Vienna 2019 Abstract Submission

Title
Is Light Beer the Healthier Choice? Evidence from Scanner Data

I want to submit an abstract for:
Conference Presentation

Corresponding Author
Richard Volpe

E-Mail
rvolpe@calpoly.edu

Affiliation
Cal Poly, SLO

Co-Author/s

Name	E-Mail	Affiliation
Michael McCullough	mpmccull@calpoly.edu	Cal Poly, SLO

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Scanner Data, Purchasing Behavior, Bodyweight, Light Beer, Craft Beer

Research Question
We aim to test two key hypotheses. (1) Light beer drinkers consume more beer, on average, than regular beer drinkers, macro or craft. (2) Light beer drinking is associated with

Methods
To measure purchases, we plan to use the IRI Household Panel. We intend to employ a series of econometric techniques, including difference-in-difference and instrumental variables.

Results
Preliminary results indicate that, as a baseline, light beer drinkers consume significantly more beer than do regular beer drinkers.

Abstract
Research in health and epidemiology has reached a consensus that moderate alcohol consumption confers health benefits. Roerecke and Rehm (2014) provide a recent example of a meta-analysis supporting this contention. However many questions remain regarding the mechanisms by which alcohol-related health benefits are realized, the specific attributes of alcoholic beverages driving these impacts, and related magnitudes. For example, beer, wine, and spirits consumption may all have specific and unique health impacts. Volpe et al. (2017) used a powerful household-level dataset on purchasing patterns and health outcomes to show that craft beer expenditures are associated with reductions in chronic heart disease and type-2 diabetes. Moreover, the magnitudes of these impacts are comparable or even larger than those associated with wine consumption. In a consensus document, de Gaetano et al. (2016) argued that the bulk of the research on alcohol and health up to the time of writing suggests that moderate beer consumption confers health protective effects similar to wine and significantly greater than spirits.

Beer has attracted a good deal of attention in both the literature and the popular press for its potential health benefits. Beer contains the flavonoid xanthohumol, a nutritional component of hops, which has been shown to impart protective effects in laboratory studies. Stevens and Page (2004) found that it may impart cancer-preventive properties through beer drinking. Likewise, Vanhoecke et al. (2005) showed xanthohumol to inhibit the growth and spread of cancer cells.

Beer has other properties, distinct from those found in wine or spirits, with potential health benefits. Denke (2000) and Bamforth (2002) show that beer features a greater composition of B vitamins, minerals, and fiber than does wine. According to Gerhauser et al. (2002) beer is a source of potential anti-cancer agents, including but not limited to xanthohumol. Accordingly, applied research and meta-analyses have demonstrated the familiar “U-shaped” relationships between alcohol consumption, including beer specifically, and health outcomes and mortality (Keil et al., 1997; Hermann et al, 2001). Craft beer is likely to have health impacts that are distinct even among beer varieties, due to its brewing process and nutritional properties. Craft beer is brewed with a wider variety of ingredients, tends to have a higher alcohol percentage, and uses more hops than typical macro beers.

Federal guidelines for alcohol consumption in the U.S. do not distinguish among different types of alcoholic beverages nor among different types of beer (e.g. craft, macro, light, etc). Moreover, countries all over the world differ considerably on the definition of moderate alcohol consumption. We propose to study the purchase records of thousands of adults in the U.S. between the years 2008-2015. This project is an extension and expansion of Volpe et al. (2016, Journal of Wine Economics), which demonstrated health impacts of craft beer that are comparable to those of wine. Our goal is classify beers, by UPC, into three key categories: macro regular, macro light, and craft. Then it will be possible classify adults according to their predominant purchasing habits and to test for significant differences among the groups, in terms of total alcohol consumption (as proxied by purchases) and health outcomes, including obesity, overweight, and Type-2 diabetes. We hypothesize that light beer, despite being lower in calories than other beers, is not associated with positive health outcomes relative to the consumption of all other beers. Extant evidence suggests that light beer drinkers consume more beer, on average, and that light beer is lacking in many of the nutritional aspects of beer consumption. The results of our research are intended to inform policy, regulations and educational campaigns with respect to alcohol consumption, dietary recommendations, and marketing efforts for brewers and distributors.

To measure purchases, we plan to use the IRI Household Panel. The Panel consists of approximately 100,000 households. Participants receive handheld scanners to allow them to the record the entirety of their food and beverage purchases, for at-home consumption. Each household is described using detailed and extensive demographics. Importantly, with the exception of bulk produce, all purchases include UPC identifiers in the data, which will allow us to identify and categorize beer purchases as macro light, macro regular, and craft. The IRI MedProfiler dataset consists of a subsample of Panel participants, who also provide thorough information on health and wellness. This includes the incidence of approximately 80 health outcomes, such as obesity and diabetes. We intend to employ a series of econometric techniques, including difference-in-difference and instrumental variables, to exploit the depth and granularity of the data and identify plausibly causal associations between beer consumption and health outcomes. To measure beer consumption, we intend to measure annual purchases for adults and to compute expenditure shares by category. These shares can be used directly in the estimation and to classify adults according to their predominant preferences. The Panel includes sample weights in order to draw inferences for the U.S. population as a whole.