

Alcohol and wine consumptions' patterns over consumers' lifetimes

Lauro Melo

Contact: lauro.melo@csiro.au

The ability to measure past experience of beverage consumption would be useful in order to understand the drivers of current wine consumption. A tool was developed and validated that provides reliable data over decades of wine consumers' lives. Preliminary findings found linear increases in wine consumption, contrasting with beer and spirits consumption, and some sex differences. Patterns of changing attitudes were also found that may be triggers for changing consumption patterns. The tool will be applied to larger representative samples of Australian consumers. Results from the current and future studies will enable insights useful for marketing strategies.

Keywords: wine, consumption, recall, attitudes, lifetime, validation

Topic area: Consumer buying and choice behaviour

1. Introduction

Whilst there are widespread anecdotal reports of a linear progression from light white wines, at the beginning of one's wine drinking career, to heavier red blends over time, there is no evidence to support this assumption. The development of a validated measure would improve our understanding of wine consumption phenomenology, help us assess whether a linear pattern holds true for all (if any) consumers and may enhance marketing strategies by identifying triggers for changes in wine consumption preferences. Using questionnaires and interview techniques designed to aid recall could measure the evolution of wine preferences over time ('wine drinking career').

Measuring drinking is not simple, and there is no single, preferred procedure. Methods employ one of two strategies: (a) having respondents report all recent drinking days (recent occasions) or (b) having respondents summarize their current drinking pattern. This latter method is often referred to as an aggregate measure of consumption. There is no practical alternative other than self-reports for retrospectively assessing drinking (Sobell and Sobell, 1992).

Generally, drinking is a temporally complex behaviour. Accordingly, recall of drinking occasions and quantity consumed on these occasions is difficult. In survey research, recall of actual drinking occasions should therefore be limited to reference periods of not more than 1 or 2 weeks at the most. If a researcher wants to cover drinking over a more extended period of time, methods have to be used that do not assess actual drinking occasions, but that ask the subject to summarize drinking behaviour over longer periods of time (Lemmens, 1998). Retrospective methods provide an efficient and inexpensive way to obtain consumption data (Carney et al., 1998). Suggestive of the potential success of such approaches is that, alcohol presented the highest Pearson correlation coefficient in a comparison of the daily intake of dietary energy and nutrients of 91 subjects, assessed by a dietary history method and by a retrospective dietary history method 7 years later (Van Staveren et al., 1986). Recall validity studies have reported that alcohol consumption was recalled particularly well (Russell et al., 1998).

The present study had two main objectives: (1) to validate a tool to recall people's lifetimes' alcoholic beverage consumption, in terms of beer, spirits and wine – and also for types of wine, and (2) to obtain preliminary results regarding possible trends for changes in alcoholic beverage consumption and associated attitudes over consumers' lifetimes.

2. Material and methods

As there is not a universal and validated method to recall alcoholic beverage consumption over people's lifetimes the first step was to adapt other methodologies in order to develop a reliable tool.

2.1. Sample

Fifty one social wine drinkers, over 21 years old, recruited through advertisements in free newspapers delivered to homes throughout metropolitan Adelaide, South Australia, as consuming wine at least once a week participated in two one-on-one interviews. As an exclusion criteria, possible alcohol problems were detected using the validated CAGE Questionnaire (Ewing, 1984, King, 1986), which contains four clinical interview questions with the criteria for alcohol dependence being two or more positive answers (Boscarino et al., 2006). Participants were paid with an A\$25 retail voucher.

2.2. Interview structure

Initially participants were informed the survey was about alcoholic beverage consumption but not related to alcohol health problems in order to minimise anxiety.

In order to improve the recall accuracy a 'life grid' interview method was sent to participants who presented the completed life grid at first interview. Participants could consult their timelines when determining and reporting their drinking phases. The life grid consists of four time-lines on a sheet of graph paper. An "External" line dates the years from the participants' birth to the present and includes major events such as wars, strikes and sporting events. A second time-line is designated

“Family” and this records major events in the participants’ life such as births, deaths and marriages. The next time-line completed is “Residential” which records the dates of the changes in the participants’ home address. The final “Occupational” time-line records changes in the participant’ occupation, both internal promotion and between employers (Berney and Blane, 1997).

Next interviewees were asked to complete a questionnaire based on the Lifetime Drinking History (LHD) method (Skinner and Sheu, 1982). In this questionnaire, participants were asked to divide their alcoholic beverage drinking lives in phases. For each phase they had to report frequency of alcoholic beverage consumption (days/month), quantity (drinks/drinking day), type of beverage (in % of wine, beer and spirits) and type of wine (in % of red, white, sparkling, fortified and dessert). A phase is defined as a period of time during which alcoholic beverage consumption differed noticeably from that during the previous period of time (York and Welte, 1994). In other words, a phase change occurs when there is a reasonable change in any of the reported items for each phase. Therefore, each participant could report any number of phases and any duration.

After reporting all drinking phases, participants answered belief-evaluation questions (Conner and Sparks, 2005, Conner and Armitage, 2006) derived from Expectancy-Value Theory, a social psychology approach to understanding behaviour. This included the reasons and occasions for consuming wine, beer and spirits in each previously reported phase. Reasons evaluated were taste, social life, complement food, impress others, value for money, enhance mood, routine, treat and health benefits; and occasions were intimate dinner, meal with friends, business related meal, outdoor-BBQ picnics, party/celebration and on my own. For instance, taste as a reason for drinking wine was evaluated by the belief statement ‘I usually drank wine at that time because of its taste’ and the evaluation ‘At that time taste was important to me when choosing an alcoholic beverage’. Participants indicated on 7-point structured scales how much they agree or disagree with the first statement and how unimportant or important the issue was relating to second statement. The belief-evaluation was a multiple of the two responses.

Each participant was interviewed a second time, 4 weeks later. This time is considered practical for not losing contact with participants but sufficient to enable memory loss of previous responses. The aim of this test re-test exercise was to assess reliability and internal consistency of the developed tool and results.

3. Results and discussion

3.1 Participants characteristics

Most of participants were middle-aged/elderly (mean age 58.1; SD 12.4) and hence had long and similar duration of drinking experience over the past decades.

3.2 Validity and reliability

Measures included 73 items of lifetime drinking history (frequency, quantity, % of beer, % of spirits, % of wine, % of red, white, sparkling, fortified and dessert for each phase, beside number of phases, years drinking and average duration of phases) and were subjected to test re-test reliability checks. Intraclass correlation coefficients (ICC) (McGraw and Wong, 1996) were mostly strong (>0.6) and F-tests found most measures to be not statistically significantly different over time ($p > 0.05$). The few unreliable items were found amongst rarely consumed items. Table 1 shows stability (test re-test analyses) of the number of drinking phases, years drinking and average duration of phases recalled over the two interviews.

Table 1 – Test re-test reliability for number of phases, years drinking and average duration of phases (N=51)

Item	Mean (SD) Interview 1	Mean (SD) Interview 2	ICC	F-test for difference p-value
Number of phases	5.22 (1.55)	4.94 (1.49)	0.856	0.075
Years drinking	39.57 (12.06)	39.14 (11.44)	0.987	0.247
Average duration of phases	8.31 (3.60)	8.77 (4.01)	0.930	0.097

3.3 Patterns of consumption

Potentially associated attitude changes also emerged which are indicative of the predictive validity of the method.

Firstly, as participants were free to report as many phases as they considered appropriate, further data management was undertaken on this (preliminary) dataset, in order to collapse phases into three main stages – beginning, middle and end – for all participants.

In general, consumers start drinking similar quantities of wine and beer (around 150 drinks/year), followed by spirits. Then wine consumption increases, reaching almost 400 drinks/year, whilst beer and spirits slightly decrease. Previous studies analysed wine consumption for different ages or generations but always with a cross-sectional approach. Similarities and differences in wine preferences were reported for four different cohorts of core USA wine consumers (Olsen, Thach, & Nowak, 2007) and a Wine Market Council study in the USA found that the largest segment of core wine drinkers are in their 40s; most people in their 30s are marginal wine drinkers, and people in their 20s are drinking little or no wine (Beverland, 2001, Murphy, 1999). Using another methodology, Klipstein-Grobusch et al. (1999) also reported increase in wine consumption at age for ages 20, 30, and 40.

In the current study, if the same analysis is applied to men and women, separately, different patterns emerge (Figure 1). Men drink more beer at the beginning of their drinking career whilst women drink more wine at this stage. For men, wine consumption increased from 50 drinks/year to over 400 drinks/year making wine the dominant choice, as beer consumption slightly decreases after starting at 260 drinks/year. Women usually keep drinking more wine over their whole drinking career and their wine consumption even increases.

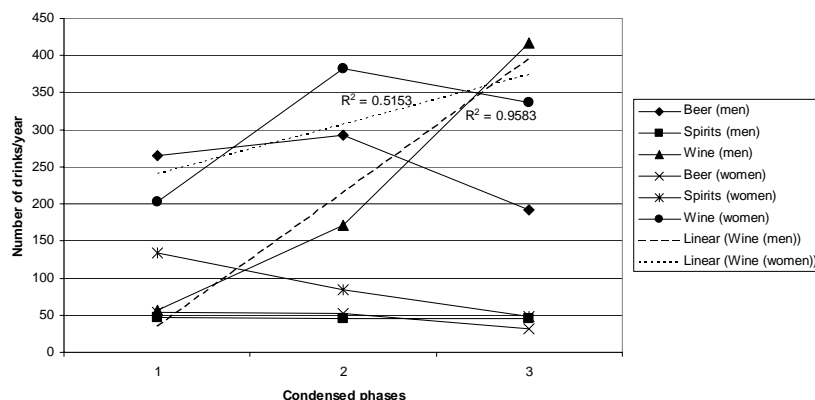


Figure 1 – Alcoholic beverage consumption for men and women over years

Regarding types of wine, consumers in general had reported more white wine than red at the beginning of drinking careers but then the pattern changes by the third and last stage. However, once again that pattern is not the same for men and women (Figure 2). As men drink less wine at the beginning, both their red and white wine consumption increases but red wine increase is more pronounced, reaching almost 300 drinks/year. Women start drinking a reasonable amount of wine, as opposed to beer, for example, and, predominantly white wine, change their consumption from white wine to red, through a slight decrease in white consumption and a more pronounced increase in red consumption, reaching 150 drinks/year. Other types of wine consumption were stable and small over consumers' lifetimes. The only exception is women's sparkling wine consumption (between 60 and 80 drinks/year during their drinking careers).

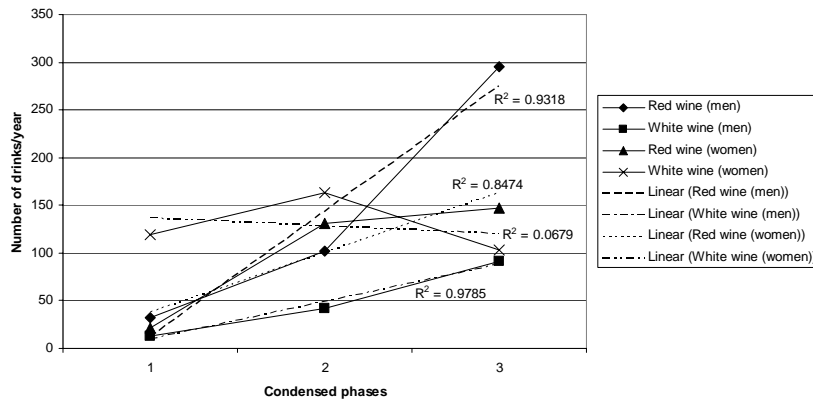


Figure 2 – Red and white wine consumption for men and women over years

Wolf et al. (2005) reported that the wine market in California is segmented by age and that there are differences in demographics, purchasing attitudes, and purchasing behaviours among wine consumers from different generations.

3.4 Attitude changes

Belief-evaluation responses showed that ‘taste’, complement food, routine, treat and health benefits are the most important reasons for drinking wine, especially when compared to beer and spirits. Intimate dinner, meal with friends and ‘on my own’ are more important occasions for wine in contrast to beer and spirits, but only ‘on my own’ presented a clear change over years. Based on these initial findings, Figure 3 presents how belief-evaluations (BE) for attitudes towards wine changed over years for ‘taste’, complement food, routine, and treat. Changes in attitudes over people’s lives reinforce the concept that these could be malleable and can be influenced by marketing actions when an opportunity is detected.

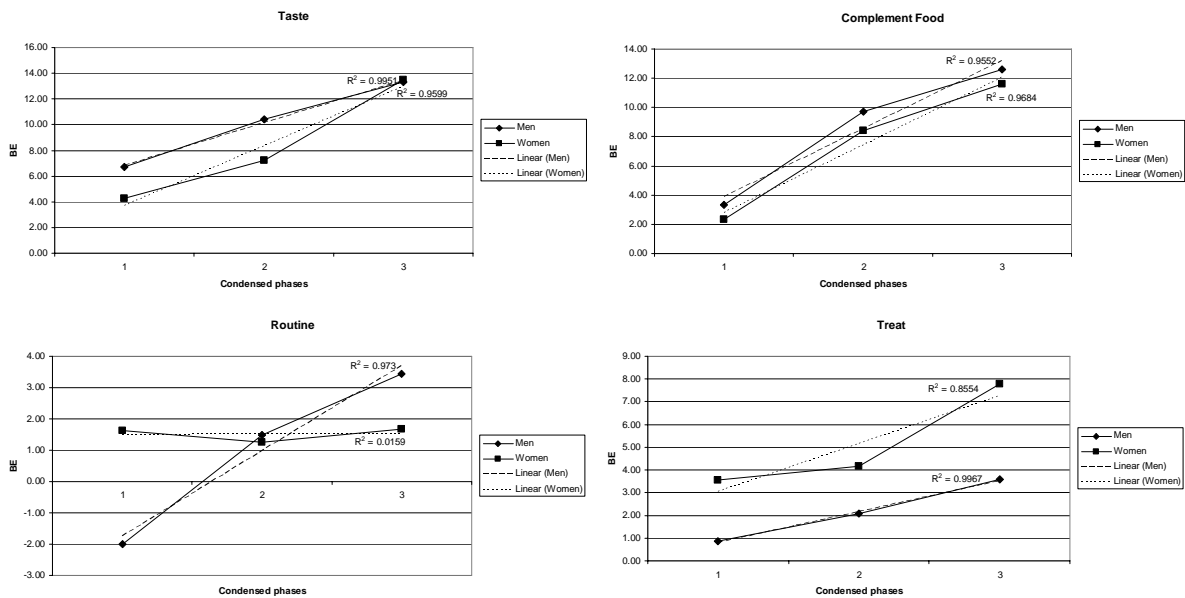


Figure 3 – Most important and changing reasons and occasion for drinking wine over years

Taste and complement food are clearly the most important reasons for drinking wine over consumers’ lives. Moreover, their importance even increased with repeated wine consumption (a reinforcing effect). All reasons presented in Figure 3 have become more important for both men and women, and potentially contribute to increases in wine consumption over years. The only exception, for women, was regarding routine, which did not present considerable changes. Wine as a treat was consistently more important for men. Results suggest that the greater increase in wine consumption among men can be explained by the greater increases in importance for routine and treat. Increasing

importance for routine and treat is an apparent contradiction. However, an interpretation is that as wine tends to become more present in men's lives as a way to relax at the end of the day (in other words, as a treat), at the same time it also becomes part of their routine. For women, wine consumption already starts higher than men and with higher importance for reasons and occasions as well. Also, importance for reasons and occasions for drinking wine do not increase greatly, which may be associated with the relatively smaller changes in wine consumption over time.

Results for occasion 'on my own' and the reason 'health benefits' increased (data not shown), but do not present high values even at the last condensed phase. Possible health benefits related to regular consumption of wine (German and Walzem, 2000, Tomera, 1999), or moderate consumption of ethanol (Trichopoulou, Bamia, & Trichopoulos, 2009), are reported in the scientific literature and, importantly for consumers, widely reported in the popular media. However, there still appears to be an opportunity to promote health benefits as a reason for drinking wine as this item did not present a high importance among consumers at the last (condensed) phase of their drinking careers. McKie et al. (2000) suggested that the changing and often conflicting nature of nutrition advice highlights the need for dietetics and health promotion to achieve a consistency in certain key messages and Rogers (1996) states that beliefs about the supposed psychoactive effects of a food or drink can influence the decision to consume that food or drink.

4. Conclusions

The developed questionnaire and timelines were efficient and reliable in facilitating recall of past alcoholic beverage consumption. Preliminary results confirm the assumption that wine consumption increases linearly over people's lives in contrast to beer and spirits consumption. Some attitudes towards wine also changed over time, possibly contributing to changes in wine consumption. Differences were observed between men and women, including their red and white wine consumption.

As the developed tool was found to be reliable for recalling alcoholic beverage consumption for the long periods of time (decades), in the next stage an adapted computer based questionnaire will be administered to a larger number of participants, which will allow more robust statistical analyses aiming at a deeper understanding of wine consumption and seeking associations with attitude changes over people's lives. Deeper understanding of attitudes for wine can ultimately help marketing strategies anticipate (or even mould) attitude change and possibly greater wine consumption over consumers' drinking careers.

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