

# The Association Between Anxiety and Gambling Behaviors



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## Introduction

- Poor mental health, specifically anxiety, has been linked to addictive behaviors like gambling and betting (Coman et al. 1997).
- Anxiety has also been linked to gambling and adolescent age groups (Ste-Marie et al. 2006).
- While this association has been well established in the literature, the way in which anxiety plays a role in certain gambling behaviors has yet to be explored.
- Research has mainly focused on how types of gambling, age groups, and social interactions in combination with mental illness have affected gambling behaviors (Petry et al. 2007, Lichtenberg et al. 2009),
- However, anxiety diagnosis may have a greater impact on certain gambling behaviors. Those with anxiety may be prone to certain behaviors of gambling than those without anxiety.

## Methods

### Sample

- Those who who have been diagnosed with anxiety (n=11,125) were drawn from the first wave of the National Epidemiologic Study of Alcohol and Related Conditions (NESARC).
- NESARC is a nationally representative sample of non-institutionalized adults in the U.S.

### Measures

- Lifetime anxiety diagnoses were made using the NIAAA, Alcohol Use Disorder and Associated Disabilities Interview Schedule – DSM-IV (AUDADIS-IV).
- Four different gambling behaviors were assessed based off 4 questions: (1) “Ever gamble to get out of a bad mood?”, (2) ”Ever gamble to forget your problems?”, (3) “More than once tried to quit gambling, but couldn’t do it?”, and (4) “Ever have job or school trouble because of gambling?”

## Research Questions

- Is anxiety diagnosis associated with certain gambling behaviors?
- Does the association between anxiety diagnosis and gambling behaviors differ for individuals of different generations?

## Results

### Bivariate

- Chi-Square analyses showed that for all gambling behaviors except trying to quit gambling but failed, **those adults diagnosed with anxiety were significantly more likely to display the behavior** than those not diagnosed with anxiety(p<0.001 for all significant analyses).
- Those diagnosed with anxiety are consistently more likely to display the gambling behavior than those without anxiety.
- Even though analyses showed that association between anxiety diagnosis and those tried to quit gambling but failed (p=0.549) was not significant, there were a greater number of adults diagnosed with anxiety that displayed the behavior than those without anxiety.

### Multivariate

- Logistic regressions found that DSM-IV anxiety diagnosis was significantly associated with (1) gambling to get out of bad mood (p<0.001), (2) gambling to forget problems (p<0.001), and (4) job or school trouble due to gambling (p<0.01) across generational groups.
- After controlling for generation, those diagnosed with anxiety are still consistently more likely to display the gambling behavior than those without anxiety (OR= 3.49(1), 3.83(2), 5.56(4)).
- For all gambling behaviors, the proportion of those with anxiety that displayed the behavior decreased with age (OR= 0.84(1), 0.98(2), 0.64(4)).
- As expected, anxiety diagnosis was not significantly associated with (3) those who tried to quit gambling but failed (p=0.576) after controlling for generation.
- However, across all generational groups, the proportion of those diagnosed with anxiety that

display each behavior is greater than those without anxiety that display each behavior.

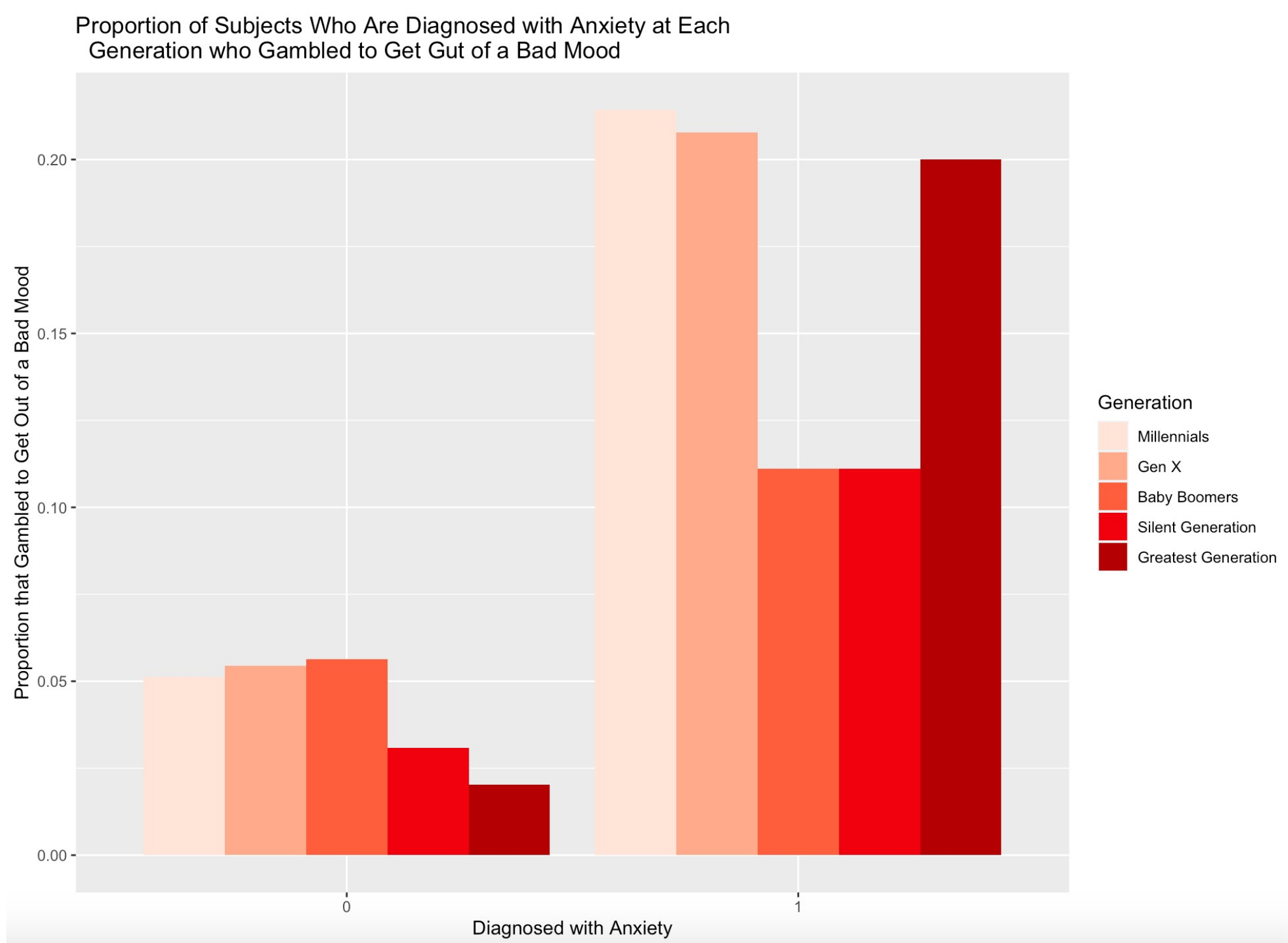


Figure 1: The Proportion of Subjects who are Diagnosed with Anxiety at Each Generation who Gambled to get out of a Bad Mood

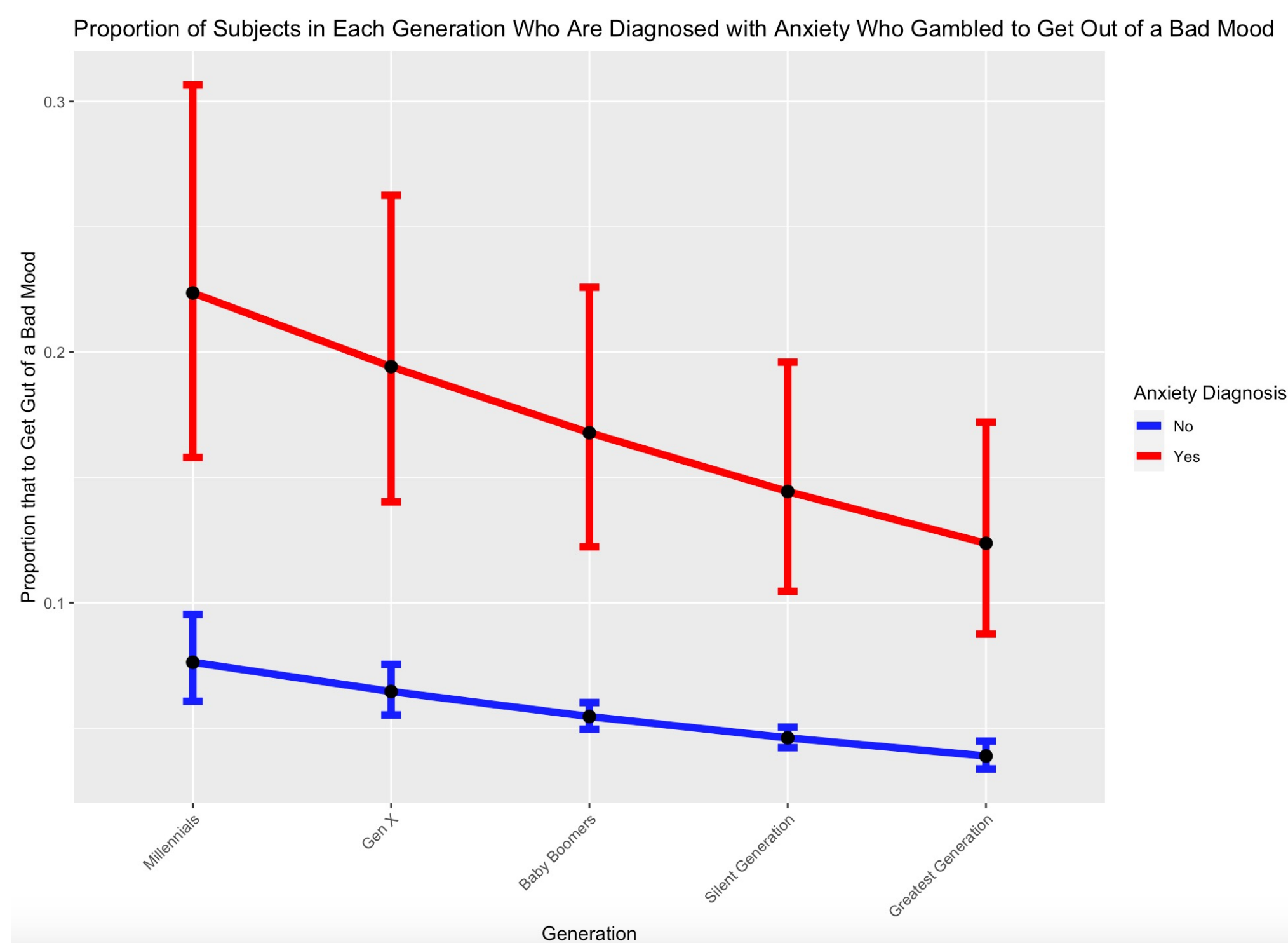


Figure 2: The Proportion of Subjects in Each Generation who are Diagnosed with Anxiety who Gambled to get out of a Bad Mood

## Discussion

- Individuals diagnosed with anxiety and who are younger tend to be more likely to gamble to get out of a bad mood, gamble to forget their problems, and experience job or school trouble due to gambling.
- Present findings could be useful for therapists, psychiatrists to target treating anxiety in younger patients as an alternative to rehabilitation programs.
- However, these findings are based on only 4 gambling behaviors and cannot be generalized across all gambling behaviors, though they suggest a possible association across the board.
- Further research is needed to determine whether therapy and treatment for anxiety can reduce gambling in those who previously had anxiety and gambled.

Coman, Greg J., et al. (1997) Stress and Anxiety as Factors in the Onset of Problem Gambling: Implications for Treatment. *Stress Medicine*, 13(4), 235–244., [https://doi.org/10.1002/\(sici\)1099-1700\(199710\)13:4<235::aid-smi748>3.0.co;2-4](https://doi.org/10.1002/(sici)1099-1700(199710)13:4<235::aid-smi748>3.0.co;2-4).

Lichtenberg, Peter A., et al. (2009) Gambling in Older Adults: An Emerging Problem for Nurses. *Journal of Addictions Nursing*, 20(3), 119–123., <https://doi.org/10.1080/10884600903047576>.

Petry, Nancy M., and Jeremiah Weinstock. (2007) Internet Gambling Is Common in College Students and Associated with Poor Mental Health. *American Journal on Addictions*, 16(5), 325–330., <https://doi.org/10.1080/10550490701525673>.

Ste-Marie, Chantal, et al. (2006) Anxiety and Social Stress Related to Adolescent Gambling Behavior and Substance Use. *Journal of Child & Adolescent Substance Abuse*, 15(4), 55–74., [https://doi.org/10.1300/j029v15n04\\_03](https://doi.org/10.1300/j029v15n04_03).