

Understanding consumer acceptance and barriers to alcohol-free wine: Insights into quality perception and purchase motivations across demographics

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Background

Global demand for alcohol-free and reduced-alcohol beverages is rapidly increasing. This shift is driven by changing lifestyles, health and wellness trends, religious beliefs, and a desire for more inclusive social experiences. While traditional wine is strongly associated with cultural identity, gastronomy, and sensory pleasure, the development of alcohol-free alternatives faces several challenges. In particular, the reduced ethanol content often alters flavor balance, aroma perception, and overall consumer enjoyment. Understanding how different demographics perceive alcohol-free wine, what motivates them to choose it, and what barriers prevent adoption is essential for advancing the wine industry toward healthier and more inclusive markets.

Project Goals

- Evaluate whether consumers can accurately perceive differences in wines with varying ethanol levels (12%, 6%, and 0% v/v).
- Assess consumer perceptions of overall quality across these wines.
- Identify the primary motivations encouraging the choice of alcohol-free wines and the barriers limiting their acceptance.
- Explore how demographic factors such as age, gender, and education influence motivations and perceptions.

Experimental Approach

A consumer study was conducted with 59 participants who were presented with three white wine samples: original wine (12% alcohol), partially dealcoholized wine (6%), and alcohol-free wine (0%) (Fig. 1). The participants first completed a ranking task, where they attempted to identify the alcohol levels of the wines. Afterwards, they rated overall quality and answered survey questions regarding their motivations (such as Health or wellness benefits, Lower calorie content, Desire to avoid alcohol, For social occasions without alcohol, Safety reasons (e.g., driving), Tastes almost similar to wine) and barriers (such as Limited availability in stores, Higher price compared to regular wine, Taste is unsatisfactory compared to regular wine, Lack of variety in alcohol-free wine options, Tasteless-like water, Tastes similar to fruit juice and not compliant with halal standards) in choosing alcohol-free wine. Demographic information was also collected to examine associations between personal background and consumer preferences.



Figure 1:  
Experimental design for the different wine sample used in the study

Outcomes

- Consumers are able to differentiate wine by alcohol content and alcohol-free wines receive lower preference scores due to sensory shortcomings.
- Safety and health benefits are primary motivations (Fig. 2a) for alcohol-free wine consumption.
- Unsatisfactory taste and higher price are key barriers (Fig. 2b) to alcohol-free wine appealing.
- Educational qualification (PhD> BSc>MSc) and age groups (younger: 18–35 years > older: above 35 years) influenced the motivational factors 'for social occasions without alcohol' ( $\chi^2 = 8.20$ ,  $p = 0.02$ ) and 'health or wellness benefits' ( $\chi^2 = 9.74$ ,  $p = 0.04$ ), respectively.
- No statistically significant associations were found between demographic variables and key barriers

The implications:

- Public health:** Alcohol-free wines offer safer alternatives, supporting responsible consumption and reducing alcohol-related health risks.
- Social inclusivity:** They enable participation in cultural and social occasions without the pressure of drinking alcohol.
- Industry innovation:** Insights into consumer motivations guide winemakers and wine technologists in improving production methods and tailoring products to consumer needs.

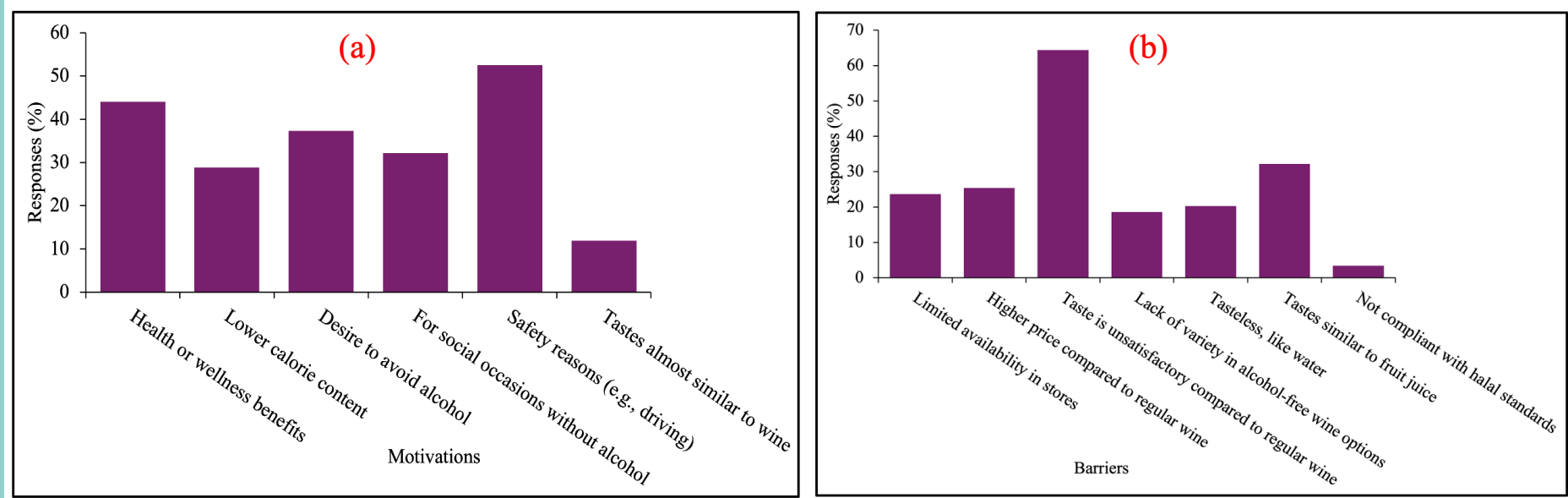


Figure 2. Key motivations (a) and barriers (b) influencing consumer preference for purchasing or consuming alcohol-free wine