

## Ithaca 2018 Abstract Submission

### Title

Can music change the taste of wine?

### I want to submit an abstract for:

Conference Presentation

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### Keywords

Experimental economics, wine tastings, logistic regression

### Research Question

Is the wine of a certain region rated higher, when matching music of the respective region is played and is the wine ranked higher compared to wines of other regions?

### Methods

Experimental economics, logistic regression, ordered probit model

### Results

Significant impact of music on high rating of wine for one region. Music has an impact on ranking of regional wines. Women are more sensible. Old men prefer German wines.

### Abstract

The slogan "enters the ear, stays in the head" suggests, that auditive signals are able to alter our sensation. This slogan is supported by a growing body of research conducted over the last few years, showing that what we listen to can change what we taste (Sony Press Centre 2015). Many sensory experiences - crispy, crackly, creamy etc. are largely dependent on associated sounds (Spence 2015a) - just think of eating Crisps. These so called crossmodal effects are supposed to result from multisensory integration. Our brain tries to integrate the inputs from different senses that belong to the same food or in the case of wine, to the same drink (Spence 2015b). Wesson and Wilson (2010) discovered, that there are direct neural connections between ear and nose. Peeples (2010) called this merged sense "Smound" and found out, that loud sound might be able to suppress the olfactory function. In this context the question arose if the background sound can impact on the taste and flavor of food and drinks as well when it is not too loud.

When it comes to wine tastings, it is interesting to evaluate if what we hear as well impacts on what we taste. Consumers form a very heterogenous group and often it is hard to determine objective measures applied by consumers during wine tastings (Lecocq, Visser (2006)). If available, price information is seen to be an important determinant for the rating of wines (Brochet (2001) and Plassmann et al. (2008)), but if the price information is missing, other influences - like sensory ones - might affect the tasting experience. Piqueras-Fizman and Spence (2015) detected, that you need the right match of music and food or drink in order to make the taste more authentic. Together with the London Symphony Orchestra, Spence et al. (2013) ran an experiment with the result, that people rated wines 10-12 % higher when matching music was played.

Therefore it was appealing to run another experiment, in order to answer the following research questions:

1) Is the wine of a certain region rated higher, when matching music of the respective region is played during the tasting?

2) Do participants of the tasting rank the wine of a region higher than wines of other regions while listening to matching music of the region?

For answering these research questions, a wine tasting was organized during the so called "Blaupause". The "Blaupause" was part of the ceremony of celebrating the 50th birthday of the Ruhr-University Bochum, Germany. For the "Blaupause" the "university street" linking the city of Bochum and the Ruhr-University was closed down on Saturday 06th June 2015 for normal traffic over the distance of 5 km. 1200 tables were set up and all chairs of the Ruhr-University, institutes and other kind of groups were invited to book tables in order to present their research activities to a broader audience. Together with my colleagues from the Institute of Development Research and Development Policy I organized a wine tasting and randomly asked pedestrians walking along the "university street" and passing by our tables (the "Blaupause" had more than 100 000 visitors in total) to take part in our tasting.

We offered 4 white wines of similar quality and 4 red wines of similar quality from Germany, France, South Africa and Argentina and asked participants of the tasting to fill in 2 questionnaires. The first questionnaire asked for the judgement of each of the wines without comparing wines from different regions (participants could rank each wine from 1-5, with 1 being an excellent wine and 5 being a very bad wine). In the second questionnaire participants had to compare the 4 wines and to rank them from 1-4 (with 1 being the best and 4 being the worst wine of the 4 wines).

Participants did not get any information about prices or expert rankings and names of producers were not given as well. Participants did only know the country of origin of each wine and during the tasting we repeatedly indicated the country of origin in order to make participants even more aware of the origin of each wine.

Participants were additionally asked about their age and gender. A gender difference was not in the focus of the study, but as gender differences are regularly explored in the experimental economics literature (Croson and Gneezy (2009); Hasseldine and Hite (2003)), information on gender was included in the analysis in order to get additional insights into possible differences between men and women when it comes to auditive influences. In order to find out if age makes a difference, 4 age groups (18-29, 30-45, 46-60, >60) were defined. The majority of participants was from Germany.

The participants did not get any information about our aim to analyze the impact of music. During the whole tasting music of the respective regions was played at the tables (music in German, French chansons, South African music and music from Latin America) and we mentioned on the questionnaires which music was played during the respective tasting and filling in of the questionnaires after having received the questionnaires from the participants.

In total, 112 participants took part in the white wine tasting, while 92 participants took part in the red wine tasting. In order to analyze the data, I first determine the correlations between high rates for regional wines and the respective matching music. Afterwards I run a logistic regression in order to estimate the impact of music taking additionally gender and age into account for the rating of each individual wine from Germany, France, South Africa and Argentina. For estimating the impact of music on the comparison and ranking of wines of different regions, an ordered probit model is applied.

The first results suggest, that there is a significant impact of music on the individual rating of wines only for one region. The same holds for the impact of age. Regarding the overall ranking and comparison of regions, music seems to have an impact, women seem to be more sensible than men and the older the men, the higher the preference for German wines.

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