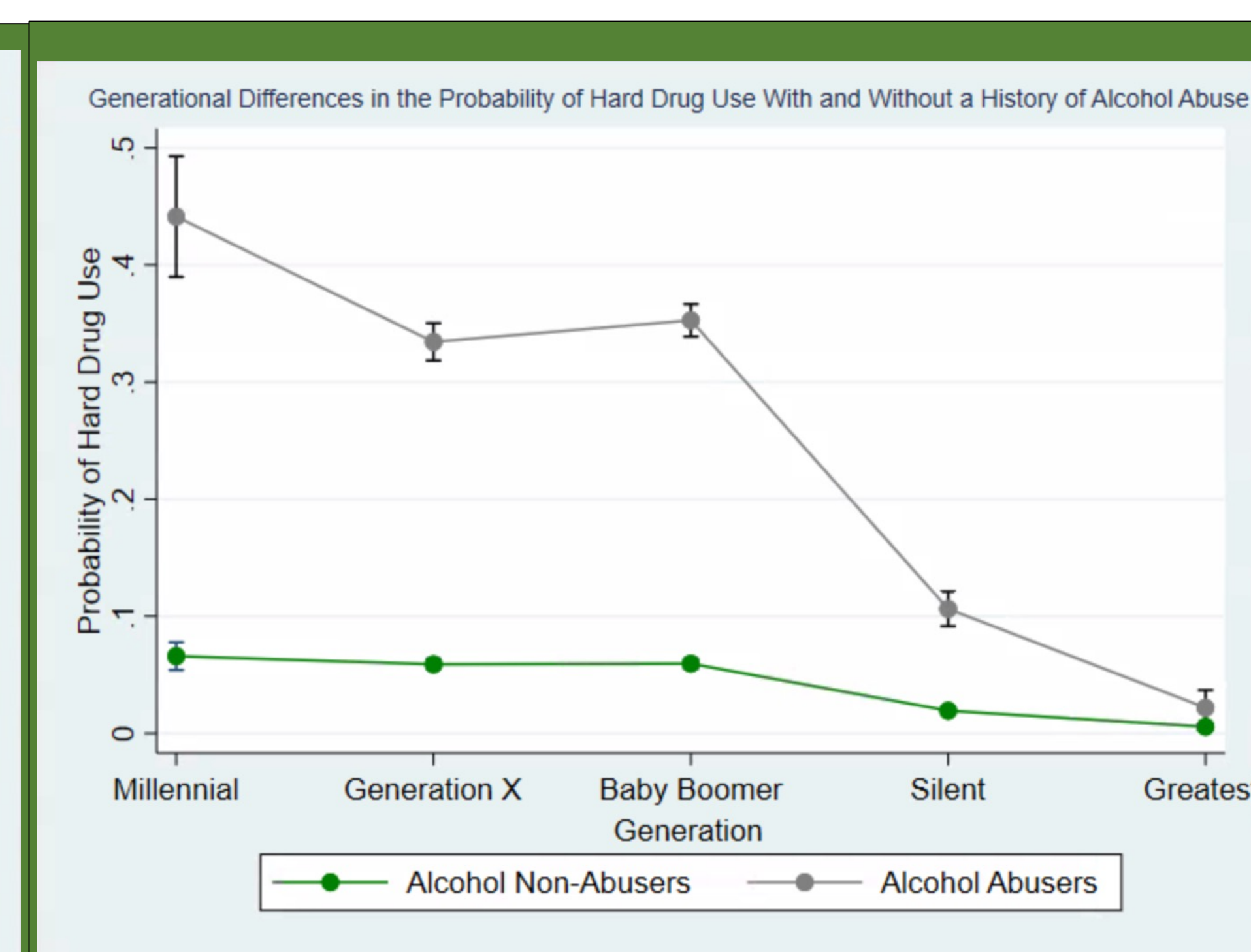


Figure 3. The relationship between history of alcohol abuse and hard drug use when controlling for generation. The probability of hard drug use for both alcohol abusers and alcohol non-abusers can be seen independently in each individual generation.

- To control for generation and its effect on the association between alcohol abuse and hard drug use, a margins analysis was done to create a margins plot (figure 3). This plot displays that, while the magnitudes of the relationship change, looking at each relationship individually does not change the fact that alcohol abusers use and have been using hard drugs at a higher rate than alcohol non-abusers.

Discussion

- Alcohol abusers have used hard drugs significantly more frequently than people who have not abused alcohol.
- The relationship between alcohol abuse and hard drug use remains present in each generation but appears to vary in magnitude, as the probability of hard drug use by alcohol abusing millennials was significantly higher than of alcohol abusers in other generations.
- Furthermore, alcohol abusers born in the baby boomer and Generation X time periods, while hard drug use was less than millennials', was significantly higher than those in the silent generation and Greatest Generation, who had substantially less hard drug use among alcohol abusers.
- The discovered association may help predict hard drug use among alcohol abusers and could be very beneficial to lawmakers looking at targeting strategies to control drug overdose issues.
- Further research is needed to determine what strategies would be most effective at lowering the incidence of hard drug use if alcohol abusers are considered a target subpopulation.