

LONGITUDINAL WINE TASTING RESEARCH PROJECT

DO WINE DRINKERS PREFER QUALITY RED BORDEAUX WITH MATURITY? **AN INITIAL ASSESSMENT OF FINDINGS**

Gareth G Morgan

Draft for Project Participants

January 2026

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This project has required a huge commitment over a period of more than 20 years by the participants mentioned in this report. To preserve their anonymity as research participants I cannot name them, but – as will be clear to anyone reading this report – their commitment was enormous.

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Most of all I wish to acknowledge the special support of my wife, Sharon Morgan, in particular, her agreement from the outset that we would commit personal funds to purchasing the wines involved for what seemed like a fanciful project with only a small chance of reaching completion! She has been part of the project in various ways at all stages as a colleague and research assistant and companion – from the initial plan in 1991 through to the preparation of this report in 2026.

*Gareth Morgan
Dunbar – January 2026*

Abstract

To what extent do consumers of red wine genuinely value wines of greater maturity? It is widely suggested that quality red wines improve with age if properly stored (at least up to a limit where they may eventually start to deteriorate) – but is this assumption born out in practice when systematically assessed with an extensive panel of red wine drinkers?

This report outlines the design and findings of a research project involving longitudinal panel tastings of the *same wine* over a 20-year elapsed period that seeks to provide some findings on this question.

The study wine used was a classed growth red Bordeaux, Château Batailley 1990, tasted by the panel at 15 years, 25 years and 35 years of age. The final panel comprised 39 tasters who remained involved across the 20 year period of the tastings.

Most of the literature on wine development over time is based on vertical tastings, where different vintages of a wine are tasted at the same time, or by experts' projections based on experience of other vintages. But this is fraught with problems due to vintage variation and changes in winemaking techniques over time, meaning that in a vertical tasting the tasters are not actually comparing the same wine at different stages of maturity.

The obvious alternative is the use of a longitudinal panel, re-tasting wines at long intervals. But this has a different problem that tasters' palates will inevitably change over time, so that the score given to a wine by a particular taster may not be comparable with the score given to the same wine by the same taster 10 years later. This project seeks to compensate for this by use of baseline comparator wines at each stage, with the assumption that any variation in a taster's palate is likely to affect the scores given to the study wine and to the comparator wines to a similar extent. Assuming the comparator wines presented at each stage are very similar in organoleptic characteristics to the comparator wines presented at other stages, the *differential scores* awarded by the tasters to the study wine as against the comparator wine offers a fruitful basis for assessing whether or not red wine consumers really consider that a wine has improved over time.

Moreover, by comparing the scores across a reasonable sized panel ($n = 39$) and by also considering tasters' narrative comments on the wines and by breaking down the findings across different categories of tasters, it is possible to make a meaningful assessment of whether or not the scores awarded by the tasters are capable of being used for analysis in this way.

This study is believed to be the first serious attempt to examine consumer perceptions of wine maturity through a genuine longitudinal approach.

This report explains the design of the project, the approach to maintaining the commitment of the panel over a 20 year period, and the overall findings on the relative assessment of a quality red Bordeaux at 15, 25, and 35 years from the vintage.

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1. Introduction: Vintage Variation in Wine

Vintage variation is arguably one of the key factors which distinguishes quality wines in the mind of the consumer. Indeed, one of the central aspects of *terroir* relates to the microclimate, especially the weather conditions, in which the grapes are grown – which in most of the world’s leading wine-growing regions can vary considerably from year to year (Johnson & Robinson 2001, 22). Some wines are sold as “non-vintage” (typically a blend of the wines of several years) and there are a few wine regions (e.g. Jerez) where this is the norm even for the most expensive wines, but in most cases the appearance of a specific vintage on the label is a sign of quality.

Vast amounts of commentary on wine are devoted to analysis and comparison of one vintage with another, and how a given vintage is likely to develop over time, particularly in relation to the principal regions of the “old world”. The work of Broadbent (1991, 1995) is perhaps the ultimate testimony to such assessment, which, in the case of Bordeaux, reports tasting notes for very large numbers of châteaux on vintages dating back to 1771. But this is not just an historical issue – every release of wines announced by wine merchants from major wine-producing regions is normally accompanied by detailed comments on the specifics of the vintage concerned (see, for example, Berry Bros & Rudd 2025). The present author and his colleague have argued that “for wines from major properties in leading regions, the vintage is an absolutely critical element of the label and it may have a major effect on price”; indeed the vintage is central to the “semiotics of wine” (Morgan & Tresidder 2016, 77 & 205).

No serious book on any old world region would omit a discussion of the merits of particular vintages (e.g. Peppercorn 1991, 640-692; Jefford 2002; Clarke 2012, 302-307). When a new vintage becomes available from a major region, consumer wine magazines offer detailed assessment of the vintage’s quality and its potential for aging (e.g. Spurrier, 2005). Wine merchants typically offer detailed comments of the quality of different vintages, together with an assessment of the “readiness to drink” to assist consumers. For example Morgan, I (2024) discusses this specifically through the illustration of a vertical tasting of well-separated vintages of top red Bordeaux.

2. Perceived Wine Improvement with Age

Much of the interest in wine vintages focuses on the belief that quality wine improves with age (if well stored), especially red wines from the leading regions. Providing a year was generally regarded as a “good vintage”, older wines, if well stored, will frequently attract a premium price.¹

However, there is a limit to this: most commentators agree that even if well stored, wines eventually reach a peak, after which the quality declines – but there is much disagreement as to when the peak is reached in relation to any particular wine.

Drew (2022), a Master of Wine, offers a helpful summary of the issues, suggesting that the styles of wine by age can be divided into five broad categories:

- not ready
- ready – youthful
- ready – at best
- ready – mature
- past it.

The “past it” category is implied in the article but not specifically discussed as the writer is seeking to assist readers who might be ordering from a major wine merchant (which would be expected to have withdrawn from sale any bottles that are genuinely “past it”). But she makes the point that wines can be enjoyed at different stages of “ready” with different characteristics, though recognising that individual wine drinkers will have different preferences.

It is clear from such discussions that for any wine it is possible in principle to plot a graph of quality against time (depending on the definition of “quality”) (Johnson & Robinson 2001, 40). For example, a wine from a medium-level (“Cru Bourgeois”) Bordeaux château from the well-respected 2005 vintage, would be released in late 2007/early 2008, but whilst it might be rated very highly in terms of future potential, most drinkers would regard it as rather too tannic to be particularly enjoyable at that time. Gradually the tannins would soften, the intense young fruit flavours would harmonise, and the wine might be considered “pleasant” to drink in 2010, “excellent” by 2015, but by 2025 it would probably be thinning out and astringent.

Probably the most extensive attempt to produce such time/quality graphs was conducted by Robinson (1989) who visited 46 leading wine producers in various parts of the world and persuaded them each to let her taste a long series of vintages of their wines (a vertical tasting). From this she offered a projected graph for many vintages of each wine indicating how she expected it to develop up to the year 2000.

Figure 1 reproduces a graph from Robinson (1989) showing her assessment of the quality/time curve for several different vintages of the top wine from one specific property (the graph predicts the development of vintages 1978-87 of a first growth red Bordeaux, Château Margaux).

¹ More recently there have been suggestions that Bordeaux producers (in particular) were over-pricing the latest vintages so the price premium for older vintages is not always applicable. But, given that much wine is drunk relatively young, older vintages are often in short supply. It remains the case that older vintages of well-stored wines (Bordeaux especially) generate much competitive bidding when sold at auction.

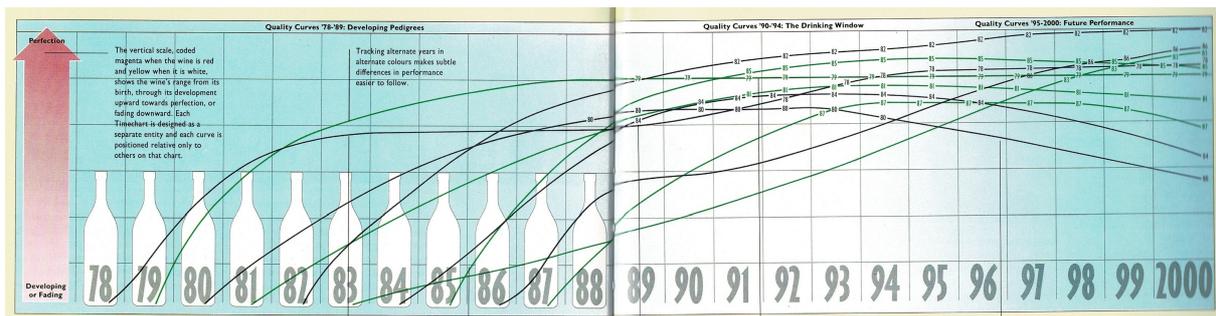


Figure 1: Example time/quality graphs for a top red Bordeaux (source: Robinson 1989, 20-21).

It will be seen that for the 1984 vintage, which is generally regarded as a problematic year in Bordeaux, she predicted a peak in 1994 (after just 10 years) but in the case of the 1986 vintage the wine would still be on a strong upwards trajectory even in 2000 (the last year in the chart, 14 years after the vintage). Elsewhere in the book she indicates a typical peak of around 25 years from the vintage for a first growth Bordeaux in a top year (Robinson 1989, 27). Peppercorn (1991, 42) takes a similar approach although he sees maturity occurring slightly earlier.

However, very little is known in detail on this issue, particularly from the consumer perspective: most of the commentary is based on the impressions of wine experts who apply their experiences of tasting wines from past vintages to project vintage development for the future. This is surprising given the depth of research on other aspects of consumer perceptions of wine (for example, the work of Martinez-Carrasco et al (2005) on the importance of quality wine designations of origin as a determinant of consumption).

Moreover, whilst it is possible to take vintage into account in economic assessment of wine prices (e.g. Lecocq & Visser 2006), price is a very poor proxy as a measure of consumer enjoyment, since older vintages of wines are rarely the subject of repeat purchases, and, in any case, quality wines from good vintages are subject to a great deal of speculative investment where the purchaser may have little intention of drinking the wine.

Consumers are sometimes offered the chance to participate in “vertical tastings” where, on a single occasion, wines are tasted from a number of different vintages from the same property. But even if scores are meticulously collected and analysed (which is rare in consumer tastings) the only conclusions that can be drawn are how the consumers rated a number of *different* wines on a particular occasion.

Since a vertical tasting is based on observations of different wines at a single point in time, and since, of necessity, it will include vintages where the growing conditions varied, it is quite impossible to draw conclusions as to how the perceived quality of any specific vintage has varied over time.

3. Research Design

Our research question is simple – this project seeks to answer the question: *to what extent do consumers of red wine genuinely value wines of greater maturity?*

It is clear from the discussion above that vertical tastings cannot provide any systematic data on how a specific wine has developed over time. So an alternative research approach is needed.

3.1 Existing approaches to gathering longitudinal tasting data

There is some existing data from individual experts who have tasted the *same wine* – i.e. a specific vintage of a specific château – at *different dates* over a number of years.

The tasting notes of the late Michael Broadbent are regarded by many as the most extensive systematic tasting notes of this kind – for example in the case of the first growth Château Lafite 1955, Broadbent (1991, 53) mentions a total of “around two dozen” tasting notes from 1961 (when it was just 6 years old) to 1989 (at 34 years old). But although Broadbent gives this wine his top (five star) rating overall, and he still describes it as a “beauty” in 1989, he does not provide scores on a year by year basis. Broadbent’s focus was primarily on the quality of wines at a particular point in time, in order to assist those who might be considering drinking a particular wine in the relatively near future.

Many other wine writers have published large collections of individual tasting notes – perhaps the most famous are those of Robert Parker and his team (www.robertparker.com) and those of Jancis Robinson and her team (www.jancisrobinson.com). But although these impressive databases include some cases of the same wine being re-tasted on multiple occasions, the tasting circumstances vary considerably, and in general there is only a single taster giving comments on each occasion.

One might have hoped for broader data, including feedback from multiple tasters, from the records of the “Bordeaux Club” – a group of six affluent great collectors of claret that met at exclusive venues in southern England over a period of 70 years, albeit with changes of membership over the years (a profound history of the Club is offered by McKendrick 2022). Their sumptuous dinners normally included five different clarets at a time (almost always including first growths of different years) as well as top champagnes and top white wines of Bordeaux and Burgundy. But although there were instances where the Club drank a particular wine on several different dates, the participants’ comments were primarily around the comparison of the different wines served on a *specific* occasion through qualitative comments: there was very little use of scoring. Moreover, all the tastings were accompanied by food (which varied from one occasion to another) and the glassware was not consistent. So, whilst there are occasional comments that a particular wine was showing better (or worse) than at a specific previous tasting, there is insufficient data to form systematic longitudinal profiles.

3.2 A new approach to the research question

It is clear, therefore, that a new approach is needed to answer the research question above. The obvious method is simply to arrange for consumers to re-taste the same wine at intervals to discern how far they consider the quality to have changed over time, but keeping other parameters as consistent as possible between tastings.

However, this approach raises enormous practical issues in order to gather any meaningful results. The following sub-sections outline these issues and the steps taken to address them in the present study.

3.3 Choice of study wine

The first question is: assuming a meaningful strategy can be devised for gathering longitudinal tasting data (see further discussion below) what specific wine (or wines) should be used?

There is widespread agreement amongst experts that good quality red Bordeaux wines (clarets) are some of the longest lived and show the greatest rewards to those willing to keep them for considerable periods of time. There is also probably more interest in the development of red Bordeaux than any other wine.² So it make sense to base the study on a specific red Bordeaux.

The author began planning this study in 1991 – at that time wine merchants were inviting *en primeur* orders for the red Bordeaux wines of the highly-rated 1990 vintage. Whilst some commentators suggested that the 1990 might mature faster than some other classic vintages, there was no doubt that it was a high quality vintage that would be expected to show development over a considerable time period. Moreover, ordering wine *en primeur* from the recently-released 1990 vintage presented the opportunity to acquire reasonable quantities of wine at relatively attractive prices without any uncertainties of how it had been stored in the meantime.

Whilst there might be a case for using more than one 1990 red Bordeaux to allow to study to assess the development of different wines, it was important to have sufficient quantity of the study wine to allow it to be tasted on multiple occasions by a reasonably substantial panel of tasters. Quantity was vital. The author simply did not have the budget to purchase multiple 1990 red Bordeaux from a range of leading châteaux in order to replicate the study in this way without seriously restricting the volume purchased to an extent that repeated panel tastings would be impossible – and in any case participants might have found it too much to assess multiple study wines as well as comparators at each stage. He concluded that a minimum of 3 cases (36 bottles, totalling 27 litres) of the study wine was needed to make the research viable (see further discussion below). So it was decided to focus on a single study wine (albeit with comparator wines at individual tastings – see below).

However, the chosen wine needed to be of sufficient quality that it could be expected to show significant development over an extended time period: a petit château whose wines were generally recommend for drinking within five years would be of little use as the key study wine.

There was also a choice between the different appellations of Bordeaux: would it be better to focus on a left bank wine (from the Médoc) – where Cabernet Sauvignon is usually the leading grape variety – or a right bank wine (e.g. a St Emilion or Pomerol) where Merlot is usually the dominant grape? Most Bordeaux commentators took the view that development of wines over time was generally slower with left bank wines with more improvement over time noticeable due to the slightly more intense character of Cabernet Sauvignon as compared to Merlot. So a

² It is often suggested that vintage Port develops even more slowly than red Bordeaux, so if Port were used as the focus in the present study an even longer time period would be needed. Whilst this might be instructive, maintaining a panel of tasters for even longer than in the present study would be very challenging. Moreover, Port is a fortified wine and has very substantial levels of unfermented sugar, so its development is very different from light (unfortified wines); it is rarely drunk as a normal wine with a meal. So it was felt that the use of a red Bordeaux as the study wine would more practical and would give more useful findings than choosing a Port.

left bank wine made sense. Moreover, much of the interest in Bordeaux vintages and their development is driven by consideration of the leading red wines of the left bank.

Within the range of left bank wines of the 1990 vintage available *en primeur*, consideration was given to using either a highly respected *Cru Bourgeois* château or, ideally, one of the 66 Bordeaux châteaux rated *Grand Cru Classé* (GCC) in the famous 1855 classification. In general the GCC wines are considered by experts to show the highest quality and a longer timescale of development.

A decision was taken to use **Château Batailley 1990** as the study wine. Although only rated as a fifth growth in the 1855 classification, few commentators would doubt that it continues to merit its *Grand Cru Classé* status. It is known to develop over time but was reasonably affordable. It is widely enjoyed by wine drinkers in the UK and served in many leading restaurants. Moreover it comes from the Pauillac appellation which is also home to three of the five first growth châteaux which are often seen as the prime examples of red wines that develop significantly over time. But at the same time, Château Batailley is not so over-concentrated that casual red wine drinkers generally find it unpleasant (which can be an issue with the most intense Bordeaux reds).

So, it was felt (and this remains the author's view) that Château Batailley 1990 was the ideal choice as the study wine for the present research taking into account:

- the need for a good quality red Bordeaux with real potential to develop over an extended period of time
- a wine likely to be enjoyed by a broad cross-section of red wine drinkers
- showing the character of a very good Bordeaux vintage
- ability to source the wine *en primeur* directly from the château (via a leading UK wine merchant) without any doubts about how it had been stored in the meantime
- the author's budget – which was just sufficient to allow him to purchase 3 cases.



Figure 2: The study wine: Château Batailley 1990 – bottle/double magnum

Initially the author placed an *en primeur* order for 36 regular 750ml bottles of Château Batailley 1990 in summer 1991 which were due to be bottled in 1992 and he expected to receive delivery in 1993. But following a visit to the region later in 1991, including to Château Batailley itself, he was advised that it was possible to order the wine in larger bottles (magnums or double magnums) at very little extra cost.

Wine in larger bottles develops more slowly because of lower ratio of surface area to volume – so, for example, oxidation through the cork is slower (see Pasichnyk 2026 for a recent discussion of this issue). Given the plan to assess consumers' preference over a very considerable time interval, the use of larger bottles would be very desirable for the present study.

Accordingly, before the wine was bottled, the order was amended to two cases of the Château Batailley 1990 in double magnums (3 litre bottles) and just one case in 750ml bottles. (The double magnums would be used for the

research tastings, but the standard bottles would enable the author to conduct other more informal tastings in order to monitor the wine between the key research tastings.³)

3.4 Duration of the study and time interval between tastings

It is clear from the comments of experts that well-stored wines do not change rapidly: the development of a wine in bottle is a very slow process. As indicated by the sources mentioned in chapter 2, many writers talk about “decades” for a quality red Bordeaux to develop in bottle: there is only minimal development from one year to the next.

So it would be very unlikely that a tasting experiment which simply brought together a panel of tasters to re-taste a given wine at (say) 12 month intervals over a five year period would yield any valuable results. A much longer interval is needed with at least five years between tastings.

Moreover, the tastings themselves would need to be spread over a considerable period of time that is likely to be sufficient to show the wine at very different stages of development. With many writers suggesting that a top red Bordeaux may not reach its peak until more than 25 years after the vintage, the research needed to span a very considerable elapsed period in order to provide meaningful longitudinal data.

It was therefore decided to plan the final tasting for the year 2025 when the study wine would be 35 years from the its vintage: based on the opinions of experts on earlier vintages of wines at the level of Château Batailley, it would be expected to be quite mature and perhaps even past its peak by that age.

There were also issues about balancing the overall number of tastings with the size of the panel. It was desirable to have a sizeable number of participants in the tasting panel to give any chance of generating some results that might be representative of the population of red wine drinkers in the UK. It was difficult to model this statistically at the outset, but the author took the view that the size of the panel would need to be at least 50 persons at the start of the study, bearing in mind that a longitudinal study lasting over decades would necessarily incur some diminution in the number of participants over time. (See section 4 for more on the panel and the steps taken to maintain levels of participation.)

It was also felt that as most of the participants were not wine professionals they would want to have at least a “small glass” of the study wine at each tasting – around 70-100ml – in order to re-taste it several times in the manner that a consumer might do when drinking wine socially. (For a consumer to assess a wine carefully using the sample sizes of 30-50ml that are more common in trade tastings might have been a challenge.)

So, for a panel of 50-60 consumers each being served 70-100ml of the wine at each round of the research, it was realistic to plan for *three* rounds of tastings – each round could be comfortably met by using two double magnums (6 litres) of the research wine.

It was felt there was little point in holding the first tasting until the study wine was approximately 15 years from the vintage as many commentators suggest that red Bordeaux wines at the GCC level typically need more than 10 years to become approachable.

³ The standard 750ml bottles also offered some flexibility in adjusting quantities for specific tastings – for example in the 2025 tasting it was felt that a single 3 litre double magnum would be a bit limited for the number of tasters. So the tasting was conducted with 80% of the wine from a double magnum and 20% from a single bottle – but all from Château Batailley 1990 and all decanters used at the tasting had the same blend.

Taking these factors together, it was decided to base the study on three core tastings:

- an initial tasting in 2005 when the study wine would be 15 years old;
- a second tasting in 2015 when the study wine would be 25 years old; and
- a final tasting in 2025 when the study wine was 35 years old.

3.5 Allowing for changes in tasters' organoleptic perceptions over time: the use of comparator wines

One of the biggest challenges in assessing the development of wines by tasters re-tasting them at long intervals is the changing nature of a taster's nose and palate. A taster who loved red Bordeaux in her 40s might take a totally different view of such wines when in her 60s.

Moreover, even if a taster felt that his or her palate had not changed much over time, there is only a remote likelihood that he or she would be able to remember how a wine tasted 10 years previously and make a systematic re-assessment after such a long interval.

This issue was addressed from the outset by a decision to use *comparator wines* at each tasting – i.e. consistent wines from the same region that could be reliably sourced over a period of decades that could be used to compare with the study wine. The assessment of whether or not panel members considered the study wine to have improved over time would be based not on their absolute scores at each tasting, but rather on their *differential scores* between the study wine and the comparator wines.

Provided the comparator wines were reasonably consistent across the three tasting rounds, the tasters' differential scores would potentially offer some valuable data, as explained in the following example scenario.

- At each round, each taster was invited to offer a qualitative assessment of each of the three wines (two comparators and the study wine) and to give a numerical score on a 0-20 scale (as widely used by many professionals) – see section 5 for more on the organisation of the tastings. Tasters were asked to assess the wines on their enjoyment of each wine for current drinking at the time of the tasting.
- If, for example, a taster rated the study wine as 1 point higher than the mean of the comparator wines in 2005, 2 points higher in 2015 and 4 points higher in 2025 it would be reasonable to conclude that *for that specific taster* the study wine was genuinely showing improvement over time. But the converse is also possible, where a taster might consider the study wine to have deteriorated over time.

These differential scores can then be subject to various forms of analysis in terms of converting individual scores into an overall assessment by the entire panel, following the principles set out by Quandt (2006).

It was felt that it would be reasonable to ask each participant to assess three red wines in each round of the research – two comparator wines and the study wine. (With more than three wines it was felt likely that many consumers would find it hard to focus on specific differences in the final wine.)

The selection of the comparator wines was based on the following criteria:

- It was decided that the first comparator in each round should be an ‘easy drinking’ red Bordeaux from a *petit château* or similar from recent vintage: two years prior to the tasting. However, in each case it should be a quality wine with reasonable depth (not just a supermarket claret). So in the 2005 tastings, the first comparator was a 2003 red Bordeaux petit château was used, in the 2015 tastings a 2013 from a similar petit château was used and in 2025 a petit château 2023 was used (see Appendix A for details).⁴
- It was decided for the second comparator in each round to use a red Bordeaux with more complexity and oak aging, with quality approaching that of the study wine and showing some years of development in bottle. For those purpose it was decided the use a specific Cru Bourgeois château, from the left bank, not far from the producer of the study wine, Château Batailley. A convenient choice in terms of meeting these criteria was *Château Beaumont* in the Haut-Médoc appellation, which was known to have a long term commitment to producing a classic style of claret and it was just within the researcher’s budget. For each tasting, the second comparator was selected to be served at exactly *eight years from the vintage* which many would consider a good age from drinking a Cru Bourgeois claret. So in the 2005 tastings, the second comparator was Château Beaumont 1997, in the 2015 tasting it Château Beaumont 2007 and in the 2025 tasting it was Château Beaumont 2017.⁵

The author also found it possible for the 2015 and 2025 tastings to order the Château Beaumont in double magnums, thus giving a closer match to the study wine. (The second comparator wine was not, of course, ordered at the same time as the study wine as it was necessary for wait for the relevant vintages to become available to order en primeur – see Appendix A for details of delivery dates.)

3.6 Recruiting and maintaining the panel and gathering consistent data

The other big practical consideration for research of this kind is the question of whether or not it is possible to recruit and maintain a reasonable sized panel of wine drinkers, willing to commit to tastings at 10 year intervals, over a total period of 20 years – from the first tasting in 2005 (when the study wine was 15 years old) to a final tasting in 2025. The present research falls into the category of a prospective cohort study, where the cohort is recruited at the start of the research (Simpkus 2023). Maintaining the engagement and commitment of the research cohort is one of the biggest challenges of prospective longitudinal research.

Longitudinal research is also of little use unless we can be confident that the data collected and recorded across long time intervals are comparable (Saunders et al 1997, 168). This required as much consistency as possible between the arrangements for the tastings at each stage of the project.

⁴ Unfortunately due to changing brands and differences in the patterns of marketing and bottling over time it was not possible to source exactly the same wine for the first comparator in each round – and even if it had been possible to use same wine each time, the producer might have made a sudden investment to improve its wines between one round and the next. But the author tasted a number of possibilities in each round before making the final selection and is satisfied that there is a good degree of consistency between the three rounds of the study.

⁵ This approach had a potential risk that there might be massive variations in the qualities of these vintages, which could have made Château Beaumont unsuitable as a consistent comparator with the study wine. But fortunately the Bordeaux rule of years ending in “7” worked in favour of the study – all three vintages 1997, 2007 and 2017 were generally rated by experts as acceptable but not outstanding years for red Bordeaux (due to significant challenges of weather conditions) – so all three years could be described as fresh and agreeable but not with the huge levels of ripeness seen in some other vintages.

Section 4 of this report outlines the participants – the individuals who are central to this study – their recruitment, their demographic characteristics, and the approaches taken to maintaining their involvement. Section 5 describes the organisation of the tastings.

4. The Participants

As explained in section 3.4 above, planning for this study began in 1991 with the purchase of the study wine (Château Batailley 1990) but given the views of various commentators that classed growth claret needs considerable time before it become agreeable to most drinkers (e.g. Broadbent 1998, 25; Clarke 2012, 10) it was decided not to hold the first tasting until 2005 when the study wine had reached 15 years of age.

Accordingly, the first tasting was planned for November 2005 and recruitment of the panel began in summer/autumn of that year. The study was planned from the outset with tasting events taking place in Yorkshire, England, with the initial event to be held in the York area.

4.1 Initial approaches to prospective participants

It was decided to begin the recruitment of the panel initially from the author's existing friends and work colleagues, on the grounds that it might be easier to maintain the interest over the years if participants felt some sense of personal relationship with the researcher. However, quite a wide range of networks were explored in the hope of recruiting a broad and diverse panel of wine drinkers – for example, some were existing friends within a reasonable distance of the initial tastings, some were recruited through local churches where the author was involved, some were academic contacts at his university, and some were members of an existing wine tasting society. Those who signed up were also invited to encourage their spouses, friends and colleagues to take part, so there was a measure of snowball sampling: it is estimated that around a third of participants had little personal acquaintance with the researcher prior to the first tasting.

Most participants were approached initially by means of a letter (either to their home address or circulated in a workplace or shared by a friend). From the outset it was made clear that participants were being asked to commit to three tastings on specific dates, the first one just a couple of months away, but also giving dates ten and twenty years ahead. The substance of the letter was as shown in figure 3.

The letter was accompanied by a participant information sheet set out in question and answer (Q&A) format giving further details of the venue etc. It was explained that participants would be asked to taste and score three red Bordeaux wines. An age limit was set that participants should be aged between 18 and 80 for the first tasting (so, potentially aged 38-100 for the final event). A booking form was also enclosed for participants to register.

One of the questions on the Q&A sheet was: '*What if I am not sure about my commitments for November 2015 and 2025?!*' and the following answer was offered: 'If you know you definitely would not be able to make the later dates - e.g. because you know you will be living too far away from York - then this is probably not for you ... But I appreciate that everyone's life can change, and if there is a "reasonable possibility" that you will be able to make all the dates, do please send in the form. *However, I am asking for a commitment that, providing you are within reach of the York area and well enough to come, that you will do your utmost to avoid other requests (holidays, social or business) for those dates. I will send you some reminders nearer to the time ...*'

RESEARCH PROJECT — AN INVITATION TO THREE WINE TASTINGS:

[Three dates specified: November 2005 / November 2015 / November 2025]

I am writing to ask for your help in a piece of research I am undertaking regarding the long term development of wines, and I am very much hoping you will be able to join me for *three separate wine tastings* on the dates above. Please see the enclosed Q&A for more details.

The aim of the study is to invite a considerable group of people — up to around 50 — who will taste the same wine on three occasions separated by intervals of ten years! Although much has been written about the development of wine in bottle, it is mainly based on tasting different vintages of a wine — so far as I am aware, no one has ever undertaken a systematic study with a sizeable group of tasters sampling the same wine separated by extended intervals of time.

The [first event] will include a tasting of three wines — all red Bordeaux — followed by a buffet supper. There will also be an aperitif, some wine with the buffet, and a glass of port at the end — you don't necessarily have to drink these, but *everyone will need to sample the three key wines*.

You do not need to be a wine specialist — I am seeking a wide range of participants including a few who take a serious interest in wine, but mainly those who drink wine simply for pleasure. The only requirement is that you normally drink red wine at least once a month, and expect to be able to get to *all three* tastings.

As this is part of a long term project, I need to ask each person to complete a registration form: **if you would like to be involved, please return a completed form** to us as soon as possible. Please note that there are only limited places available, but once we have your booking we will confirm with further details. ...

Thank you for your support of this research — which I hope will be interesting and enjoyable!

Figure 3: Participant invitation letter (substantive points)

It was also explained on the Q&A sheet that the three dates were linked to the researcher's 50th, 60th and 70th birthdays – it was felt that a sense of being invited back for birthday events might help to maintain participants' engagement.

It became clear from initial replies that relatively few of the author's colleagues at Sheffield Hallam University were willing to travel to York for an initial tasting, so a decision was taken to split the first tasting into two events: one in York in November 2005 and one in Sheffield in January 2006, but great efforts were made to conduct the two events in as similar a manner as possible – see section 5. (Findings from both the Nov 2005 and Jan 2006 events are referred to as '2005 tastings' in this report.) A similar approach was followed in 2015, with participants offered the choice of attending an event in York or in Sheffield, though both dates were in November 2015. However, for the final tasting in November 2025 a single event was arranged – after extensive consultation with participants this took place near to York.

4.2 Results of the panel recruitment

The author was aiming to recruit around 50 participants at the start of the study, recognising that any longitudinal study would incur some attrition over time: his aim was to maintain a cohort of at least 25 though to the final stage twenty years later.

In the end 54 people registered for the project and attended one of the initial tastings in November 2005 in York or January 2006 in Sheffield. A very encouraging 39 of these (72% of the initial cohort) remained involved across the entire life of the project and took part in the final tasting in 2025.

On the registration form, every participant consented to the following statements (Figure 4).

- I am happy to take part in the research described in the letter: *please book me to attend all three tastings on the dates above*. I will do my utmost to keep all three dates free for this.
- So far as I am aware, I am able to drink red wine in moderation without adverse effects on my health.
- I am happy for my opinions on the wines to be used in the research (on an anonymous basis).
- I am happy for [you] to keep my details and send me occasional communications about this research.
- If I move home between now and November 2025, I will advise you of my new address.

Figure 4: Core points of consent accepted by all participants at the start of the project

The initial 54 participants comprised 25 men and 29 women with an age range of 22 to 80 at the date of the initial tasting. At the point of registration, participants were invited to classify themselves in terms of their level of wine experience with the following results:

<i>Participants' Self-Identified Level of Wine Experience – initial participants:</i>	<i>Number of Participants:</i>
Have a reasonably serious interest in wine - e.g. books, exams, personal cellar	20
Enjoy drinking wine regularly but not a serious interest	30
Only drink wine occasionally ⁶	4
	54

Table 1: Initial Participants – Levels of Wine Experience

See section 5 for details of the initial tastings attended by these 54 participants.

4.3 Steps taken to maintain the panel

Fundamental to the research was the need to maintain the engagement of the panel over a total period of 20 years (2005 – 2025) and, in particular, a commitment to the key dates for the later tastings.

Every participant was asked at the outset for a home address and phone number and there were requests at all stages to advise the researcher of any changes in contact details.

Initially most communications were sent by letter: at the start of the study in 2005 many UK residents were switching from dial-up internet to broadband with very little permanence of personal email addresses so no attempt was made to collect email addresses at the start. However, by the time of the 2015 tastings every participant still involved had provided an email address and email was used as the main channel of communication (although some only gave work email addresses and effort was needed to encourage participants who were retiring from their work roles to provide a personal email). But, by the time the 2025 tasting approached, there were real problems of emails going unread or into spam folders and it was decided to send a postal invitation to every participant in July 2025 regarding the final tasting in November 2025.

Key actions taken to maintain the engagement of panel members included the following.

⁶ It might have been expected that those with less serious interest in wine would have been more likely to drop out over the years but in fact all four of those in the final category who said they 'Only drink wine occasionally' remained involved up to the final tasting in 2025. See Table III on page 21.

- A communication was sent to every participant approximately every 2–3 years throughout the project, thanking them for their involvement, explaining the next stage, and asking for any updates to contact details. The frequency of communications increased as key tastings approached.
- Two ‘intermediate tastings’ were planned to take place mid-way between the research tastings – in 2010 and in 2020 – as a means of bringing the panel together and maintaining interest and cohesion. (In the end the 2020 event was postponed to 2022 because of the Covid pandemic.) It was stressed that there was no obligation to attend these events – they were not part of the research but were simply events that participants might find interesting. Both intermediate events focused on wines of Burgundy to make clear they were distinct from the formal tastings of red Bordeaux (and in any case, the researcher did not have sufficient quantities of the study wine to serve it at these events). The 2010 intermediate tasting took place in Sheffield with 14 attendees (26% of the original panel) – though many of those unable to attend made clear that they appreciated the invitation and remained committed to the research tastings. The 2022 event was held in Leeds (approximately mid-way between the two main locations) with 17 participants attending (31% of the initial panel).
- In late 2023 when the final (Nov 2025) tasting was just two years away, a detailed online survey was undertaken of all participants. The survey contained 15 questions as set out in Appendix B. This was undertaken for three reasons: (a) as a vehicle to re-establish contact with all participants; (b) to gather more qualitative data on participants’ motivation for involvement in the project; and (c) to gather opinions regarding preferred locations and willingness to travel for the final tasting. Participants who had enrolled for the study on a single basis (i.e. without a spouse or partner as a participant) were also given the opportunity to nominate a guest to join them at the final event, as it was felt this would encourage attendance.
- Invitations to respond to the survey were sent both by letter and by email, and great efforts were made to follow up non-respondents, including further letters and phone calls. Those who did not seem responsive to emails were invited to respond to the survey as a questionnaire sent by post. Where letters were returned undelivered attempts were made via other participants who might have known the individual. At least four attempts were made to contact each participant before assuming that he or she was no longer able to engage with the study. Some of the responses from this exercise, including participants comments on the reasons for their involvement are summarised below. Further qualitative finding from the survey are considered in section 6.
- A detailed letter was sent in April 2024 (18 months before the final tasting) to all remaining participants giving the decisions on the venue, timings and other practical details for the final tasting in November 2025. This also gave some feedback on the survey findings, explained the composition of the cohort and reminded participants of the rationale for the project and how the findings would be used.

4.4 Changes to the panel over time

Taking account of all the above, the numbers of participants over the three stages of the project were as follows.

<i>Project stage:</i>	<i>Number of participants:</i>
2005 (Tasting study wine at 15 years)	54
2015 (Tasting study wine at 25 years) ⁷	47
2025 (Tasting study wine at 35 years)	39

Table II: Total numbers of participants at each stage

Almost all cases where participants dropped out were explained to the researcher – across the life of the project only five participants had to be treated as withdrawn due to lack of any response to communications. The changes in participants are explained as follows.

- Original participants in 2005/06: 54
Less three deaths
Less two who moved beyond Europe and advised that they would be unable to attend any further events
Less two who declined to keep in contact from quite early in the life of the project.
- Total participants in 2015: 47 (87% of initial panel)

All of these 47 were sent the 2023 survey mentioned above, with the following result:
Less three who appear to have moved home since 2015 and where no response was received to letters, emails or phone calls at the time of the survey
Less one who responded to the 2023 survey but indicated a desire to withdraw for health reasons.

- Total participants still willing to be involved in 2024: 43 (80% of initial panel)

All 43 of these were invited to the final tasting in November 2025 and (following reminders in some cases) *all* responded. 39 accepted but four declined as follows:

Less four who were unable to attend due to work commitments, family commitments or health reasons (all of these were quite apologetic).

- Final participants in 2025 tasting: 39 (72% of initial panel).

Of the 39 who accepted the invitation, no one withdrew at the last minute: all attended and took part in the 2025 tasting, giving their scores on the wines in the same way they had done in the 2005/06 tastings (some were accompanied by guests as explained, but guests are not included in these figures). So, 39 participants remained involved across the life of the project.

It is worth noting that a number of participants travelled considerable distances to be present at the final tasting in November 2025. At the initial tastings (2005) almost all participants lived in the York or Sheffield postcode areas within a maximum of 25km of the locations of the initial events (just three lived elsewhere in the north of England). But by 2025 naturally many participants had moved elsewhere for a range of reasons: for the final tasting 12 participants

⁷ This figure of 47 participants at 2015 includes three who sent apologies for the 2015 research tasting, but who nevertheless indicated that they were still committed to the project and hoped to take part in the final tasting in 2025 (and in the end all three did so) – so they are include in the participants numbers. The total number of attendees at the 2015 tastings was 44. See section 6 regarding scoring adjustments in these cases.

(31%) travelled from outside the core areas of York and Sheffield, including three who travelled from European countries outside the UK.

4.5 Motivation for involvement

To have maintained 72% of the panel in a longitudinal study over a 20 year period is believed to be very rare: the participants showed extraordinary levels of commitment.

The 2013 survey asked about participants' reasons for involvement. Six possible reasons and an "Other" category were offered (participants could select more than one reason). Out of 42 responses to the survey, Chart A shows the reasons that were selected.

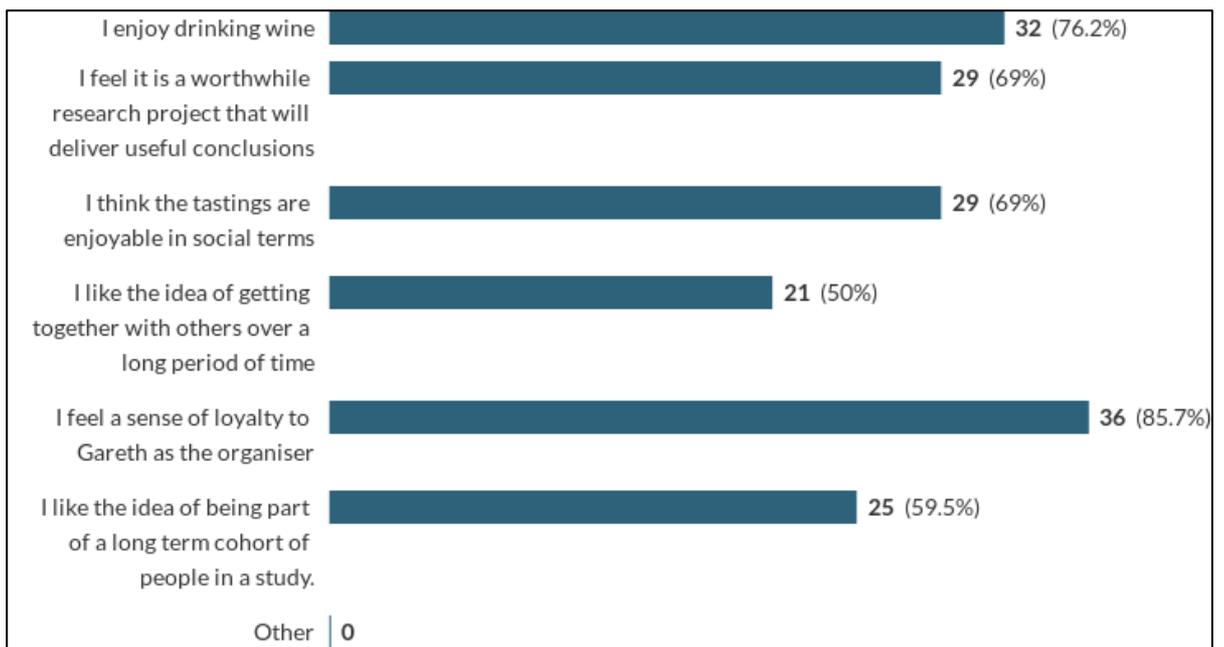


Chart A: Personal assessment by participants of their motivation for involvement in the study (Multiple answers permitted. Based on 42 out of 44 participants who responded to the 2023 survey – two years before the final tasting. The other two participants made contact to express continued interest in the project but did not complete the survey.)

The most popular reason for involvement, selected by 86% of respondents, was a sense of personal loyalty to the researcher. This sense of loyalty to the research or researchers is frequently mentioned in cohort studies.

Participants were also asked in this survey to what extent they had considered at the outset that they were making a 20 year commitment to the project: the answers to this are tabulated in Chart B. It will be seen that no less than 74% said that they understood this commitment from the outset – which perhaps helps to explain the level of commitment.

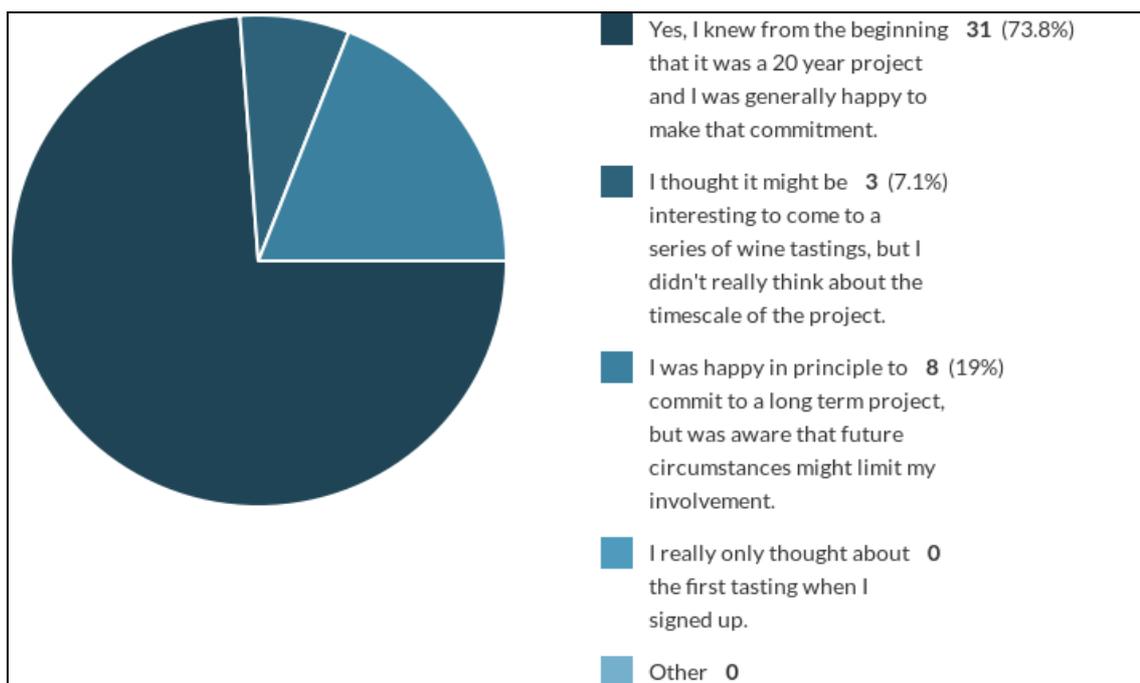


Chart B: Personal assessment by participants of their sense of commitment at the outset to the timescale of the project motivation for involvement in the study. (One answer permitted, based on 42 responses to 2023 survey, as for Figure 4.)

4.6 Characteristics of the final cohort

These 39 participants who remained involved from the first tasting to the last each provided assessments of the wines that can be systematically compared over time (see the analysis in section 6). The analysis in section 6 relates to these 39 tasters in this cohort.

Key demographics of this group are as follows.

The final cohort comprised 17 males and 22 females with a mean age of 69 at the end of the study in 2025 (their mean age 49 at the initial tasting in 2005). At the conclusion, the age range of participants was 42 to 88.

The levels of wine experience for the final cohort (based on the self-classifications given at the start) is not substantially different from those who began the study, as shown in Table III.

<i>Participants' Self-Identified Level of Wine Experience – final cohort:</i>	<i>Number of Participants:</i>
Have a reasonably serious interest in wine - e.g. books, exams, personal cellar	14
Enjoy drinking wine regularly but not a serious interest	21
Only drink wine occasionally	4
	39

Table III: Final Cohort – Levels of Wine Experience

5. Organisation of the Research Tastings

As explained in earlier sections, the findings of this research depend almost entirely on in-person wine tastings at three stages: 2005 (when the study wine was 15 years from the vintage), 2015 (25 years from the vintage) and 2025 (35 years from the vintage). This section outlines the specific arrangements for those tastings.

Participants were given very extensive notice of future tastings: dates for the second and third stages were set out many years ahead of the actual date. However, as noted, it was decided to offer participants the choice of attending a tasting in the York area or in the Sheffield area for the first two stages, so in total there were five research tasting events (plus some informal ‘intermediate tastings’ as mentioned in section 4.3, but these did not include tastings of the study wine).

The events took place in a range of venues: a reasonably spacious private home, a community centre, university premises, and the final event took place at a hotel, but great care was taken to maintain the maximum possible consistency between events in terms of the tasting arrangements and the way that participants recorded their assessments of the wines.

For each tasting, guests were offered a traditional method sparkling wine as an aperitif (or a non-alcoholic alternative) prior to tasting the research wines and food was offered following the tasting (with additional wines available) – in order to create a rounded experience. The final (2025) event concluded with a dinner.

Participants were seated for the tastings and were provided with three A4 pages of tasting sheets (one page per wine) to record their assessments. The design of the tasting sheets was consistent across the stages of the research – see Figure 4.

Although only 14 participants (36%) reported a serious interest in wine (likely to have been used to making tasting notes) all participants were encouraged to make notes under the traditional headings of *appearance / nose / palate / overall impression*. Analysis of the notes submitted showed that virtually all participants followed

<p>Sheffield Hallam University / Longitudinal Wine Research Project with Gareth Morgan</p> <p>FINAL TASTING - [DATE]</p> <p>NAME OF TASTER:</p> <p style="text-align: center;"><u>TASTING SHEET - WINE NUMBER 3</u></p> <p>Wine: <i>CHATEAU BATAILLEY 1990 (AC Pauillac - Grand Cru Classé)</i></p>	
<p>Appearance:</p> <p><i>Possible comments:</i> Colour e.g tawny/garnet/brick red/ruby/purple. Depth of colour at centre and rim.</p>	
<p>Nose:</p> <p><i>Possible comments:</i> Condition (clean/unclean). Fruit character (type of fruit). Spice. Intensity. Young/Mature.</p>	
<p>Palate:</p> <p><i>Possible comments:</i> Sweetness. Acidity. Tannins. Fruit character (type of fruit). Length. Body. Mouthfeel.</p>	
<p>Overall Impression:</p>	
<p>Quality Score (0-20):</p> <p>Please rate on your enjoyment of the wine on this scale <u>now</u> (don't consider future potential).</p> <p>0 = Awful, serious faults, totally undrinkable</p> <p>5 = Just about drinkable, but with definite unpleasant characteristics such as corked (musty), vinegary, not properly fermented, etc.</p> <p>10 = OK - a boring but drinkable wine for the area/region - perhaps thin or lacking character - no obvious faults but nothing to impress.</p> <p>15 = A good wine, well made, interesting, rounded, definite high quality, very pleasant to drink. Nose and palate both well above average for wines of this area.</p> <p>20 = Perfection - you cannot imagine how a wine from this area could ever be better.</p> <p style="text-align: center;"><i>Please write as much detail as you can in each section.</i></p> <p>Subjective terms like "pleasant", "agreeable" or "don't like" are fine if you can't be more specific, but try to say <i>what</i> it is that you like or dislike - e.g.</p> <ul style="list-style-type: none"> • "too acidic", "too dry", "smells off" • "rich", "complex", "intense fruit". <p>More detailed comments will be very welcome if you have experience of more specific tasting approaches, but please give your final score in all cases on the 0-20 scale (half points may be used but nothing smaller).</p> <p><i>Please be sure to hand in these notes once you have completed the tasting - they are vital to the research!</i></p>	

Figure 4: Tasting sheets used by participants for each wine at each stage

this request – even from the first round of tastings, participants submitted an average of 20-30 words of comment per wine. So, in total, 411 sets of tasting notes were received – one for each wine from each taster at each stage. A full textual analysis of all the notes has not been undertaken, but the notes were reviewed to consider their consistency with the scores given – some examples are included in section 6.9 of this report.

However, participants were asked to give their key assessment of each wine by means of a score on a 0 – 20 point scale as used by many wine professionals (half points were allowed but nothing smaller). They were asked to calibrate their scoring as follows (see Figure 5) – this scale was explained both verbally and on the tasting sheets (Figure 4). In total across all wines at all stages, 411 scores were received.⁸

<p>Quality Score (0-20):</p> <p>Please rate on your enjoyment of the wine on this scale <u>now</u> (don't consider future potential).</p> <p>0 = Awful, serious faults, totally undrinkable</p> <p>5 = Just about drinkable, but with definite unpleasant characteristics such as corked (musty), vinegary, not properly fermented, etc.</p> <p>10 = OK - a boring but drinkable wine for the area/region - perhaps thin or lacking character - no obvious faults but nothing to impress.</p> <p>15 = A good wine, well made, interesting, rounded, definite high quality, very pleasant to drink. Nose and palate both well above average for wines of this area.</p> <p>20 = Perfection - you cannot imagine how a wine from this area could ever be better.</p>

Figure 5: Quality assessment scale provided to participants

At each stage around 45 minutes was allowed for participants to taste and assess the three research wines – this comprised a brief introduction from the researcher and then 10-12 minutes to assess each wine. Figure 6 shows a tasting session in progress.

Each participant was provided with a regular wine glass (maximum capacity approx 200ml with slight tapering at the top) as used in many restaurants – this was intended to create a more 'normal' tasting environment for casual wine drinkers as opposed to the ISO tasting glasses often used at professional events. The glasses were provided by the researcher and transferred between the events so all participants at each stage used exactly the same glasses even though two venues were used at the first two stages.⁹ Participants were served a sample of 70-100ml of each wine as explained in section 3.4. Spittoons were provided. Participants had water alongside and dry biscuits, but no other food.

The three wines were served in succession with participants completing their notes and scores on each wine before moving on to the next (participants were deliberately not offered the chance to return to earlier wines). The same glass was used by each participant for all three wines, but as they were all red Bordeaux this did not present any risk of one wine distorting the next. (All wines were pre-tasted by the researcher to remove any instances of

⁸ Of the 411 wine scores and tasting notes submitted, 342 were used in the analysis (see section 6). Wine assessments submitted at earlier stages were eliminated where panel members were unable to remain with the project through to the final 2025 tasting (otherwise, the comparison of scores between the earlier and later tastings would be invalid). See section 4.4 for changes to the research panel over time.

⁹ Due to breakages, the researcher replaced the entire stock of glasses between the 2005 stage and the 2015 stage, but the replacement glasses were very similar to those used previously. The glassware used in 2025 was exactly the same as used for the 2015 tastings.

cork taint, but there were no instances of corked bottles at any stage and no participant raised any suggestions of this.)



Figure 6: Tasting session in progress (2025)

The wines were *not* served blind, for several reasons. First, most other assessments of wine development over time are based on vertical tastings (see section 2) and vertical tastings are rarely conducted blind. Second, at most blind tastings, the identities of the wines are revealed at the end, but in the present research that would have meant asking participants at the 2005 tastings to wait 20 years to discover the identity of the study wine (the Château Batailley 1990)! It was felt that it would have been very difficult to maintain the motivation of the panel on that basis. Third, the whole point was for participants to assess the development of a vintage wine over time, so it seemed essential that they should at least know the vintages of the wines they were tasting. Fourth, it was felt that participants would find it easier to assess the *development* of wines with some knowledge of where they sat in terms of quality – so it was indicated prior to each tasting that the first wine was from a petit château, the second wine from a Cru Bourgeois château and the third from a Grand Cru Classé château (and these terms were explained). Finally, it was felt that if participants knew they would be tasting wine from a Grand Cru Classé château this would be perceived even by casual wine drinkers as something more special than the average wine tasting and that this would act as an incentive to take part and remain involved.

Broadly speaking these arrangements appeared to work well – no serious problems emerged. A total of 54 panel members participated in the 2005 tastings, 44 in 2015 and 39 in 2025. (The 2025 tasting also included nine guests who were invited to taste alongside the research participants, but the guests' scores are not included in the analysis.)

All participants returned their tasting sheets at the end of each event, and analysis of the scores and narrative comments suggests that all participants attempted a serious assessment of each wine along the lines requested.

6. Participants' Assessments of the Wines: Analysis

Having explained the design of this research (section 3), the composition of the research panel (section 4) and the structure of the tastings (section 5), this section seeks to analyse the participants' scores and other feedback from the tastings. The study seeks to answer – at least from the perspective of the participants in this study – the research question: *to what extent do consumers of red wine genuinely value wines of greater maturity?*

All data in this section relates to the final cohort of 39 participants who remained involved across the full life of the project from the initial tastings in 2005¹⁰ to the final tasting in 2025. See section 4.5 for a summary of the demographics of these participants.

In quantitative terms, the starting point for this analysis is a collection of *nine wine scores* on a 0 – 20 scale submitted by each participant: three wines assessed at the 2005 tasting, three wines in 2015 and three wines in 2025. This gives a total of 342 scores.¹¹ On each occasion, participants were invited to assess their *enjoyment* of the wine *at the time of the tasting*.

In addition to the scores, each participant gave extensive narrative comments on each wine: the thoroughness of these narrative comments is evidence of the seriousness with which participants approached the task. It is hard to analyse the notes systematically in the way that we can analyse the scores, but some examples of narrative comments appear in section 6.9 below.

6.1 Approach to differential scoring of the study wine versus comparator wines

As explained in section 3.5, the basis of analysis is not on the absolute scores give by tasters to particular wines, but rather on the *differential* scores between the participants' assessment of the study wine (Château Batailley 1990 en double magnum) and the comparator wines at each of the three stages of the research.

At each stage, participants tasted an initial comparator being a petit château red Bordeaux from a vintage two years prior to the tasting and a Cru Bourgeois red Bordeaux (Château Beaumont) from a vintage eight years prior to the tasting (see Appendix A for specific details of the wines used at each stage and the mean absolute score given to each).

The differential scores shown below are the arithmetical difference between the score given to the study wine and the weighed mean scores given to the two comparator wines. A weighted mean of the comparator scores is computed as follows for each participant at each stage:

$$\text{Mean comparator score} = \frac{1 \times \text{Score of First Comparator} + 2 \times \text{Score of Second comparator}}{3}$$

This weighting is justified because the first comparator (a two year old petit château from elsewhere in Bordeaux) is less likely to show similar characteristics to the style of the study wine whereas the second comparator (an eight year old Cru Bourgeois wine, with oak ageing,

¹⁰ References to the '2005 tastings' or '2005 scores' include data from both the initial tastings (York in November 2005 and Sheffield in January 2006) – see page 16.

¹¹ As explained in section 4.4, three participants sent apologies for the 2015 tastings but these individuals had been present at the initial 2005 tastings and remained part of the final cohort in 2025. The data analysed is thus based on scores for each wine from 39 participants in 2005, 36 in 2015 and 39 in 2025.

from a château with vineyards sited only 10km from those of the study wine and on relatively similar soils) is a more reliable benchmark of a good quality claret showing some signs of development. Also, it is well known that even professional tasters often find it hard to award reliable scores to the first wine in a tasting – it is often used primarily to prepare the palate for the wines that follow – so it makes sense to give that a lower weighting.

The differential score for each participant at each stage is then simply measured as:

$$\text{Differential Score} = \text{Score of Study Wine} - \text{Mean Comparator Score}$$

Both these scores are on a 0 – 20 scale, so the differential scores could be anything in the range -20 to +20. But in practice, many tasters awarded much smaller differences (in particular, tasters were asked not to award scores of less than 10 unless they felt a specific wine was actually faulty) – this aligns with how the 0-20 scale is typically used by professionals. Tasters were allowed to use half marks but nothing smaller. Nevertheless, tasters’ absolute scores ranged widely – from 4.0 to 19.5 – across the three stages.

The analysis of how far consumers value the study wine at great maturity depends on what emerges from comparing these differential scores between the study wine and comparator wines in 2005 (tasting the study wine at 15 years from its 1990 vintage) in 2015 (25 years from the vintage) and in 2025 (35 years from the vintage).

6.2 Findings from the 2005 tastings (15 years from the vintage)

The differential scores at the 2005 tastings from the 39 members of the final cohort were as shown in Chart C (presented in ascending order).

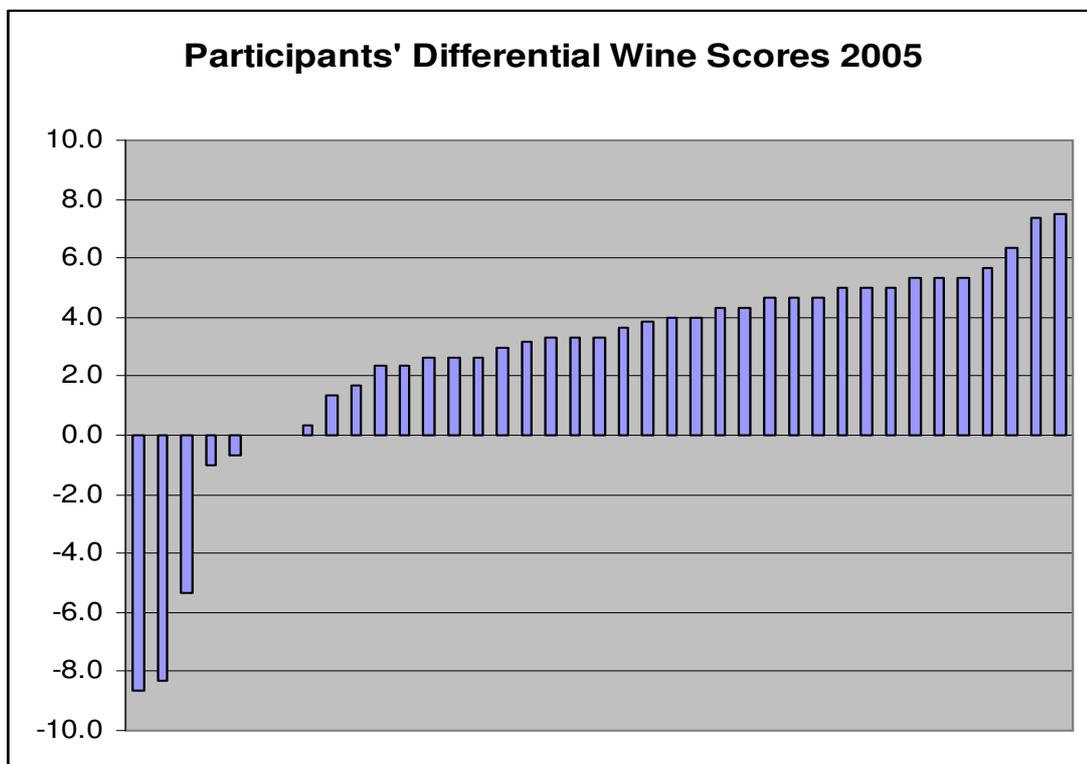


Chart C: Differential Scores at 2005 Tastings (Study Wine minus Weighted Mean of Comparator Wines)

The spectrum of differential scores is extremely broad, ranging from one taster with a difference of -8.7 (the study wine was rated 8.7 points below the comparators on the 20 point scale) to another taster with a differential score of +7.5. However, just six tasters (15%) gave the study wine a score below the weighted mean of the comparators compared to 31 (79%) who give a higher score to the study wine (even at 15 years when the tannins were still relatively pronounced). So it is clear that the study wine was considered superior by most. (Two tasters recorded no difference between the score given to the study wine and the mean comparator score.)¹²

The mean differential score across all 39 tasters was +2.67 in 2005.

6.3 Findings from the 2015 tastings (25 years from the vintage)

As explained, 36 tasters from the final cohort took part in the 2015 tastings and their differential scores (presented in ascending order) are as shown in Chart D.

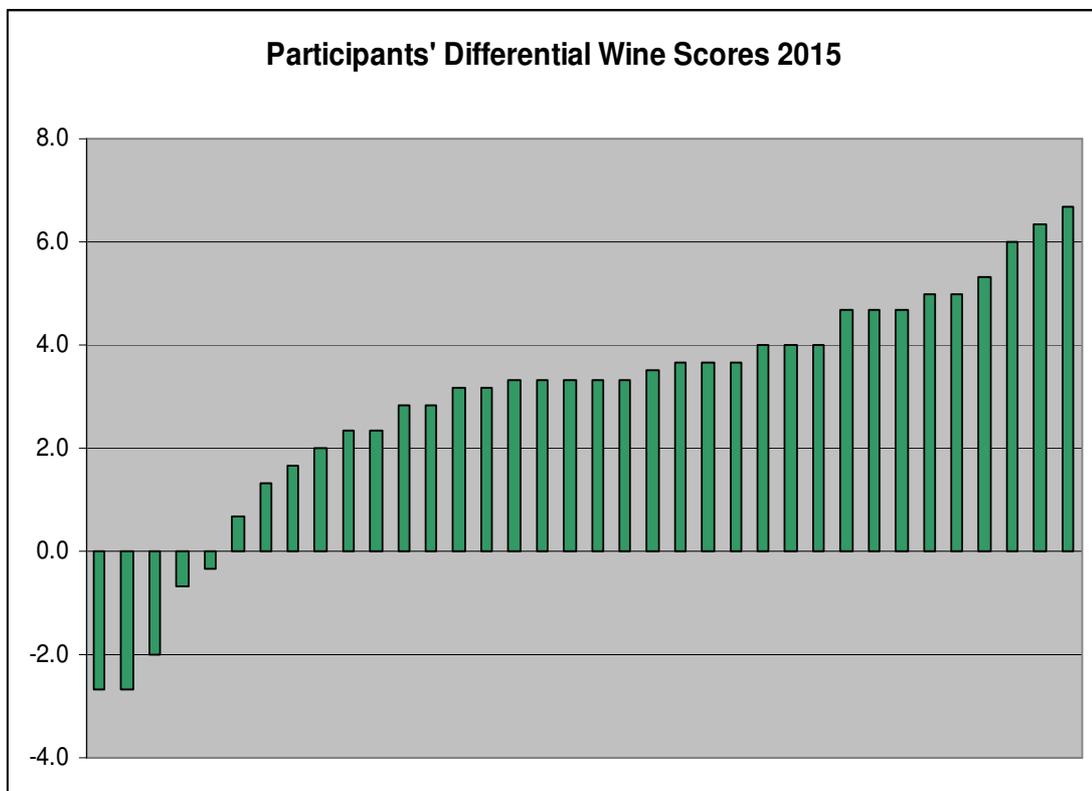


Chart D: Differential Scores at 2015 Tastings (Study Wine minus Weighted Mean of Comparator Wines)

The spectrum of differential scores is not quite so broad in 2015, ranging from one taster with a difference of -2.7 (still rating the study wine below the comparators but to a much less extent than the most critical taster in 2005) up to another with a differential score of +6.7 (slightly lower than the 2005 maximum). Five tasters (14%) gave the study wine a score below the weighted mean of the comparators and 31 (86%) gave a higher score (same number as in

¹² The researcher and his wife took part in the tastings on the same basis as other participants, but they attended both tastings in 2005/06 (York and Sheffield) and again at the 2015 tastings. Their scores (before computation of differences) are taken as the mean of their scores for each wine across both tasting events at each stage.

2005 but a higher percentage) – so again the study wine was rated as superior by most. (No tasters in 2015 gave exactly the same study wine score and the mean of the comparators.)

The mean differential score across all 36 tasters was +2.71 in 2015 (just fractionally higher than the mean differential in 2005).

6.4 Findings from the 2025 tastings (35 years from the vintage)

The full cohort of 39 tasters took part in the final tasting in November 2025.¹³ Their differential scores (presented in ascending order) are as shown in Chart E.

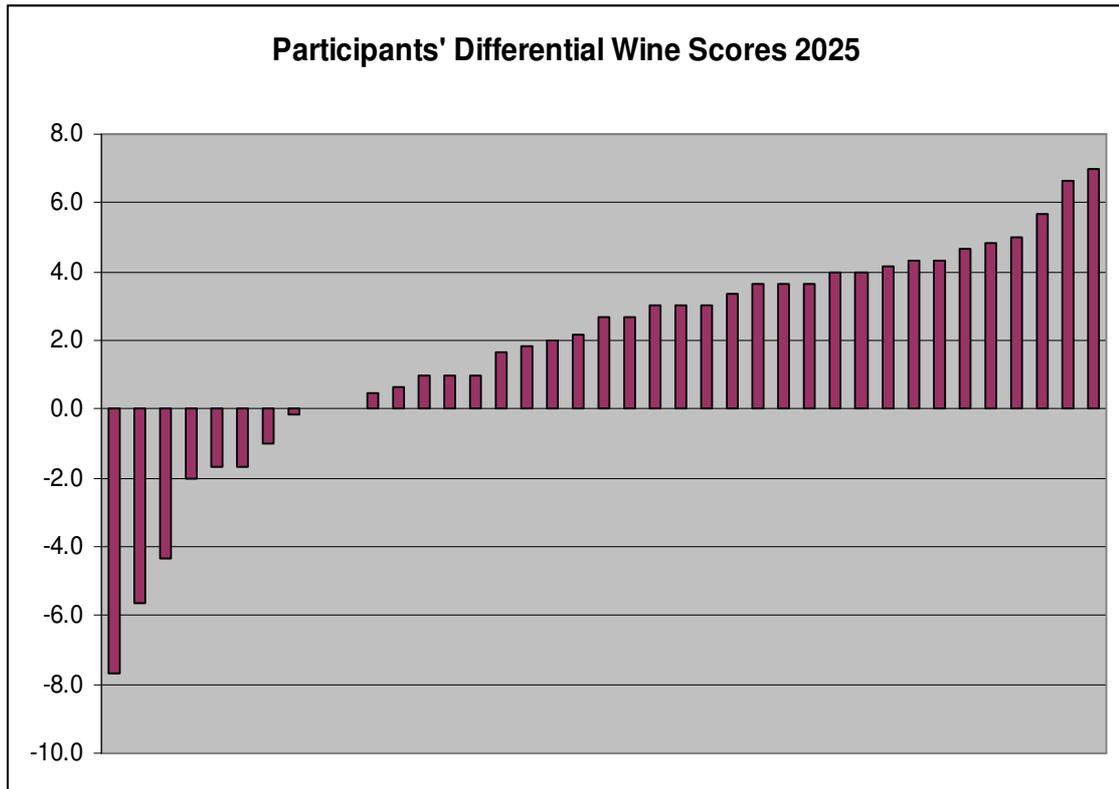


Chart E: Differential Scores at 2025 Tastings (Study Wine minus Weighted Mean of Comparator Wines)

In 2025 the spectrum of differential wines scores was wider again, ranging from one taster producing a differential score of -7.7 up to a maximum differential score of +7.0. In all, eight tasters (21%) give the study wine a score lower than the weighted mean of the comparators and 29 (74%) gave higher scores to the study wine than the comparators. (Two tasters recorded no difference between the study wine and the weighted mean of the comparators.)

However the mean differential score across all 39 tasters in 2025 was +1.82 (considerably lower than the mean differences in both 2005 and 2015).

So, whilst tasters in 2025 continued, on average, to rate the study wine as superior to the comparators, the difference is not so pronounced as in earlier tastings.

¹³ The 2025 tasting was a single event although one taster was unable to attend at the advertised time so arrangements were made for this person to taste a few hours later (but at the same venue, and using samples set aside from the same decanters as used for the other tasters, but closed to prevent further oxidation).

6.5 Combining the results from all three stages

Combining the findings from all three stages gives the following overall scores.

<i>Tasting Year</i>	<i>Age of Study Wine from Vintage</i>	<i>Mean differential score across all tasters that year (study wine score minus weighted mean of comparators)</i>	<i>Proportion of tasters preferring the study wine to the comparator wines</i>
2005	15 years	+2.67	79%
2015	25 years	+2.71	86%
2025	35 years	+1.82	74%

Table IV: Mean differential scores and proportion of tasters preferring the study wine across all three stages of the research

Considerable caution is needed in terms of drawing wider conclusions given that the sample size is relatively small (39 tasters in the cohort as a whole). Any conclusions can only relate to the specific study wine used (Château Batailley 1990) as compared to the specific comparator wines chosen, and the results are also fundamentally dependent on the comparator wines being largely consistent across the three stages of tastings.

There is also a considerable danger in drawing conclusions based on an average differential scores of tasters who had such widely differing views of the wines (the tasters' differential scores showed standard deviations of 3.59 in 2005, 2.35 in 2015, and 3.18 in 2015). Moreover, it is important to note that in all three rounds between 14 and 21% of participants rated the study wine *lower* than the comparators, and their scores are included in the averages. So, for these tasters, we are considering their perception of the least worst timescale for tasting a wine that they enjoyed less than other red Bordeaux wines.

However, it is evident that for a clear majority of participants (at least 74%) the study wine was considered superior to the comparators *at all three stages* – as we would expect for wine from a Grand Cru Classé property as compared to less distinguished wines of Bordeaux (though it is important to note that these were not blind tastings, as explained in section 5). But the extent of that superiority seems strongest at 25 years from the vintage, substantial but slightly less pronounced at 15 years, but considerably weaker at 35 years.

It is possible to take the mean differential scores from each stage and attempt to plot them as a smoothed graph showing the variation in relative quality of the study wine against the comparator wines across the three stages of the study, as shown in Chart F. Extensive caution is, of course, required in interpreting a graph estimated from only three known points (we have to assume a smooth change of relative quality over time which may not be the case). But, subject to that, it would appear that the peak age of the study wine – as judged by this particular cohort of tasters as a whole – is around 22 years from the vintage, as indicated by the light green line.

If that is correct, then based on the *average profile of all the tasters in the study*, it would suggest that Château Batailley 1990 would perhaps have been at its most enjoyable around the year 2012. However, it is well known that wine drinkers have very different opinions about whether they prefer wines younger or more mature – and the scores in this study, which show wide variations between participants, underlines this. The next subsections therefore seek to open up the data by looking at different sub-groups within the tasting cohort.

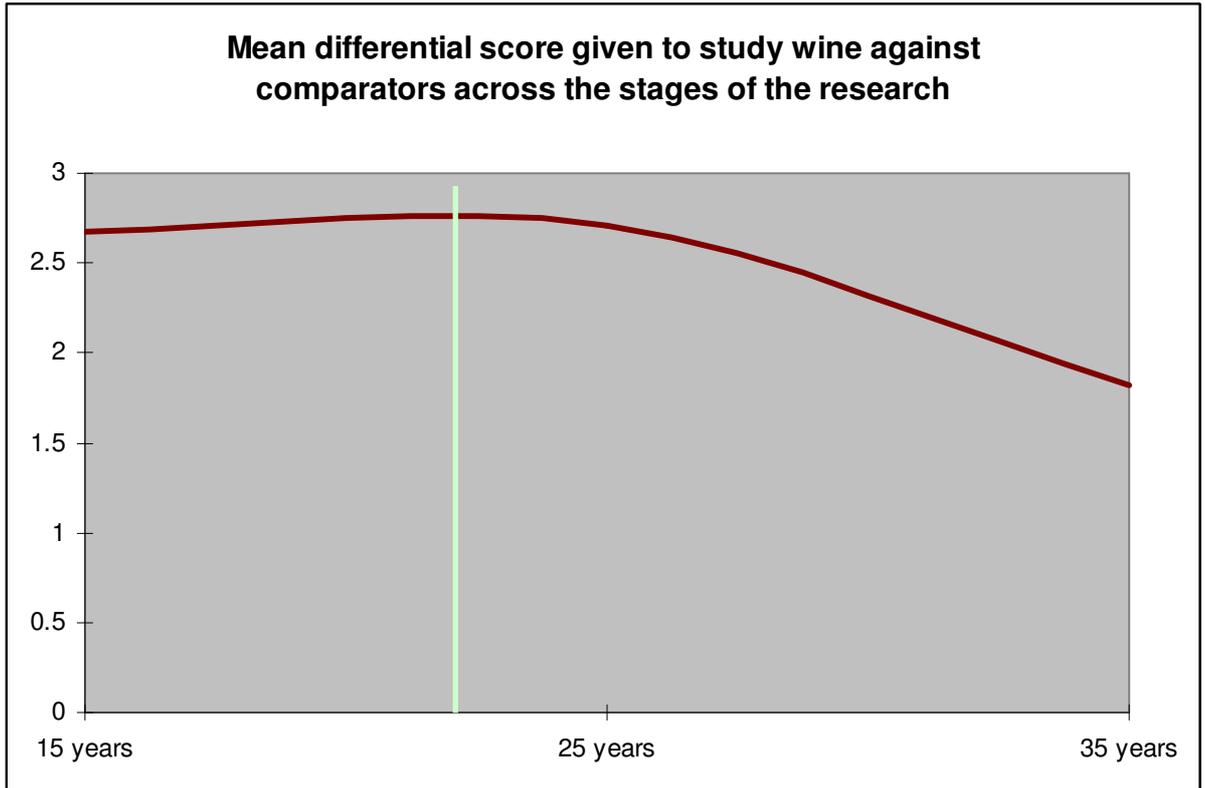


Chart F: Smoothed graph of relative superiority of the study wine (differential compared to comparator wines) over the period of the research

6.6 Analysis of wine age preference by gender of taster

Separating the mean scores between male and female participants gives the differentials shown in Table V – though caution on interpretation is vital due to the relatively small samples.

Tasting Year	Age of Study Wine from Vintage	Male participants: n = 17	Female Participants: n = 22
		<i>Mean differential score that year (study wine score minus weighted mean of comparator wines)</i>	
2005	15 years	3.53	2.01
2015	25 years	2.85	2.59
2025	35 years	2.14	1.58

Table V: Mean differential scores at each stage distinguished by gender.

Subject to the limitations mentioned, there appear to be some quite substantial differences by gender. The men tended, at all three stages, to rate the study wine as having considerably greater superiority over the comparator wines than the women.

But the male participants, on average, preferred the study wine most at 15 years (as compared to the comparator wines), somewhat less at 25 years and considerably less still at 35 years. By contrast, the female participants rated the study wine as being at its best at 25 years, less spectacular at 15 years and weaker still as 35 years (though both genders still rated the study wine higher than the comparators at all stages). So the ideal age of the study wine would appear to be 15 years or even younger for the men but something closer to 25 years for the women. This is an interesting finding given that men often appear to take much

more interest in older wines than women! Perhaps the men favoured the more intense fruit flavour and more pronounced tannins when the wine was younger, but the women preferred the greater subtlety that develops in a red Bordeaux with a bit more age – though this is only speculation.

6.7 Analysis of wine age preference by age of taster

Given the large age band of participants, it is also helpful to consider if there are any substantive differences of scoring between older and younger tasters. Separating the scores between older and younger participants gives the mean differentials shown in Table VI – though (as above) caution on interpretation is vital due to the relatively small samples.

<i>Tasting Year</i>	<i>Age of Study Wine from Vintage</i>	<i>Younger participants: Born 1955-1983 n = 19</i>	<i>Older participants: Born 1937-1954 n = 20</i>
		<i>Mean differential score that year (study wine score minus weighted mean of comparator wines)</i>	
2005	15 years	3.18	2.19
2015	25 years	3.25	2.19
2025	35 years	2.61	1.08

Table VI: Mean differential scores at each stage distinguished by age of participants

There would appear to be some substantial differences in the relative assessment of the wines according to the age profile of participants – though, as previously, the numbers are not sufficient to draw any firm conclusions.

At all three tastings, the younger participants (ages 22-50 at the initial tasting and ages 42-70 at the end) gave higher differential scores to the study wine against its comparators as compared to the older participants (ages 51-68 at the start and 71-88 at the final tasting). So perhaps the style of a Grand Cru Classé claret stood out more to the younger participants than to those who had been drinking wine much longer (though this could equally be explained by generationally different approaches to use of a scoring scale).

In terms of the mean differential scoring at each stage, the differences between the older and younger tasters are not as marked as the gender differences (above). Both age groups agree that the study wine was less impressive at the final tasting than at the two earlier tastings, but the younger age group gave a slightly superior relative score to the study wine at 25 years from the vintage as compared to 15 years whilst the older group gave exactly the same differential score at these quite different levels of maturity.

6.8 Analysis of wine age preference by level of wine knowledge

As noted in section 4.2, at the outset each participant was asked to self-assess his/her level of wine experience in relation to three broad categories: those having a reasonably serious interest in wine – e.g. having wine books, exams, or a personal cellar (coded W1), those who enjoy drinking wine regularly but without a serious interest (code W2) and those who only drink wine occasionally (code W3). See table III (page 21) for the breakdown of the final cohort by these categories. (Note that this data was only collected at the start – some participants may have increased in their levels of wine knowledge over the period of the study, though conversely two or three participants contacted the researcher prior to the final tasting to say that they drank wine less frequently than at the start of the project and asked if they

should still take part – they were advised that so long as they still enjoyed drinking red wine, even if only occasionally, they were still welcome to take part.)

As there were only four participants in the W3 category (those who only drank wine occasionally) the following analysis simply distinguishes the wine connoisseurs (W1) from those who enjoy wine more casually (W2/W3). Both categories contain similar proportions of men and women. The resulting scores are as follows – see Table VII (though again caution is needed due to limited numbers).

<i>Tasting Year</i>	<i>Age of Study Wine from Vintage</i>	<i>Wine connoisseurs (Code W1) n = 14</i>	<i>Casual wine drinkers (Codes W2/W3) n = 25</i>
		<i>Mean differential score that year (study wine score minus weighted mean of comparator wines)</i>	
2005	15 years	4.15	1.84
2015	25 years	2.96	2.56
2025	35 years	1.75	1.86

Table VII: Mean differential scores at each stage distinguished by levels of wine knowledge

The wine connoisseurs show much greater variation in the scores given to the study wine (relative to the comparator wine) across the three phases of the research than the variations of the casual wine drinkers: perhaps this shows there were more confident in allocating a wide range of scores on the sale. But, interestingly, the connoisseurs give by far their highest relative scores to the 2005 tasting when the study wine was only 15 years old – indeed, projecting from the figures above would suggest that they would have rated the study wine even more highly at less than 15 years. This is perhaps the opposite of what would be expected as it is often assumed that wine connoisseurs have more appreciation for the most mature wines as compared to casual drinkers.

By contrast, the casual drinkers gave almost the same relative score to the study wine at 15 years and at 35 years, but they show a clear preference for the study wine (relative to the comparators) at the 25 year point.

6.9 Qualitative observations by tasters

The scoring above can be set alongside some of the narrative comments by participants in their tasting notes (though, of necessity, each note only illustrates the view of one taster). The following examples are all drawn from the (final) 2025 tasting when the study wine was 35 years old – though participants submitted detailed comments on all three wines at all three stages of the research.

The highest relative score given to the study wine in 2025 as against the weighted mean score for the comparators (a difference of +7.0) was given by a female taster towards the younger end of participants, who rated herself as someone who enjoys wine regularly but without a serious interest (code W2). Key phrases from her comments on the three wines are as follows.

- First comparator (Château la Grave Bertin 2023): *'No real depth to the wine, possibly because of its immaturity. ... Initial taste is good, sparks a warmth in swallowing. Aftertaste slightly acidic/metallic. Too young to be currently enjoyed as anything*

special. Would happily drink with a meal but would not go back for a second glass.' (Score 10).

- Second comparator (Château Beaumont 2017): *'Blackcurranty overtones but not a strong/deep overall nose. Fairly acidic taste, quite a sharp overtone.'* (Score 7).
- Study wine (Château Batailley 1990). *'Almost earthy nose, strong character, more fruit nose than spice. Good body, fruit rather than acid overtones. Well rounded aftertaste. ... Enjoyable impression. Much more drinkable – would happily have again.'* (Score 15).

The high +7.0 differential score from this taster is due primarily to the low scores given to both comparator wines (especially the very low score of just 7 for the 2017 Beaumont which was then weighted more highly than the first wine in computing the mean of the comparators). But it is clear that she gained much more enjoyment from the study wine.

An example of a mid-range differential score for the study wine in 2025 (a difference of +2.67) comes from an older male taster who rated himself at the start as only drinking wine occasionally (W3). These are some key phrases from his comments.

- First comparator (Château la Grave Bertin 2023): *'Encouraging odour – perhaps a little tart. Not sweet, a little clingy in the mouth. Pleasant but not special.'* (Score 12).
- Second comparator (Château Beaumont 2017): *'Whilst not "sweet" it is sweeter than wine 1, also does not cling to the mouth... Pleasant to drink.'* (Score 14).
- Study wine (Château Batailley 1990). *'Colour thin at the rim but pleasant. Seemed a little sweeter than wine 2. Stronger taste than wines 1 & 2 – did not cling to the mouth, aftertaste good. Definitely more "moorish" than 1 & 2. A quality red wine.'* (Score 16).

Whilst this participant would not appear to be in the habit of writing formal wine tasting notes he has managed some impressive subjective comments; interestingly he focuses on perceived sweetness of the wines. His scores for the two comparator wines are more neutral than the previous taster so his differential score for the study wine is not so high even though he gives it a good score. But he offers clearly articulated reasons for the higher score that he awards to the study wine.

Three tasters gave scores of less than 10 to the study wine in 2025, clearly taking the view that it was faulty. One of these (a female wine connoisseur) commented that it was *'Brown, not to my liking, would not choose this if offered'* – she gave it a score of just 5. But this was a minority view – only three tasters out of 39 rated this wine as deserving a score below 10.

Excluding these three, the lowest relative score for the study wine (-2.0) comes from a male taster with intermediate wine experience (W2) who is close to the average age. His comments include the following observations.

- First comparator (Château la Grave Bertin 2023): *'Little nose, berry fruits. Tannin quite high, no legs.'* (Score 12).
- Second comparator (Château Beaumont 2017): *'Balanced, no excess tannins. Good length to finish.'* (Score 15).
- Study wine (Château Batailley 1990). *'No strong nose. Good length, moderate tannins, quite acidic.'* (Score 12).

His low relative score comes from the fact that he rates the Beaumont 2017 quite highly (which is weighted more than the first wine in computing the mean comparators score) – by

contrast his rating of the study wine is only the same as the initial wine. Even though this taster is probably not someone who regularly writes wine tasting notes, but he uses clear wine-specific terminology and gives clear comments and firm reasons for his scores. Even though he does not consider the Batailley 1990 to be faulty, he clearly finds the eight year old Beaumont 2017 more enjoyable than the study wine.

Whilst this discussion has only reported on a tiny fraction of the 342 tasting notes collected in the course of this study (every score was backed up some notes of some kind) it is clear that tasters took their wine assessments seriously and had a sense of rationale for the scores they awarded to each wine.

On this basis, it would appear that even with limited numbers of participants, the quantitative findings reported above represent a serious attempt by a very broad range of wine consumers to assess the three wines they tasted at each stage at to provide systematic scores for each wine.

7. Conclusion

7.1 A reflection on the study as whole

At one level it is difficult to step back and offer a clear assessment of a 20 year wine tasting research exercise (almost 35 years from the initial planning) where the researcher was the overall organiser and also a participant. At the time of writing it is only just over two months since the final (2025) tasting. This was in some ways an emotional occasion as many participants who had got to know each other partly through the project (e.g. former work colleagues) realised it was probably the last time they would meet up. There was a recollection of the three panel members who started the project but died before it was completed, and of others who had had to withdraw for health reasons.

But there seems little doubt that this project has attempted a very systematic attempt at gathering assessments from a genuine longitudinal wine tasting of the *same wine* over a very extensive time period. This was undertaken by a reasonable sized panel (39 participants who continued throughout) with every possible care to maintain consistency in tasting arrangements between the different stages. It is suggested that the use of *comparator wines*, selected as explained in section 3.5 to ensure maximum consistency over time, and then focusing on the *differential scores* between the study wine and the comparator, offers a reasonably robust attempt to address the issues of tasters' changing palate over time.

The commitment of participants over a 20 year period is exceptional, with 39 individuals (72% of the original 54 panel members) remaining involved from the initial 2005 tastings through to the final tasting in 2025. Most of those who could not remain involved did so for clearly articulated reasons – only five were lost from the study due to lack of contact.

As explained, all participants submitted detailed scores and tasting notes on each of the three wines at each stage (apart from three who could not attend the middle tasting in 2015). This gave 342 wine scores for analysis, each supported by narrative comments.

7.2 Answers to the research question

Section 6 of this report tabulated the all important differential scores at each stage (the differences between the scoring of the study wine and the weighted mean scores given to the comparator wines).

The mean differential scores show that *at all stages* the study wine (Château Batailley 1990) was rated more highly than the comparator wines by the vast majority of participants. It was clearly experienced by most as a high quality wine even at 35 years from the vintage.

But the differential scores vary considerably between the three stages of the research (sections 6.2 to 6.5). At each stage there are also interesting variations in the differential scores when the participants are broken down by gender, age band, or wine experience (sections 6.6 to 6.8).

The aim of the study was to answer the question: *to what extent do consumers of red wine genuinely value wines of greater maturity?*

This question can only be answered in relation to the one particular study wine (Château Batailley 1990) used in this research and in relation to other red Bordeaux wines used as

comparators. But based on the combined differential scores of all participants in this study (all red wine drinkers, spanning a wide spectrum of ages, gender and levels of wine experience) we can draw the following conclusions.

- Firstly, we note that at all three ages (15, 25 and 35 years) from the vintage, the study wine was rated higher than the comparators (the oldest of which was eight years at the time of each tasting). Admittedly we would probably expect that a Grand Cru Classé claret would be rated more highly than less distinguished wines of Bordeaux, but the fact that tasters agreed it was superior at all ages is broadly supportive of the assertion that red wine consumers appreciate a quality wine with considerable maturity (even the first tasting at 15 years from the vintage was presenting a wine considerably older than most of the Bordeaux wines offered in restaurants).
- Secondly, it is clearly *not* the case that the wine got better and better over time, at least based on the assessments of these participants. On average, across all participants, the Château Batailley 1990 had its highest differential score against the comparators at 25 years from the vintage (on average scoring +2.71 above the comparators on a 20 point scale). It was rated slightly lower (+2.67) at 15 years.¹⁴ But a much more marked difference is noted at 35 years, when it was rated only +1.82 against the comparators.

This is also borne out by the proportion of tasters preferring the study wine to the comparators¹⁵ – the largest proportion (86%) preferred the study wine at 25 years, 79% at 15 years and 74% at 35 years. (See Table IV in section 6.5.)

Attempting to smooth the differential scores across the three stages (albeit recognising the limitations of such an approach – see Chart F and the discussion in section 6.5) it would appear that the optimum maturity for this particular wine for this group of tasters as a whole would be around 22 years from the vintage – i.e. the perfect time to drink Château Batailley 1990 would have been 2012.¹⁶

- Thirdly, this overall finding is worth unpacking to consider the very different perceptions of different groups of tasters (subject to caution on limited numbers).

Table V (section 6.6) suggests that there were marked differences by gender: on average the male tasters preferred the wine younger (possibly their peak age would even be less than 15 years) whereas the women valued the wine with a little more maturity – their highest rating was at 25 years.

¹⁴ However, it should be noted that the difference between a score of 2.71 and 2.67 is unlikely to be statistically significant based on a cohort of 39.

¹⁵ In all cases in this section, the comparator scores refer to the weighted mean score across the two comparator wines tasted at each stage – see section 6.1.

¹⁶ As noted in section 3.3, the 1990 vintage is widely considered by commentators to be a high quality vintage for red Bordeaux suitable for laying down for some time (a *'vin de garde'*), but many commentators have also suggested that it is a relatively early drinking style because of the very ripe fruit – not suitable for keeping for as long as some other leading vintages. So, taking that into account, the suggestion of 22 years optimum maturity for drinking shows a very considerable perceived life assessed by the participants in this study. The decision to use wine in double magnums (see section 3.3) may also have added to the participants' enjoyment of the wine at a greater age. (Double magnums were also used for the second comparator in the second and third stages.)

Similar differences are shown in relation to levels of wine experience (Table VII in section 6.8) with wine connoisseurs more likely than casual drinkers to rate the study wine higher when it was younger.

The distinction by age of taster is not so marked, but Table VI (section 6.7) shows that the relative quality of the study wine at 35 years was perceived to be much less pronounced for the older tasters than the younger ones – in other words the younger tasters (those aged 42-70 at the final tasting) awarded more of a premium to a wine with considerable maturity than the older tasters did.

7.3 Summary

This research shows that, at least in relation to one particular red Bordeaux study wine (Château Batailley 1990) a broad range of red wine consumers do appreciate a wine with some maturity.

The overall consensus across the study was that this wine tasted better than its comparators at 25 years – more so than at 15 years from the vintage. Even at 35 years almost three quarters of tasters continued to rate it superior to the comparators, but the differential scores were considerably lower. Based across the participants as a whole, the optimum age would appear to be around 22 years.

But within this there are broad differences between tasters: it appears that male tasters and wine connoisseurs were more likely to prefer the wine younger (at 15 years) as compared to the female tasters and casual wine drinkers who tended to give the highest rating at 25 years.

However, on the combined scores, all groups of tasters rated the study wine as considerably less superior (as compared to the comparators) when it was 35 years old – by then it was clearly past its peak for most participants.

So, at least for this particular wine, we can conclude that red wine consumers do genuinely value a wine with greater maturity – but only up to a point (perhaps 25 years or slightly younger). By 35 years the wine was clearly declining.

Dedication

The findings in this report are dedicated to the 39 participants (and others who took part in earlier stages but who sadly could not continue). Their commitment to re-taste wines over a 20 year period, sometimes undertaking extensive travel at the later stages, and in all cases providing tasting notes and scores so carefully over such a long period, was truly amazing.

In order to protect their anonymity they cannot be named here, but the researcher and anyone who makes use of these findings acknowledges their extraordinary dedication to this project.

Appendix A: Schedule of Wines Tasted

The specific wines tasted at each stage, including the appellations and suppliers, were as follows. See sections 3.3 and 3.5 of this report for the rationale behind the wines selected.

In each case the first comparator wine was a young wine recently bottled, held by the researcher for a few months prior to the relevant tastings.

The second comparator and the study wine were both purchased *en primeur* and delivered to the researcher immediately on release – they were then held in the author’s purpose built wine store until immediately before the relevant tasting.

In each stage the first comparator wine was served from bottle. The second comparator wine and the study wine were both decanted, typically 2-3 hours before the tasting. No systematic monitoring of temperatures were used, but it is estimated that all wines were served slightly below room temperature (approx 18-20C) which is generally seen as an ideal temperature for consumption of red Bordeaux.

This table also shows the mean absolute score (on the 0 – 20 scale) given to each wine at each stage across all tasters in the final cohort – though it is the differential scores between the wines as assessed by individual tasters that forms the basis of analysis (see sections 3.6 and 6.1).

Tasting Stage	First Comparator Wine	Second Comparator Wine	Study Wine
2005	Avery’s Fine Claret 2003 AOC Bordeaux (Supplier: Averys of Bristol, delivered Oct 2005) <i>Mean score: 10.9</i>	Château Beaumont 1997 AOC Haut-Médoc Cru Bourgeois <i>in bottles</i> (Supplier: Averys of Bristol, delivered summer 2000) <i>Mean score: 13.6</i>	Château Batailley 1990 AOC Pauillac, 5ème Grand Cru Classé <i>en double magnums</i> (Supplier: Averys of Bristol, delivered Nov 1993) <i>Mean score: 15.4</i>
2015	Château Bernot 2013 AOC Bordeaux (Supplier: Averys of Bristol, delivered spring 2015) <i>Mean score: 11.5</i>	Château Beaumont 2007 AOC Haut-Médoc Cru Bourgeois <i>en double magnums</i> (Supplier: Averys of Bristol, delivered Jan 2011) <i>Mean score: 14.3</i>	Château Batailley 1990 as above <i>Mean score: 16.3</i>
2025	Château la Grave Bertin 2023 AOC Bordeaux (Supplier: The Wine Society, delivered Nov 2024) <i>Mean score: 10.6</i>	Château Beaumont 2017 AOC Haut-Médoc Cru Bourgeois <i>en double magnums</i> (Supplier: Averys of Bristol, delivered Dec 2020) <i>Mean score: 14.0</i>	Château Batailley 1990 as above <i>Mean score: 14.7</i>

Appendix B: Schedule of Survey Questions Used

The following questions were used in the online survey sent to all participants in autumn 2023 (two years before the final tasting in 2025) – see sections 4.3 and 4.4 for further discussion. (Compulsory questions are marked*).

1. Your name:*

2. Your gender:* *Male / Female*

3. Your year of birth:*

4. Is your home address correct in the covering email? (Shown towards the end of the email.)* *Y/N*

4a. If no, please enter new address if applicable:

5. Is the telephone number shown in the email the best number to use? * *Y/N*

5a. Please enter new telephone number if applicable:

6. Is the email address to which I sent this survey the best email to use? Do you expect that this email address will still reach you in autumn 2025? * *Y/N*

6a. Please enter new email if applicable:

7. As far as you can remember, what was your main reason (or reasons) for signing up as part of this Longitudinal Wine Tasting Research Project back in 2005/06 when it began? [*Free narrative answer*]

8. What's the main reason or reasons that have persuaded you to remain involved in the project? (Please select all reasons that apply to you.) *Reminder: So far we have had the initial tastings in 2005/06, the second research tasting in 2015 - and there have also been optional intermediate gatherings in 2010 and 2022. The final tasting is planned for [date in Nov 2025].*

[*Multiple selections allowed*]

I enjoy drinking wine

I feel it is a worthwhile research project that will deliver useful conclusions

I think the tastings are enjoyable in social terms

I like the idea of getting together with others over a long period of time

I feel a sense of loyalty to Gareth as the organiser

I like the idea of being part of a long term cohort of people in a study.

Other

8a. If you selected Other, please specify:

9. When you signed up to take part in this project, how far did you really expect to be involved for 20 years up to 2025? (*Please choose the most appropriate answer or select 'Other'.*) [*Single selection*]

Yes, I knew from the beginning that it was a 20 year project and I was generally happy to make that commitment.

I thought it might be interesting to come to a series of wine tastings, but I didn't really think about the timescale of the project.

I was happy in principle to commit to a long term project, but was aware that future circumstances might limit my involvement.

I really only thought about the first tasting when I signed up.

Other

9a. If you selected Other, please specify:

[Introductory text regarding the final tasting]

10. How confident are you that you will be able to join us for the final tasting on [date]?*

[Single selection]

- I am determined to be there (barring disasters or unexpected health issues)
- I very much hope to be there but I cannot confirm until nearer the time
- I would like to be there but it depends on factors outside my control
- I probably won't be able to take part but please keep me on the list just in case
- I definitely cannot take part in the final tasting and I would therefore like to withdraw from the project (feel free to add details below)
- Other

11. What would be your preferred method of travel for the tasting on [date] (the event will be somewhere in central Yorkshire)? *(Just your preliminary thoughts - this is not a commitment.)*

[6 options presented plus Other]

12. Would you like to stay for the dinner after the tasting? *(This is just a preliminary indication.)* Y/N

13. It may be possible to accommodate a small number of guests (e.g. spouses/partners) at the event on [date] who were not part of the original project. Please say whether you would like to bring a guest (if applicable). *[Single selection]*

(if applicable). *[Single selection]*

- I would be happy to attend on an individual basis on [date]
- My partner is also a current participant in this project and is responding separately to this survey and we expect to attend together on [date]
- I would like (if possible) to attend on [date] with a partner/guest who is not a participant in the research (please enter name below)
- I do not expect to be able to attend on [date].

13a. If you would like to bring a guest (subject to space) please enter his/her name:

14. Would you appreciate a venue (e.g. a hotel) where there is the option to stay overnight (at your own expense)? Y/N

15. Do you have any other comments about this project which you would like to share at this stage?

[Free narrative answer]

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LONGITUDINAL WINE TASTING RESEARCH PROJECT

Do wine drinkers prefer quality red Bordeaux with maturity?

An initial assessment of findings

Gareth G Morgan – January 2026 *Draft for Participants*

