

Ithaca 2018 Abstract Submission

Title

Does taste sensitivity matter in the wine industry? The influence of sensory tasting information and taste sensitivity on purchasing behaviors

I want to submit an abstract for:

Conference Presentation

Corresponding Author

Jie Li

E-Mail

jl2522@cornell.edu

Affiliation

Applied Economics and Management, Cornell University

Co-Author/s

Name	E-Mail	Affiliation
Miguel I. Gomez	mig7@cornell.edu	Applied Economics and Management, Cornell University
Kathy LaTour	kal276@cornell.edu	Hotel School of Administration, Cornell University

Keywords

supertasters, taste sensitivity, sensory tasting information, nurture and nature, product knowledge, consumer segments, sweet wines

Research Question

1) How supertasters and other tasters process sensory tasting information? 2) Whether learned experiences overwhelm the innate taste characteristic in determining purchasing behaviors?

Methods

We conduct experimental economic studies to examine the research questions in a lab setting and in various winery tasting rooms.

Results

Supertasters and other tasters differ in responses to wine sensory information. Learned experiences may not entirely dominate taste experiences except when consumers have obtained advanced conceptual knowledge associate with expertise.

Abstract

Producers and marketers always use product sensory tasting information, a form of marketing communication, to target different segments of consumers with heterogeneous taste preferences. For example, “crispy” or “crunchy” snack bars target consumers who like crunchy texture, while “chewy” bars often attract consumers who prefer the chewy sensation. There are no right or wrong, good or bad choices for a snack bar because people have different ways of eating food. However, in the wine industry, consumers are often taught to enjoy certain kind of wines that they may not actually enjoy from a taste perspective. It is often heard that consumers inevitably turn to heavier and drier wines as their palates mature. The prevalent opinion in the wine industry has been that dry wines are of

superior quality than sweet wines. Current marketing practices are aggressively promoting dry wines; these wines tend to garner higher points from expert wine reviewers. People who drink these wines are perceived as being mature, educated and sophisticated (Hanni 2013). On the contrary, people who prefer sweeter, lighter wines are often perceived as being “green”, “old-fashioned”, “immature palate” and “unsophisticated” (Burzynska 2013; Tepper 2014). Ordering or drinking sweet wines in a public setting seems to be a bad choice for a majority of consumers. Peer and social pressure are likely to induce them to choose more socially acceptable beverages such as cocktails or beer.

Many studies have shown that not everyone physiologically enjoys dry wines. About 25% of the population who are born with extreme sensitivity to bitterness, labeled as supertasters, tend to find dry red wines not enjoyable due to the bitter, astringent and burning sensation they have experienced (Bartoshuk 1993 & 1994; Prescott and Swain-Campbell 2000; Pickering, Simunkova and DiBattista 2004; Duffy, Peterson and Bartushuk 2004; Pickering et. al. 2012). Supertasters are more likely to enjoy sweeter and lighter wines as the sweetness in wine can help them mitigate the burning, bitter and astringent tastes of certain wines. Food scientists have researched supertasters for the past twenty years, focusing primary on how these individuals’ innate taste characteristic relates to their food preferences. Although the insights for this stream of research are valuable, little is known how supertasters and other tasters differ from a marketing perspective. The supertaster segment is huge but largely ignored. The marketing literature has largely focused on the nurture view about branding and promotion (Ballester et al. 2008), but it seems to ignore this innate characteristic when analyzing the purchasing behavior and developing consumer segmentation strategies. This might be because most marketing research subscribes to the belief that our culture and product experience overwhelms the potential effects of heterogeneous consumer physiology on shopping behavior and taste perception. However, these innate differences may explain the sometimes curiously wide variation in the hedonic valuations in blind taste tests, expert panels and crowd-sourced review systems (Hanni, 2013). Furthermore, a very recent study shows that supertasters and other tasters exhibit different behaviors in terms of brand loyalty and sensitivity to peripheral product cues (LaTour et. al 2017). The paper proves that this innate characteristic has impact on market outcomes and could be used as a way of segmentation. So, the natural question to ask is how supertasters and other tasters differ in their sensory information processing behaviors and what sensory information can positively influence supertasters’ purchase decisions. Understanding these questions allows wine marketers to focus on either packaging, marketing or communication through tasting rooms to effectively target different segments of consumers.

To that end, we first examine whether and to what extent supertasters and other tasters are influenced by wine sensory information in a lab setting. We used various tasting notes as information treatment. Tasting notes provide the sensory information of the wine, and is often used as a promotion tool to positively influence consumers’ purchasing behaviors (Mueller et al. 2010; LaTour, LaTour and Feinstein 2011). We then take a step further to various winery tasting rooms to investigate 1) how supertasters and other tasters process wine sensory information; 2) whether the product experience overwhelms the innate taste characteristic in determining supertasters’ purchase behaviors. Together, lab and field experimental economics studies allow for actionable recommendations that are not reliant on hypothetical answers, but are based on data collected in actual tasting rooms under alternative settings.

Method

We recruited 201 adult subjects with a mix of staff, faculty, and residences from the local community for a lab experiment. They were randomly assigned into three groups. In the control group, participants were given the control tasting note, which is the regular tasting note written by the winemaker without any objective descriptors such as “sweet” or “dry”. In the sweet treatment group, participants were given the sweet tasting note that includes the control tasting note with the “sweet” descriptor. Similarly, participants in the dry treatment group were given the dry tasting note that includes the regular tasting note with the “dry” descriptor. The experiment consisted of a sweeter white wine evaluation, a PROP paper strip test to identify participants’ taste physiology (Zhao et al. 2003; Bartoshuk et al. 2003) and a final exit survey to record participants’ eating behaviors, personality and demographic information.

We further conducted a field experiment in various winery tasting rooms to examine the aforementioned issue. In total, 290 winery visitors participated in the experiment. To be consistent with the lab experiment, the field

experiment considered three groups as well: one control group (regular tasting note provided), one sweet treatment group (regular tasting note with the 'sweet' descriptor included) and one dry treatment group (regular tasting note with the 'dry' descriptor included). The PROP paper strip test was used to identify visitors' taste sensitivity, and a wine knowledge test (Forbes, Cohen and Dean 2008; Robson et al. 2014) was performed to identify visitors' conceptual knowledge. Participants were identified as either supertasters or other tasters based on their PROP score, and as either novices, aficionados or experts, based on their wine knowledge test (conceptual knowledge) and their consumption frequency (perceptual knowledge) (Park, Mothersbaugh, and Feick 1994; LaTour and LaTour 2010). Participants' quality perception and purchased propensity were measured as the dependent variables.

Results

The preliminary results from the lab experiment indicate that sensory information has a significant impact on consumers' wine evaluation and emotional arousal level during the tasting, and the impacts are different for supertasters and other tasters. More specifically, the results show that supertasters in the sweet group are more confident and their evaluation is significantly higher relative to those in the control group; whereas this impact is not significant for other tasters. Other tasters' wine evaluation is significantly lower than supertasters in the sweet group.

The field experiment results indicate that the dry tasting note has a negative impact on novice consumers' purchase behavior. The negative impact is even more pronounced among supertasters. Regarding aficionados, the sweet tasting note has a positive impact on supertasters' purchase behavior; whereas different tasting notes show no significant impact on non-supertasters' purchase behaviors. Concerning experts, although one would expect supertasters to have a positive response to the sweet tasting note due to their extreme taste sensitivities, the results indicate the opposite. Both supertaster and non-supertaster experts have similar responses to the "sweet" descriptor. Regardless of their taste sensitivities, the "sweet" descriptor decreases experts' perception of wine quality. The results suggest that, though the taste sensitivity may not change the way experts taste wines, training and education seem to change how they perceive sensory information and evaluate wines. The field experiment also provides evidence that consumer taste experiences may not be entirely dominated by learned experiences except when consumers are able to obtain the highly developed product schemata and lexicon associated with expertise.

These findings have several implications for the wine industry. Lab experiment, combined with the field experiment, provides evidence that consumers' innate taste characteristic influences how they process sensory information and evaluate wines. Secondly, the results further show that seemingly small difference in wine tasting notes can have a significant impact on consumers' purchasing behaviors. Finally, these findings underscore a new vein of segmentation that has great promise for explaining variance in lab, expert, and crowd-sourced wine evaluations.