The Influence of Alcohol Consumption on Tobacco-related Cancer

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Introduction

Methods

Objectives:

- The **primary objective** of this study was to investigate alcohol's effect on the frequency of tobacco-related cancers.
- The **secondary objectives** of this study was to investigate if estimates of total alcohol consumption (quantity x frequency) and/or episodic heavy drinking days specifically moderate the frequency of tobacco-related cancers.

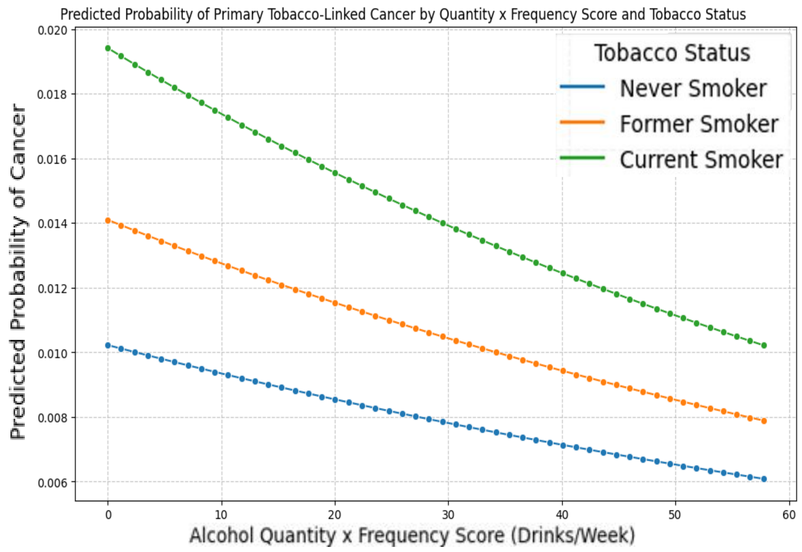
Alcohol Classification:

Analysis Type	Primary Data Source	Alcohol Consumption Measure	Survey Questions Used
Quantity × Frequency	AUDIT-C (First Two Questions)	Alcohol Consumption Quantity × Frequency	1. **Question 1**: How often did you have a drink containing alcohol in the past year? 2. **Question 2**: How many drinks containing alcohol did you have on a typical day when you were drinking in the past year?
Heavy Drinking Days	AUDIT-C (Last Question)	Heavy Drinking Days (defined as having 6 or more drinks on one occasion)	**Question** : How often did you have 6 or more drinks on one occasion in the past year?

Tobacco Classification:

Analysis Type	Tobacco Consumption Measure	Survey Questions Used	Calculation/Method
Smoking Status	Ever Smoker vs. Never Smoker	1. **Question 1**: "Have you smoked at least 100 cigarettes in your entire life?" (Equivalent to 5 packs of cigarettes)	- **Ever Smoker**: Affirmative answer to Question 1 (smoked 100+ cigarettes). - **Never Smoker**: No answer to Question 1.
Current Smoker	Current Smoker (Daily or Some Days)	2. **Question 2**: "Do you currently smoke cigarettes every day, some days, or not at all?"	- **Current Smoker**: Respondents who answer **"Every day"** or **"Some days"**.
Former Smoker	Former Smoker (Quit Smoking)	2. **Question 2**: "Do you currently smoke cigarettes every day, some days, or not at all?"	- **Former Smoker**: Respondents who answer **"Not at all"** to Question 2.

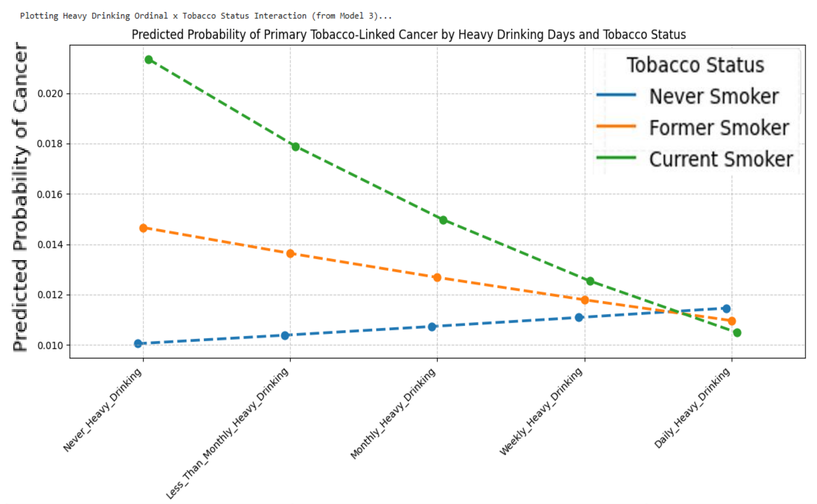
Quantity x Frequency: Moderation of Tobacco



Variable	OR (Lower CI, Upper CI)	P-value
age_at_baseline	1.062242 (1.059214, 1.065278)	0.00E+00
tobacco_status	1.384542 (1.308562, 1.464934)	1.33E-29
bmi value	0.999990 (0.999794, 1.000185)	9.17E-01
alcohol_qf_score	0.990988 (0.981442, 1.000627)	6.68E-02
alcohol_qf_x_tobacco	0.998889 (0.991657, 1.006174)	7.64E-01

Based on a Logistic Regression model, this indicates that with **increased quantity of alcohol consumed per week,** there was **no interaction with tobacco and tobacco-linked cancer.** (Table 1)

Heavy Drinking Days: Moderation of Tobacco



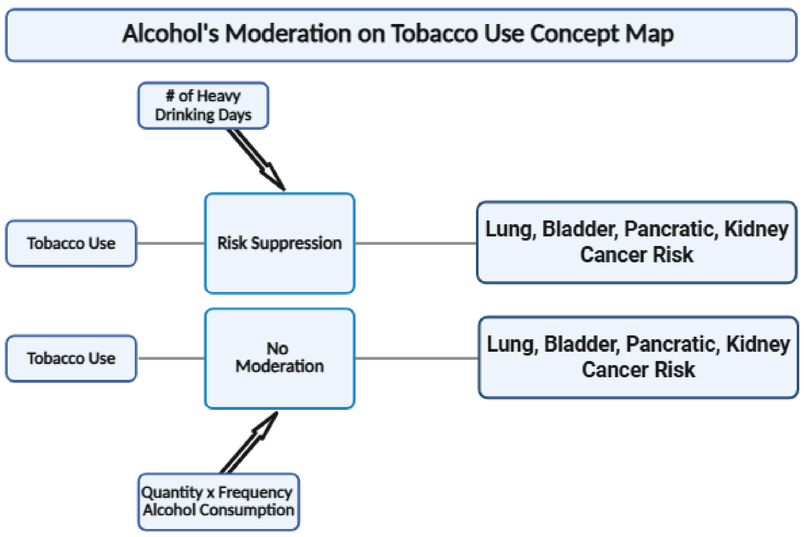
Variable	OR (Lower CI, Upper CI)	P-value
age_at_baseline	1.061321 (1.058217, 1.064433)	0.00E+00
tobacco_status	1.465808 (1.383224, 1.553323)	3.26E-38
bmi value	0.999991 (0.999797, 1.000185)	9.28E-01
heavy_drinking_ordinal	1.033724 (0.965582, 1.106675)	3.40E-01
heavy_drinking x tobacco	0.898735 (0.851199, 0.948924)	1.18E-04

Based on a Logistic Regression Model, this indicates that with an **increased number of heavy drinking days**, there was **a statistically significant interaction with tobacco and tobacco-linked cancer.** (Table 2)

Conclusion

Key Results: Cancer & Risk Factors

- **Age & Sex:** Older age and male sex were consistently linked to a higher risk of Tobacco-related cancer.
- **Tobacco's Clear Role:** Independently, tobacco was a significant positive cancer risk (with alcohol considered).
- **Alcohol's Mixed Impact:** Alcohol's independent effect on cancer varied; specific alcohol measures had insignificant varying effects
- **Complex Interactions:** Alcohol may moderate how tobacco affects cancer risk. Specifically, more frequent heavy drinking made tobacco's effect on tobacco-linked cancers less pronounced, suggesting a complex, non-additive relationship.



Resources & More info

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