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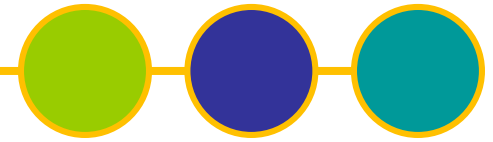
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China's Urban Wine, Beer, and Spirits Consumption: Implications for Household Nutrition and Health

Yan Wang, Thomas I. Wahl, Junfei Bai, and James L. Seale, Jr.

Selected Paper prepared for presentation at the International Agricultural Trade Research Consortium's (IATRC's) 2017 Annual Meeting: Globalization Adrift, December 3-5, 2017, Washington, DC.

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North Dakota State University, China Agricultural University, and University of Florida

Introduction

- A daily glass of wine, a single beer, or a shot of spirits can improve health
- Can lead to increased overall health issues
- Wine, beer, and spirits consumption traditionally accepted
- Social events: spring festival, weddings and birthdays
- Formal ceremonies



- Per capita wine, beer, and spirits consumption increased rapidly over the last 50 years.
- Increased alcohol related health issues
- Coronary heart disease and hypertension.



“The Chinese females who drink less than 15g per day would decrease the risk of breast cancer, but more than 15g per day would increase the risk.”

–M Zhang and CDJ Holman, 2011

“Heavy drinking is a risk factor for coronary heart disease and hypertension. Globally, there are 3.8% of all deaths and 4.6% of disability adjusted life-years because of unhealthy alcohol use.”

–Zhao Li et al., 2016

Research Question?

What is the effect of wine, beer, and spirits consumption at home and away from home on household nutrition and health.

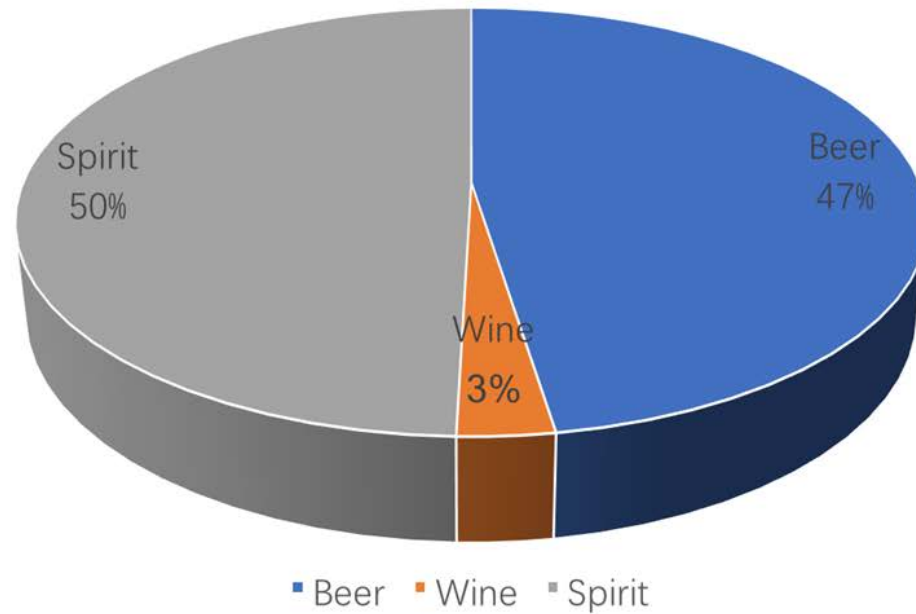


Alcohol Consumption at Home vs Food Away from Home



Alcohol Consumption by Type

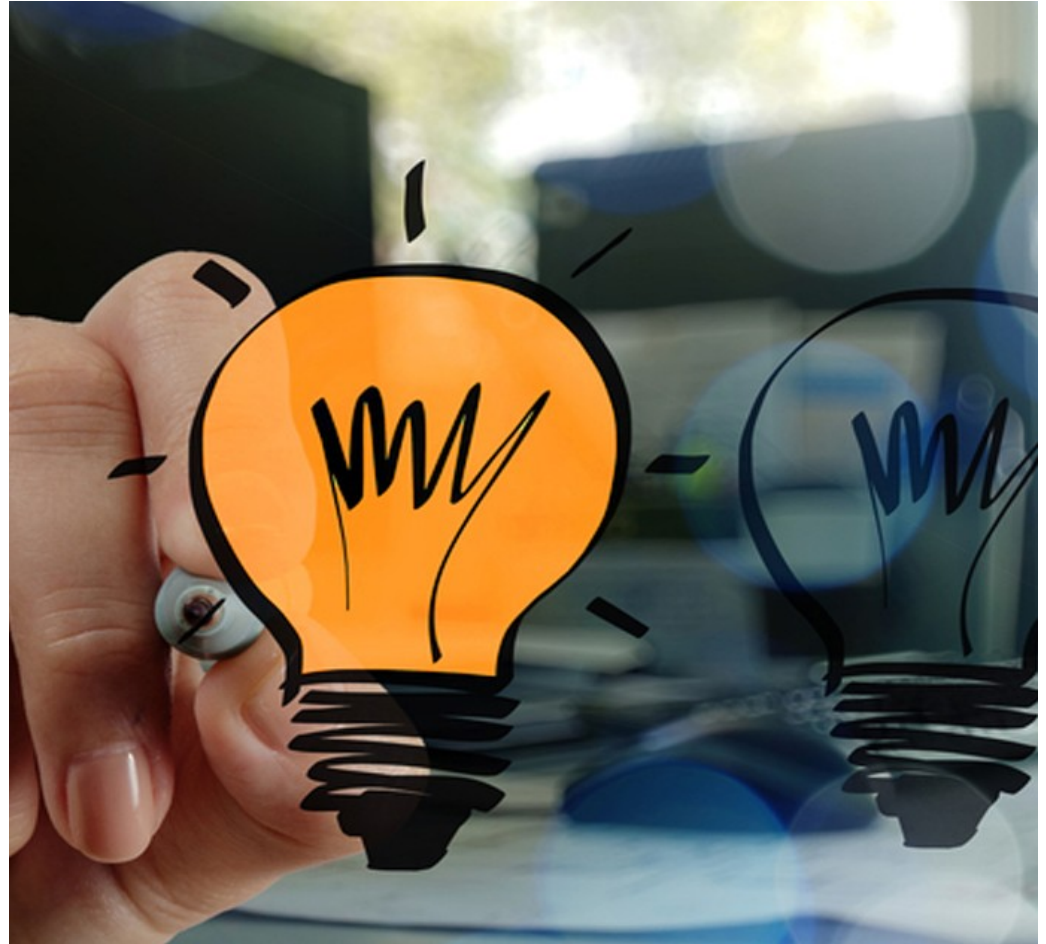
Beer vs Wine vs Spirit



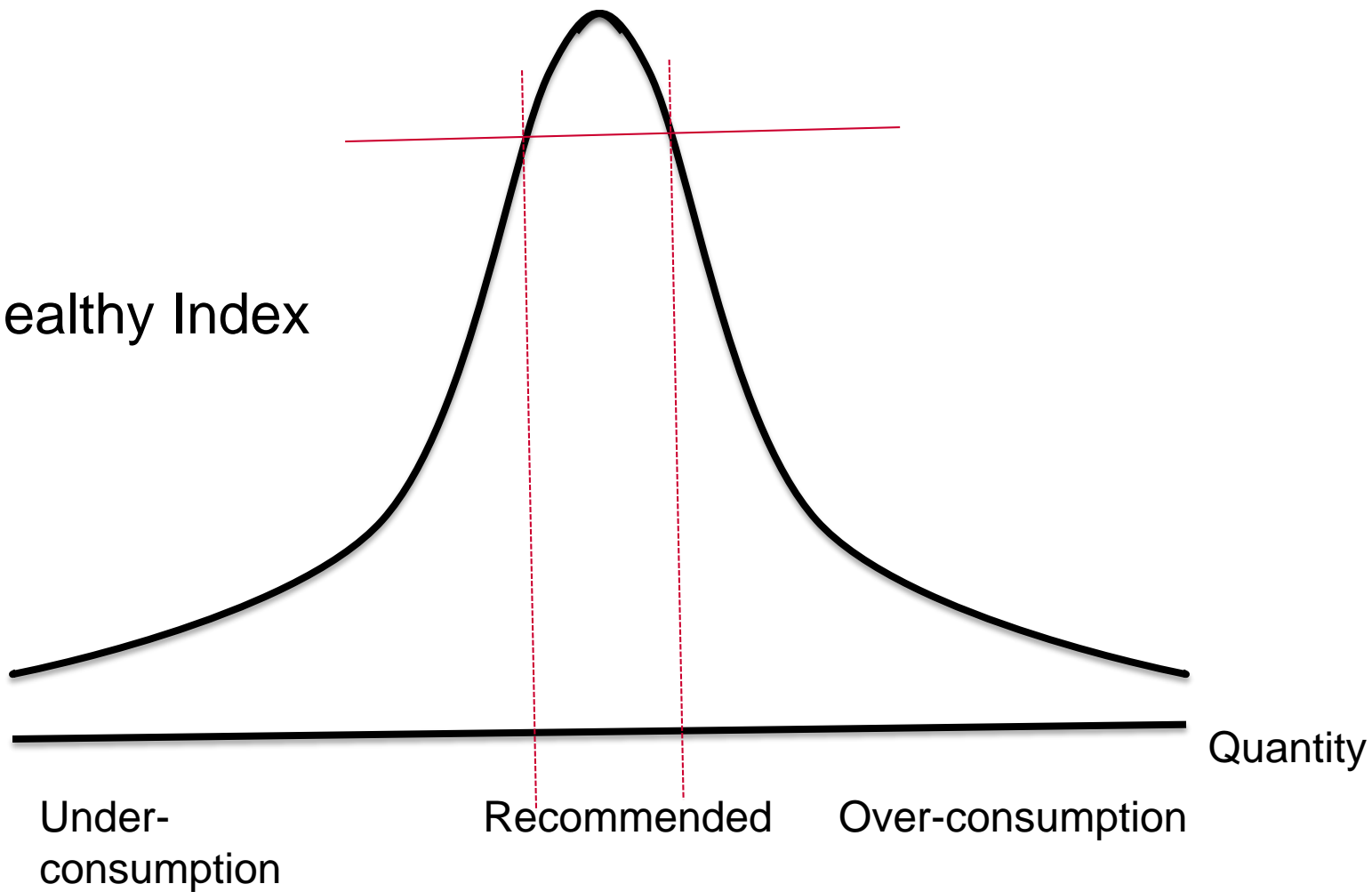
Consumption Guidelines

- The guideline of Chinese primary prevention of cerebrovascular disease in 2015
- Males should drink less than
 - 62 ml of spirits,
 - 48 ml of beer
 - 30 ml of wine per day
- Females limit consumption to half of males.
- Based on the alcohol content of beer, wine and spirits, the standards become 32ml, 21ml and 30ml.

Methodology



Eating Healthy Index



Eating Healthy Index, S_i

$$EHI: S_i = \alpha |Q_i - M_i| + \beta$$

Where:

Q_i = household consumed and

M_i = mean of the standard range

α = scaling coefficient

β = constant

The weighted score (WS) of the seven eating healthy groups is calculated as:

$$WS = \sum_{i=1}^{n=7} \left(\frac{M_i}{\sum_{j=1}^{n=7} M_j} \right) * (\alpha_i |Q_i - M_i| + \beta)$$

$$WS = \beta_0 + \beta_1 I_i + \beta_2 Z_i + \beta_3 E_i + \beta_4 C_i + \beta_5 D_i + \beta_6 R_i + \beta_7 A_i + \beta_8 qfah_{ij} + \beta_9 qfafh_{ij} + \varepsilon$$

WS_i weighted EHI score,

I_i household income

Z_i household size

E_i wife's education > than high school = 1, 0 otherwise

C_i households with one child = 1, and 0 otherwise.

D_i seniors, HH member > 65 for male and 60 for female = 1, 0 otherwise.

R_j city in the East = 1, 0 otherwise

A_j city is in the Middle = 1, 0 otherwise

$qfah_{ij}$ alcohol consumption at home,

$qfafh_{ij}$ alcohol consumption food away from home

Variables	Coefficients
Child	0.250***
Senior	0.347***
M City	0.518***
E City	-
HH Inc	-3.30E-05***
Wife's Edu	+
HH Size	0.267***
Beer fah	-0.031***
Beer fafh	-0.041***
Wine fah	-
Wine fafh	+
Spirit fah	-0.010***
Spirit fafh	-0.022***

OLS Estimation Results

Note: confidence level *10%
 ** 5% *** 1%; "+" or "-"
 means the estimated
 coefficient is statistically
 insignificant.

Results

- A child or senior in the household results in eating healthier.
- As income increases, eating healthy decreases
- A larger household increases healthy eating



Results

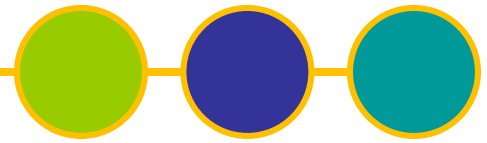
- Increased beer consumption decreases healthy eating
 - FAFH has a larger effect
- Increased spirits consumption decreases healthy eating
 - FAFH has a larger effect
- Wine consumption has an insignificant effect



Conclusions

- The presence of children and seniors in the household improves healthy eating!
- Increased alcohol consumption decreases healthy eating!





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