



# A Survey of Horse Racing Opinions and Perceptions

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## ABSTRACT

With a global reach of 584 million households, horse racing is a globally important sport with 14 million potential UK customers. Although it is the UK's second-most attended sport, attendances fell by 500,000+ from 2015 to 2019, with particular problems engaging and retaining younger audiences. This study focuses on the Millennial and Gen-Z demographics to discover why audiences show a reduced interest. We analyse the determinants underlying engagement using focus groups and a questionnaire. Our empirical results identify the key factors determining attendance and viewing. Horse racing is exciting and social but there are

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ethical concerns around horse injuries and horses' fates. Concerns are far higher than for other competitive sports, and increase systematically as participants get younger. Participants would engage more if openness was increased with this willingness increasing as participants get younger. Horse racing lacks easily identifiable figures and there are concerns around betting, terminology and attendance costs.

## **Keywords:**

Horse racing, survey, audience engagement, data analysis, demographics

## **INTRODUCTION**

Horse racing is globally popular sport with an event such as the UK's Royal Ascot broadcast to over 584 million households in 200 countries [1]. Horse racing is currently the United Kingdom's second most attended sport with 6 million attendees [2]. Horse racing attendees are diverse, coming from a range of socio-economic and ethnic backgrounds, with 39% of horse racing tickets purchased by females [3]. 2/3 of attendees state they attend horse races as a means of socialising and only 6% of attendees rate actually watching the horse races as more important than socialising [3]. Choy's [4] ethnography of attendees at the Singapore Turf Club, also found the social aspect of attending the races as being of higher importance than the chance to bet on race horses. Furthermore, Two-Circles [3] found that only 14% of attendees attend horse racing to bet, indicating the opportunity to socialise provides the primary means of attracting attendees to watch horse racing in person. The 6% of racegoers who attend primarily to watch the horse races themselves, were also concurrently found to be most likely to repeatedly attend horse racing in person. This suggests that creating an environment in which customers become truly engaged in the horse racing itself is key to maintaining high customer retention rates.

Riley [2] states that horse racing attendance in the UK is in decline, with a drop in total attendance of over 500,000 from 2015 to 2019, and the sport struggles to engage and keep younger audiences<sup>1</sup>. In Australia, only 20% of the racing audience is between the ages of 18-29 compared to 40% for basketball [5]. However, previous sports surveys in the literature have found no statistically significant relationship between age and sports engagement levels [6] so there is no clear precedent for this fall. We aim to analyse horse racing engagement across a

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<sup>1</sup> <https://www.racingpost.com/news/getting-more-people-engaged-in-the-sport-is-the-big-challenge/291056>

range of age demographics to determine the underlying factors influencing levels of engagement.

Choy [4] studied motivations for horse racing attendance amongst elderly Chinese racegoers at the Singapore Turf Club. Choy [4] suggests these elderly racegoers feel alienated by entering a liminal space in their lives but elderly racegoers can find a social space at the racecourse where they are accepted due to sharing a common interest. Similarly, Budzynski-Seymour *et al.* [7] suggests that as students transition from school to university to the workplace, they experience a stressful liminal space, in which they must learn to quickly adapt to a new way of life. Considering this similarly, young adults are an appropriate target group for increasing horse racing attendance, because of their current lower level of engagement in horse racing and because, sociologically speaking, they are similar to the elderly racegoers in Choy's [4] study.

Lim *et al.* [8] state increasing the use of social TV<sup>2</sup> to engage a sport event's viewers in communication, increases channel loyalty, and could aid retention of horse racing television viewers. Gen-Z viewers were noted to use the highest levels of Social TV, and to have the strongest preference for services and platforms allowing a high level of social interaction [8]. Hwang and Lim [9] state users of Social TV want to find information about their sport in an efficient manner, even if it means turning to other fans for that information. Channels with higher convenience, and platforms which generated a greater ease of finding information had higher levels of customer commitment and repeat viewing [9]. We explore the importance of social factors in determining horse racing engagement and preferences.

Bergmann [10] highlights how general public concern regarding the welfare of racehorses is driving a decline in horse racing attendance and in viewing of horse racing on television. Other papers have surveyed horse welfare [11,12] and whip use: whether whip rules are sufficient [13] and whether they are breached [14]. Bergmann's [10] study of horse racing perception across Australia showed only 22% of the public had a positive perception of horse racing, and that 54% of current horse racing fans would not recommend their friends start following horse racing. Such concerns are transferable across the globe; therefore, we explore these ethical considerations as they may be a factor in driving the recent decline in horse racing attendance in the UK.

There have been many studies of gambling on horse racing and its effects on participants. Forrest & Simmons [15] consider the symbiotic relationship between gambling

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<sup>2</sup> TV with a real-time companion app for communication

and sport in general looking at positive factors (financial investment) and negative factors such as sports corruption by betting syndicates. McManus & Graham [16] analyse perceptions of gambling and the relationships between viewing horse races and gambling on these events, highlighting the variation in attitudes to gambling and the variety of experiences among gambling participants. Holtgraves [17] analyse the general issue of problem gambling across 5 domains including sports and horse racing. Wardle *et al.* [18] surveyed the gambling habits of 16-24 year olds in the UK and found that 10.8% had bet online on sports and 2.3% in a bookmakers in the last year, and 7% had bet online on horse racing and 5.8% in a bookmakers in the last year. We analyse gambling and its perceptions as a driver for horse racing engagement.

There is a noticeable lack of literature surrounding non-betting related attendance at horse racing and viewing of horse racing on television or online streaming services, and the motivating factors behind attendance and viewing. Melnick [19] analysed audience engagement in a variety of Australian sports including horse racing but did not analyse the fan experience or motivations for engagement. There has been no work analysing age demographics and their respective motivations. This study aims to somewhat fill this gap in the literature and will be useful for developing marketing strategies that offer what fans want from horse racing events, media and broadcasts. Both positive (inspiration) effects and negative (discouragement) effects related to engagement are considered. Given the exploratory nature of our investigation, we did not test a priori hypotheses but focused on analysing descriptive and inferential statistics of the survey sample and analysing relationships between key variables.

In this research, we surveyed Gen-Z, Millennial and aged 40+ survey participants regarding their opinions and engagement in horse racing. There is some debate regarding exactly where the division between Millennial and Gen-Z should be drawn. For the purposes of this article, we regard Millennial participants to be aged between 25 and 39, (born between 1981 and 1995), and Gen-Z participants to be aged between 8 and 24, (born between 1996 and 2012). For ethical reasons, this report only gathered data from participants over the age of 18.

## **METHOD**

We surveyed participants using focus groups and an online questionnaire.

## Focus groups

Focus groups were conducted via videoconferencing, in small group sessions lasting one hour. 10 participants took part in total. Focus groups were not recorded, and were minuted anonymously to ensure open discourse and to comply with ethics. Each participant was allocated a random number to allow the researchers to compare the same participant's responses across different questions. Consent forms were gathered from all participants, and all participants also autonomously chose to consent to having their quotes presented in this paper. The researchers asked participants whether they had any questions before the focus group began. Throughout the focus group, participants were asked a series of questions, which they were then allowed to openly discuss. Depending on the participant's initial answers, occasionally small prompts were used to request more detailed feedback. Focus group responses were analysed using deductive thematic analysis, with deductive themes including ethics concerns relating to horse welfare, ethics concerns relating to betting, cost, social experience, and crowd behaviour. Inductive themes were also noted in the data and reported.

## Survey

We advertised the survey via UK university mailing lists and carefully targeted social media posts. We aimed to ensure a good proportion of Gen-Z and Millennial respondents and wanted to focus on UK participants. Our advert asked them to take part in a survey titled '*Is Horse Racing Engaging and Informative?*' The survey took place during August 2020 and comprised 143 questions in the Qualtrics survey framework ([www.qualtrics.com](http://www.qualtrics.com)). Our bespoke survey was designed to send participants down one of 3 different routes: i) participants who already engage with horse racing, ii) participants who do not engage with horse racing but have considered engaging or engage with other competitive sports, and iii) participants who neither engage with horse racing nor competitive sports. Each route was designed to take approximately 12-15 minutes to complete, and all aimed to gain information relating to individual's perceptions of horse racing.

The survey had a variety of question types carefully selected and evaluated during a pilot test phase to ensure the survey produced maximum value.

**Closed-ended single-answer multiple choice questions** were used to aid direction of participants through the different survey routes, for example for the question 'Have you ever considered attending horse racing in person?' participants were able to choose either 'yes' or 'no', and their answer then dictated whether they were offered more questions about horse

racing, or whether they were directed towards questions regarding why they would not consider attending.

**Closed-ended multiple-answer multiple-choice questions** were used to gain feedback from a possible range of answers, for example the question 'Would you be more likely to engage more in watching horse racing if content was available in any of the following languages? Click all that apply.', where a participant was unlikely to want to select all the possible answers. An 'other' box was also provided, to ensure participant's whose native language was not included on the list were able to offer an answer if desired.

From pilot testing, we found **closed ended multiple-answer multiple-choice questions** best for ethics questions. They provided a clearer opinion as to which areas of horse racing caused the greatest ethical concern. For concordant reasons, such questions were similarly utilised to evaluate participant's ideas regarding what factors posed the largest barriers to attendance of horse racing.

**Sliding scale questions** were used to gather numerical data, for example 'How many times per year do you watch competitive sports on television or an online streaming service?', where participants might watch once per year or many times.

**Open-ended written-answer questions** were selected where researchers hoped to gain more detailed information regarding participants' opinions, or where researchers felt participants could potentially offer new ideas regarding methods of increasing engagement. An example question is: 'What changes could be made to encourage you to watch horse racing on television or an online streaming service?'. We analysed the responses using deductive thematic analysis techniques, with deductive themes including ethics concerns relating to horse welfare, ethics concerns relating to betting, cost, social experience, and crowd behaviour. Inductive themes were also noted in the data and reported on.

**Bipolar Likert-style questions** with a 5-point scale (1=disagreed, 2=somewhat disagreed, 3=neither disagree nor agree, 4=somewhat agree and 5=agreed) were included to gain more information about participants motivations for engaging with horse racing and competitive sports, attending horse racing and watching horse racing and competitive sports on television or online streaming services. Likert-style responses were statistically analysed for bipolar data with percentages of participants who responded with each scale answer recorded.

## Results

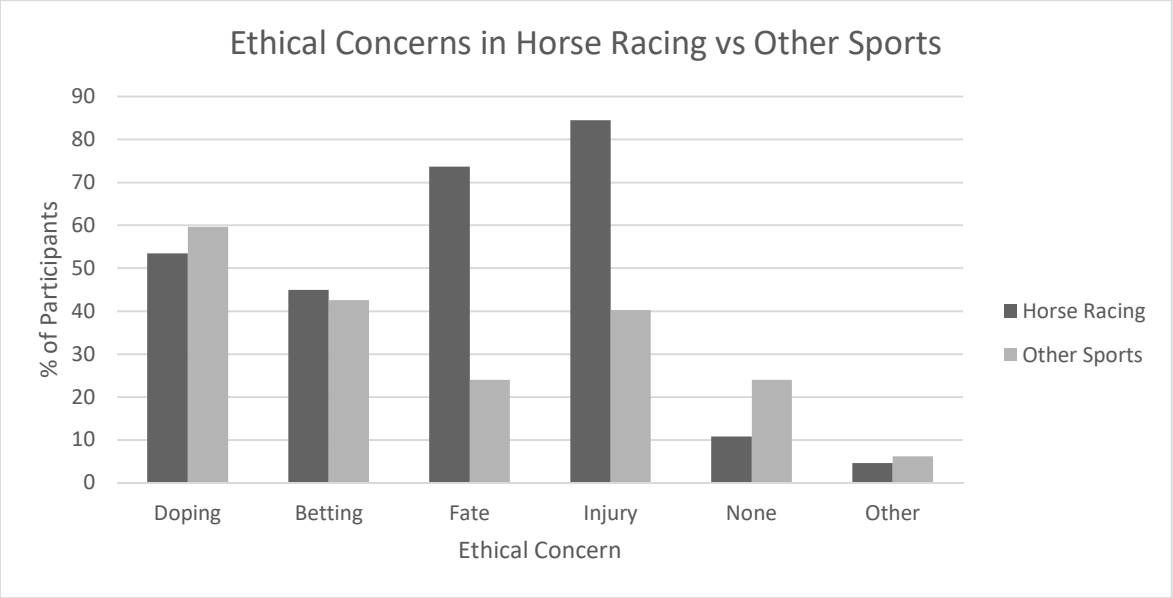
For the focus groups, of 10 participants, 9 were Gen-Z and one was a Millennial. 9 participants had not previously attended horse racing in person. The one Gen-Z participant who had previously attended at a local racecourse stated they had attended occasionally.

For the questionnaire, of a total of 129 questionnaire respondents, 76 were female and 53 were male. We do not analyse gender here but focus on age differences. 52.7% (n=68) respondents were Gen-Z, and 24.8% (n=32) were Millennials. The remainder comprised 22.5% (n=29) members of the 40+ year age category. 32.6% (n=42) of respondents had a personal interest in horses while 37.2% (n=48) participants had some engagement or had considered engaging and 30.2% (n=39) had not engaged with horse racing in any form.

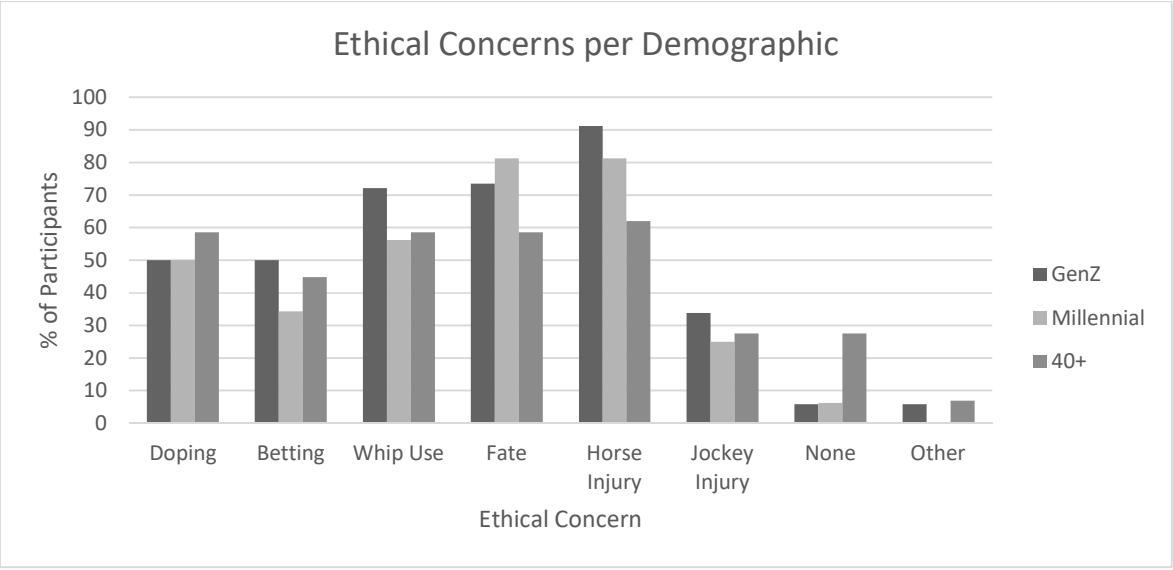
## Ethical concerns

During the pilot testing, it soon became apparent that ethical concerns mainly around welfare, but also betting were key drivers in determining people's levels of engagement with horse racing. We ensured that all questionnaire participants (n=129) were asked if they had ethical concerns at some point in their route through the questionnaire. In the focus groups, 7/10 participants (all Gen-Z) were concerned about the risk of injury to horses and 1 Millennial had ethical concerns surrounding betting. All participants with ethical concerns about horse injuries agreed that whilst betting could also be an area of ethical concern, they feel betting is *'okay, but there are issues of going too far'*.

All survey participants were asked to compare their horse racing concerns to those they had in other competitive sports which provides a baseline for comparison (n=129 and closed-ended multiple-answer multiple-choice). Results are presented in *Figure 1*. Over twice the percentage (84.5% of participants) had ethical concerns about risk of injury to the horse in horse racing compared to 40.3% of participants who had ethical concerns about risk of injury to athletes in other competitive sports. Additionally, 65.9% of participants had ethical objections to whip use in horse racing. Around three times the percentage (73.6%) had ethical concerns about the fate of racehorses on retirement compared to 24.0% who had concerns about fate of athletes on retirement. A slightly higher percentage is concerned about doping in other competitive sports (59.7%) compared to 53.5% in horse racing. Similar percentages, 44.9% and 42.6%, had ethical concerns about betting in horse racing and other competitive sports respectively. Ethical concerns stated in the "Other" box included *'horse euthanasia'*, *'training methods'* and *'selective breeding issues'*.



**Figure 1** Participants were asked whether they were concerned by a range of ethical aspects relating to horse racing and competitive sports (not including horse racing).



**Figure 2** Participants were asked whether they were concerned by a range of ethical aspects relating to horse racing. The chart breaks down their responses over the three demographics, Gen-Z, Millennial and older participants.



Figure 2 breaks down the responses over age demographics with all participants included. More aged 40+ have no ethical concerns than the younger demographics (27.6% compared to 5.9% and 6.3% for Gen-Z and Millennials respectively). Aged 40+ are more concerned about horse injury closely followed by doping, whip use and fate of horses in retirement with Gen-Z and Millennials most concerned about horse injuries, the fate of horses in retirement and whip use, with doping fourth.

**Table 1** – Participants’ responses to a range of statements relating to ethical objections and horse racing attendance (1=disagreed, 2=somewhat disagreed, 3=neither disagree nor agree, 4=somewhat agree and 5=agreed). The percentage of responses is shown for each Likert score plus mean score and standard deviation. We use parametric tests to analyse the Likert data [20] and assume the "distance" between the levels of the scale is equivalent. We use the mean to determine where the demographic’s responses are strongest and the SD to examine each demographic’s spread of responses.

Statement		1	2	3	4	5	$\bar{x}$	SD
S1. If there was more ethical transparency, I would be more likely to attend/watch horse races.	All	14.3	12.5	27.7	33.9	11.6	3.16	1.22
	Gen-Z	7.8	9.4	25.0	40.6	17.2	3.50	1.12
	Mill	8.3	25.0	29.2	29.2	8.3	3.04	1.10
	40+	37.5	8.3	33.3	20.8	0.0	2.37	1.19
S2. If I suggested going to the horse races, my friends would happily go with me.	All	13.4	21.4	18.8	33.0	13.4	3.12	1.27
	Gen-Z	17.2	21.9	23.4	28.1	9.4	2.91	1.25
	Mill	8.3	29.2	12.5	25.0	25.0	3.29	1.34
	40+	8.3	12.5	12.5	54.2	12.5	3.50	1.12
S3. I am afraid my friends would judge my morals if I shared horse racing related content on an app or website, or suggested attending horse racing in person.	All	29.5	9.8	24.1	25.0	11.6	2.79	1.40
	Gen-Z	18.8	10.9	25.0	32.8	12.5	3.09	1.30
	Mill	37.5	8.3	12.5	29.2	12.5	2.71	1.52
	40+	50.0	8.3	33.3	0	8.3	2.08	1.26
S4. I think horse racing is unethical, therefore I would not consider attending/watching horse racing.	All	17.9	13.4	20.5	17.9	30.4	3.30	1.47
	Gen-Z	9.4	15.6	14.1	21.9	39.0	3.66	1.38
	Mill	25.0	12.5	20.8	16.7	25.0	3.04	1.52
	40+	33.3	8.3	37.5	8.3	12.5	2.58	1.36
S5. My friends would find horse racing related content interesting, if I shared it on a social media based app, or a website.	All	36.6	33.9	19.6	8.9	0.9	2.04	1.01
	Gen-Z	31.3	43.8	15.6	7.8	1.6	2.05	0.96
	Mill	45.8	20.8	20.8	12.5	0.0	2.00	1.09
	40+	41.7	20.8	29.2	8.3	0.0	2.04	1.02

Participants were asked to what extent they agreed with a range of statements surrounding potential ethical objections to horse racing and whether it influenced their

likelihood of attending horse racing events, with answers in *Table 1* (n=112, Gen-Z=64, Millennial=24, aged 40+=24 and Likert questions).

This suggests that greater ethical transparency would help engage the audience with horse racing across all age demographics. 48.3% of respondents either agree or strongly agree that horse racing is too unethical for them to engage and 45.5% either agree or strongly agree that greater transparency would make them more likely to attend. Breaking the responses down by age group reveals that for all but one question the mean value trends up or down through the age groups. There is no trend for the final statement but for statements S1, S3 and S4 the mean trends down as age increases and for S2 the mean rises as people get older. We analyse this further in the discussion (section 5) considering the implications and statistical significance of these results.

### **Horse racing attendance in person**

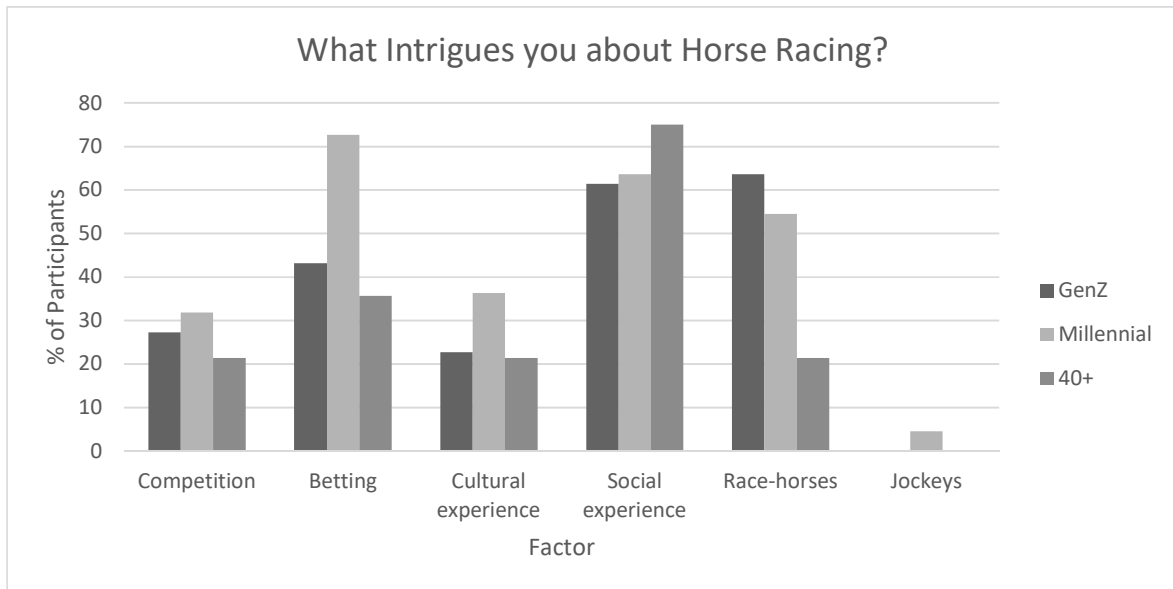
26.4% of participants stated they have repeatedly attended horse racing in person (n=34) including 11 Gen-Z and 14 Millennials. On average, they attended horse racing  $5.61 \pm 17.18$  (n=33) times per year (1 participant excluded for selecting 100+ and stating they worked in racing), attending  $3.59 \pm 3.80$  (n=32) different racecourses per year, and repeat attending the same racecourse  $3.14 \pm 3.64$  (n=29) times per year.

Of the 73.6% (n=95) of participants who had not repeatedly attended horse racing in person, 44% (n=42) including 22 Gen-Z and 6 Millennials have considered attending horse racing in person, and 56% (n=53) including 35 Gen-Z and 12 Millennials have not considered attending horse racing in person.

N=33 participants (open-ended text responses) who had repeatedly attended horse racing in person mainly stated that they liked the '*atmosphere*' and chance for a '*social experience*', with a small number stating they enjoyed the chance to drink and bet with friends in a place where they felt it was socially acceptable to do so. Similarly, of the n=42 participants who stated they have considered attending horse racing in person, the majority stated the '*atmosphere*' and chance to '*socialise*' and a '*family event*' as main reasons for their consideration (including the majority of both Gen-Z and Millennial participants). Many Millennials stated they expected horse racing to have a '*good atmosphere*'. Several participants who repeatedly attend liked the '*thrill factor*' of watching the horses racing, and betting.

*Figure 3* shows multiple choice responses for those who had not attended repeatedly (n=95, choose up to 3 responses), where social experience is most interesting across all demographics. Gen-Z and Millennial participants have a high level of interest in the racehorses

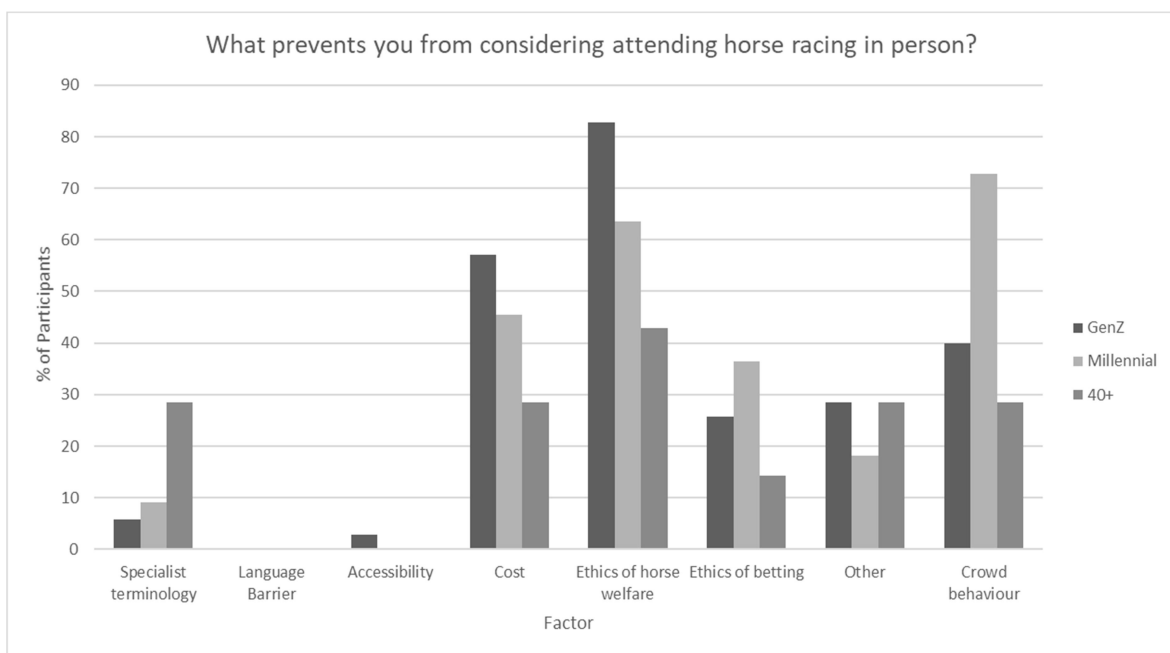
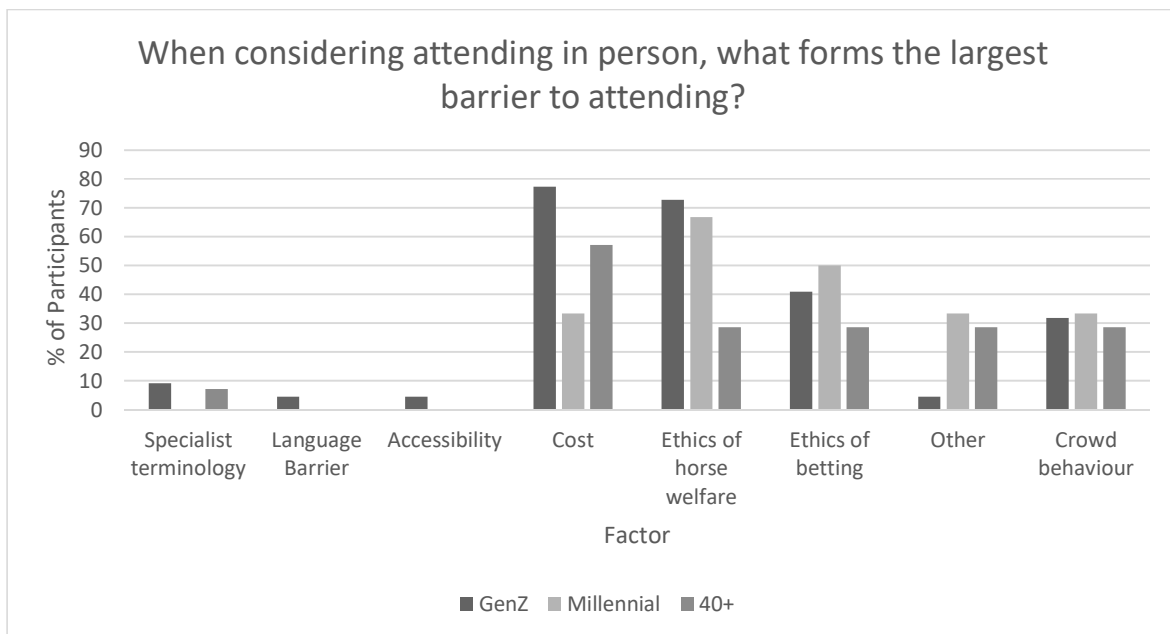
themselves, compared to older participants. Millennials were much more intrigued by betting than Gen-Z or aged 40+.



**Figure 3** Comparison of factors that Gen-Z, Millennials and older participants stated make them intrigued to attend horse racing.

We asked those who repeatedly attend what they disliked (free text). Most respondents' answers involved a general dislike of the level of alcohol consumed at racecourses, with many stating they experienced serious anti-social behaviour. A large majority also stated ethical concerns related to witnessing horses being injured as a direct result of racing, or excessive whip use. One participant mentioned disliking the wait between races.

The barriers for those who had considered attending focused more on ethics, cost and social class of attendees, *see Figure 4a* (n=42, Gen-Z=22, Millennial=6 and 40+=14, multiple choice selecting up to 3 options). The biggest barrier for Gen-Z participants was cost (77.3%) closely followed by ethics concerns relating to horse welfare (72.7%). 6/10 focus group participants (5 Gen-Z and 1 Millennial) stated attending horse racing in person is 'expensive'. For Millennial participants, ethics concerns relating to horse welfare (66.7%) and ethics concerns relating to betting (50%) were the two biggest barriers. Aged 40+ participants considered cost as the biggest barrier (57.1%). Gen-Z participants also often referenced expectations that horse racing attracts wealthy individuals or mentioned social class in their free text responses.



**Figure 4** (A) Participants who have not previously attended horse racing in person, but have considered attending horse racing in person selected their perceived top 3 barriers to attending horse racing in person. (B) Participants who have neither attended horse racing in person, nor considered attending horse racing in person selected their perceived barriers to attending horse racing in person.

Figure 4b shows the responses for survey participants who had not considered attending (n=53, Gen-Z=35, Millennial=11 and aged 40+=7 participants selecting up to 3 options). The most important barrier overall is ethical concerns relating to horse welfare. It was the biggest barrier for Gen-Z with 82.9% of respondents stating it prevented them attending, as did 63.6% of Millennial participants. The second most important factor for Gen-Z is cost with 57.1% of respondents and 45.5% Millennials saying it prevented them from attending. This falls to 28.6% for older respondents. Of the respondents who have not considered attending, many expected it to be 'crowded' with 'lots of drunk people about', 'loud' (both crowd and commentary mentioned by separate participants), 'middle class' with 'a lot of wealthy people about'. The most important factor for 72.7% of Millennials is large amounts of anti-social behaviour which prevents them attending races but only 40% of Gen-Z and 28.6 of older respondents referenced it. A few respondents expected attending horse-racing in person to be 'a bit boring', 'cold standing outside'. 6/9 focus group respondents who have not attended horse racing mentioned an expectation that horse racing centred around gambling and betting. There were fewer factors preventing older demographics from attending.

## **Viewing on television or online streaming services.**

### **Motivations for watching sports on television**

We investigated the important factors that encourage participants to watch competitive sports (including horse racing) on TV or streaming services generally. Participants (n=52, open text) responded with a range of factors, with 48% stating the presenter or commentary was a key factor driving their engagement.

Participants who selected that they have previously repeatedly watched horse racing or competitive sports on television (n=58, Gen-Z=29, Millennial=16, 40+=13) were asked to what extent they agreed with a series of statements relating to their preferences when viewing televised and streamed sports, and their use of Social-TV. The statements and responses are detailed in *Table 2*.

These statements elicited fewer responses than the statements in *table 1* so the lower numbers increase the variance. The trends are less discernible than in *table 1* though some statements do display trends. S3 indicates that the younger the demographic is, then the less likely they are to hashtag on social media. S6 and S7 suggest that younger people are more inclined to search for information during ad breaks whilst older people are more inclined to

search for information during the broadcast. As with *Table 1*, the Millennial demographic shows the greatest standard deviation (most variance) indicating a wider spread of opinions with the older demographic again having the lowest spread of opinions.

**Table 2** Participants who stated they have previously watched horse racing or competitive sports on television were asked to what extent they agreed with a range of statements relating to Social-TV use, and their personal television use preferences. (1=disagreed, 2=somewhat disagreed, 3=neither disagree nor agree, 4=somewhat agree and 5=agreed). The percentage of responses is shown for each Likert score plus mean score and standard deviation.

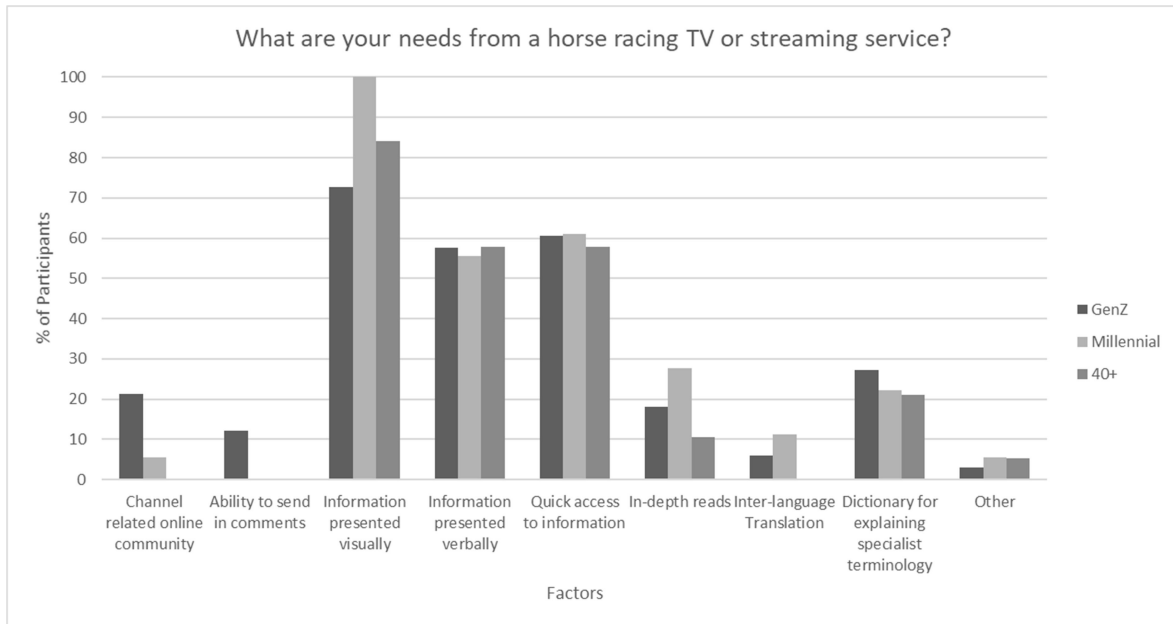
Statement		1	2	3	4	5	$\bar{x}$	SD
S1. I prefer to watch televised sports that have regular infographic summaries.	All	6.9	12.1	24.1	34.5	22.4	3.53	1.17
	Gen-Z	3.5	13.8	17.2	37.9	27.6	3.72	1.12
	Mill	2.5	12.5	31.3	18.8	25.0	3.21	1.51
	40+	7.7	7.7	30.8	46.2	7.7	3.38	1.01
S2. I prefer to watch televised sports that allow members of the public to send comments and questions to the commentator/presenter.	All	24.1	15.5	34.5	20.7	5.2	2.67	1.20
	Gen-Z	20.7	20.7	24.1	34.5	0.0	2.72	1.15
	Mill	31.3	12.5	37.5	6.3	12.5	2.56	1.33
	40+	23.1	7.7	53.9	7.7	7.7	2.69	1.14
S3. Whilst watching sports on television, I interact with others by sharing hashtags related to the sport on social media.	All	51.7	15.5	15.5	12.1	5.2	2.03	1.28
	Gen-Z	58.6	13.8	6.9	13.8	6.9	1.97	1.36
	Mill	50.0	12.5	25.0	6.3	6.3	2.06	1.25
	40+	38.5	23.1	23.1	15.4	0.0	2.15	1.10
S4. Whilst watching televised sports, I actively search for information about the proceedings using my phone.	All	20.7	3.5	15.5	31.0	29.3	3.45	1.47
	Gen-Z	24.1	6.9	17.2	24.1	27.6	3.24	1.53
	Mill	18.8	0.0	0.0	50.0	31.3	3.75	1.40
	40+	15.4	0.0	30.8	23.1	30.8	3.54	1.34
S5. I prefer to watch televised sports in which information are presented using specialist terminology.	All	12.1	15.5	31.0	20.7	20.7	3.22	1.28
	Gen-Z	13.8	20.7	24.1	24.1	17.2	3.10	1.30
	Mill	12.5	6.3	31.3	18.8	31.3	3.50	1.33
	40+	7.7	15.4	46.2	15.4	15.4	3.15	1.10
S6. I search for more information about a sport during televised sports events commercials.	All	13.8	13.8	17.2	36.2	19.0	3.33	1.31
	Gen-Z	13.8	10.3	13.8	41.4	20.7	3.45	1.31
	Mill	18.8	12.5	18.8	25.0	25.0	3.25	1.44
	40+	7.7	23.1	23.1	38.5	7.7	3.15	1.10
S7. I search for more information about a sport whilst a televised sports event is occurring.	All	15.5	19.0	19.0	32.8	13.8	3.10	1.30
	Gen-Z	17.2	27.6	13.8	31.0	10.3	2.90	1.30
	Mill	18.8	12.5	18.8	31.3	18.8	3.19	1.39
	40+	7.7	7.7	30.8	38.5	15.4	3.46	1.09

### **Horse Racing on TV and streaming**

Focusing purely on horse racing broadcasts, 25.6% (n=33, 13 Gen-Z, 10 Millennials and 10 aged 40+) of all participants stated they have repeatedly watched horse racing on television or an online streaming service. The average horse racing viewer watched horse racing  $47.39 \pm 45.15$  (n=33) times per year, using  $3.03 \pm 1.76$  (n=32) different channels or online streaming services per year, and repeat watched horse racing using the same television channel or online streaming service  $37.16 \pm 42.16$  (n=32) times per year. Participants watched horse racing related content on a range of channels, with a preference to watch repeatedly (n=29) on '*free to air*' channels, or channels that '*didn't cost more than what they normally subscribe to*'. Of the remaining participants (n=96), 34.4% (n=33, 17 Gen-Z, 8 Millennials and 8 40+) have considered watching, and 65.6% (n=63, 38 Gen-Z, 14 Millennials and 11 aged 40+) have not considered watching.

Participants who had watched or considered watching (n=66, 30 Gen-Z, 18 Millennial and 18 40+) were asked to select all their needs from a horse racing related television channel or online streaming service as visualised in *Figure 5*. Presenting information is important as is quick access to information with information presented visually important for 100% of Millennials, 84.2% of 40+ and 72.7% of Gen-Z participants. Gen-Z participants showed an increased requirement for channel related online communities with 21.2% selecting this option, compared to 5.6% of Millennials and no 40+ participants. Other text box suggestions included being presented with '*information about the horses I've bet on and not all [horses] in the field*'. Participants who stated they have previously repeatedly watched (n=33) were asked what they liked about the experience, 20.6% mentioned they liked the in depth interviews and 17.6% mentioned betting as a key factor driving their enjoyment of watching.

Participants (n=33) who had considered watching were asked what three factors posed the largest barrier to watching, with answers visualised in *figure 6a* (note: only 8 Millennials and 8 40+ participants answered this question reducing the significance of the responses). 64.7% of Gen-Z participants stated ethics concerns relating to horse welfare posed a barrier to watching, compared to 43% of 40+ and only 25% of Millennial participants. 29.4% of Gen-Z participants stated specialist terminology posed a barrier, compared to 50% of Millennial participants and 57.1% of 40+ respondents.



**Figure 5** Gen-Z, Millennial and older participants' needs from a horse racing related television channel or online streaming service.

Participants who had neither previously repeatedly watched nor considered it, were asked which three factors posed the largest barriers to watching as seen in *Figure 6b*. The Gen-Z chart mirrors the Gen-Z chart in *figure 6a* but the chart for Millennials differs markedly. However, we note that the total respondents for Millennial is low in *Figure 6a* and will cause variations. 80.6% of Gen-Z respondents stated ethical concerns relating to horse welfare to pose a barrier to watching, as did 50% of Millennial and 38.5% of older participants. Ethics concerns relating to betting also formed a barrier to watching horse racing for 36.1% of Gen-Z, 21.4% of Millennial and 38.5% of aged 40+ respondents. Many respondents selected the "Other" box (free text) overwhelmingly stating lack of interest in watching horse racing on television or an online streaming service as preventing them watching. This was the highest choice for older participants.



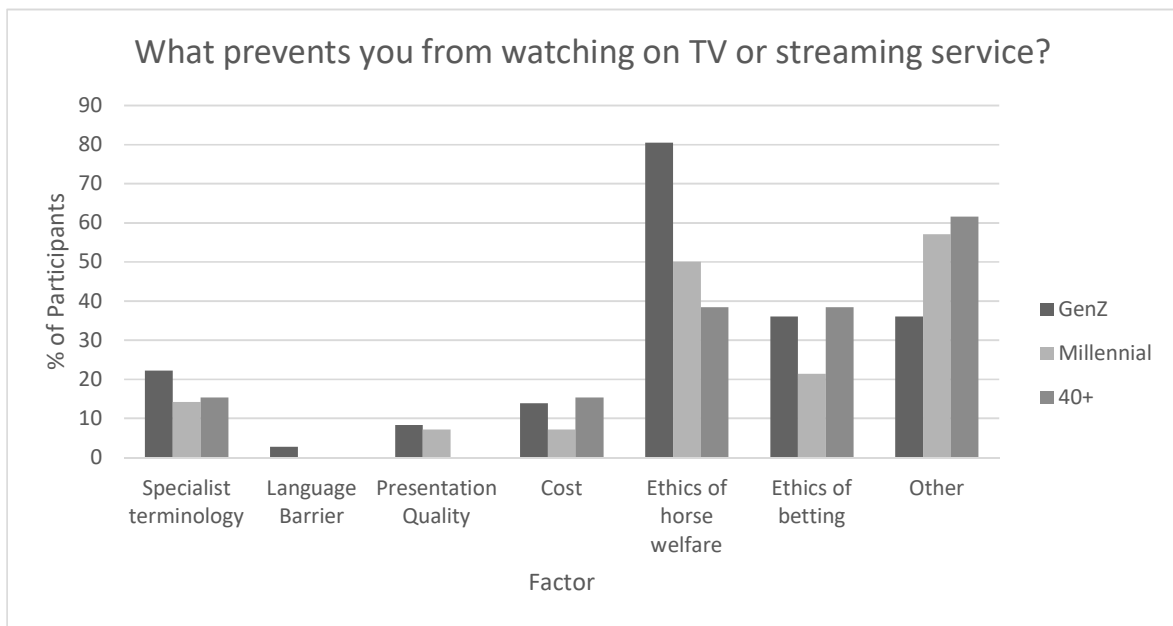
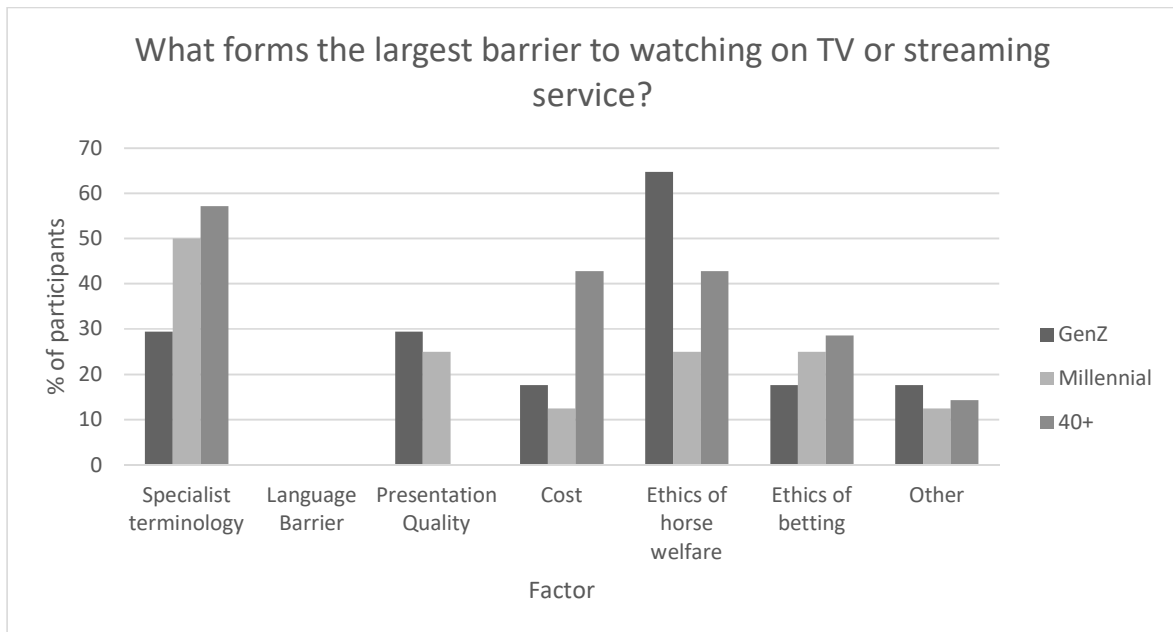


Figure 6 (A) Participants who have not previously watched horse racing on television or an online streaming service but have considered watching it selected their perceived top 3 barriers to watching it. (B) Participants who have neither watched horse racing on television or an online streaming service, nor considered watching horse racing on television or an online streaming service selected their perceived top 3 barriers to watching it.

## Discussion

From our survey and focus group responses, participants expect horse racing to be exciting, social and to have a good atmosphere. However, from *Figures 1* and *2*, the two biggest factors preventing audience engagement in horse racing are ethical concerns around injuries and the fate of horses once they are retired. These concerns far outweigh those registered for other competitive sports. Concerns around doping and betting are in-line with those registered for other competitive sports. Participants were less concerned by risk of injury to jockey than risk of injury to horse, with a general consensus that whilst the jockey can consent to racing, the horse cannot. A Gen-Z's particularly potent quote from their survey answer effectively summarises a range of issues relating to ethical concerns surrounding horse racing:

*"Whether ethical transparency would make me more or less likely to attend/watch horse races depends on what I find out. As it stands, I believe that racing horses puts them in unnecessary danger, they have no choice in the matter (you can't know for sure that they enjoy it), jockeys are not paid enough, and the industry revolves around making money. I have enjoyed watching horse races in the past, but I will put the health and safety of the horses above my own enjoyment now."*

*Table 1* introduced some statements to investigate these concerns further. Here we analyse the results for statistical trends and statistical significance. In *Table 1* we noticed trends among the responses for statements S1 - S4 across the different age groups. *Table 3* confirms that there are statistically significant differences between the age groups in their responses.

For statements S1 – S4, there is a statistically significant difference between aged 40+ and Gen-Z ( $p < 0.05$ ). S1 also shows a statistically significant difference between the age 40+ and Millennials ( $p < 0.05$ ). For S2 the mean rises with age as older people tend to agree more that their friends would happily go to the races with them. For S1, S3 and S4 the mean falls with age as younger people agree more that increasing ethical transparency would encourage them to watch; horse racing is unethical which discourages them from watching; and their friends would judge them if they engaged. These differences are significant. The Millennial demographic shows the greatest standard deviation (most variance) indicating a wider spread of opinions while the aged 40+ demographic shows the lowest variance indicating consistency of opinion.

**Table 3** Statistical significance (unpaired t-test) analyses of the responses across the age demographics to the five statements in table 1.

Statement	Test Pair	p-value
S1. If there was more ethical transparency, I would be more likely to attend/watch horse races.	Gen-Z vs 40+	0.0001
	Mill vs 40+	0.0486
	Gen-Z vs Mill	0.0883
S2. If I suggested going to the horse races, my friends would happily go with me.	Gen-Z vs 40+	0.0459
	Mill vs 40+	0.5587
	Gen-Z vs Mill	0.2163
S3. I am afraid my friends would judge my morals if I shared horse racing related content on an app or website, or suggested attending horse racing in person.	Gen-Z vs 40+	0.0015
	Mill vs 40+	0.2471
	Gen-Z vs Mill	0.1249
S4. I think horse racing is unethical, therefore I would not consider attending/watching horse racing.	Gen-Z vs 40+	0.0015
	Mill vs 40+	0.2750
	Gen-Z vs Mill	0.0714
S5. My friends would find horse racing related content interesting, if I shared it on a social media-based app, or a website.	Gen-Z vs 40+	0.9660
	Mill vs 40+	0.8961
	Gen-Z vs Mill	0.8344

If horse racing as a sport wishes to engage the younger audience then it needs to address their concerns around injuries and the fate of horses when they retire. These concerns are also high among Millennial and aged 40+ audiences. A common inductive theme within ethical concerns relating to horse welfare was questions regarding where unsuccessful racehorses end up. Several participants stated if there was more transparency regarding this, they might become more interested in engaging with horse racing. Furthermore, *Table 1* and *Table 3* indicate that Gen-Z and Millennial respondents agree with the statement *"If there was more ethical transparency, I would be more likely to attend/watch horse races"* with a mean Likert response of 3.5 for Gen-Z and 3.05 for Millennials. This indicates they are open to persuasion. Aged 40+ respondents showed a mean of 2.4 for the statement so are less likely to be persuaded though they registered lower levels of concern regarding injuries and the fate of horses anyway. During the focus groups, participants were asked whether they feel horse racing is trustworthy and open, 4/10 participants (all Gen-Z) felt that horse racing is trustworthy and open, stating they *'don't think it's deceitful'*, 6/10 participants (5 Gen-Z and 1 Millennial) felt horse racing is not trustworthy or open. One participant stated the *'amount of money from horse racing titles and breeding leads to corruption'*, and one felt *'behind the scenes stuff is kept*

*secret*. Several survey and focus group participants suggested using horse and trainer welfare ratings to improve transparency and attract new customers to the sport.

As with previous surveys [3, 4], the social aspect elicits the highest responses (*Figure 3*) as to why respondents would attend horse racing in person. From *Table 1*, "*If I suggested going to the horse races, my friends would happily go with me*" with mean value 3.12 across all ages (SD=1.27) suggests that social influences can impact a person's attendance and the mean value increased with age suggesting older people think their friends would more likely follow their lead and attend. Many of the previous surveys analysing the motivating factors behind attendance at competitive sports events found team identification most important [21]. However, Pugh [22] analysed attendance at minor league baseball where fans have lower levels of team identification. They posited that fans of lower league sports are highly motivated to attend by the family and group affiliation rather than team affiliations. Smith & Stewart [23] found that sport can provide a social dimension for fans. These findings correspond with our findings in horse racing which is not a team-based event and where the social aspects are crucial to attendance. Smith & Stewart [23] state that attendees travel to see a sport event as a means to a social goal which extends well beyond the activity itself; it is a shared activity. Understanding the motivational factors that attract fans to a particular sporting event can allow event organisers and hosts (including horse racing) to increase fan attendance by promoting these specific factors. In our survey, the Gen-Z respondents also show a particular interest in the horse racing and Millennials are keen on betting. This latter point agrees with the UK Gambling Commission survey [24] which identified that the 25-34 year old age category had the highest level of per monthly gambling (excluding lottery) and the highest level of per monthly online gambling in 2018.

Mirroring responses generally, ethical concerns are the largest factor that prevents respondents who have not considered attending from actually attending and is a factor stopping those who have considered attending. As previously, we note that increasing the transparency and openness of the sport can overcome this barrier. For respondents who have considered attending, cost is the largest barrier particularly among the younger Gen-Z but also among older respondents that stops them attending. This contrasts with Smith & Stewart [23] who state that longitudinal studies of sports fans suggest that attendance is only marginally influenced by admission prices. Several participants felt horse racing was a middle/high class sport, a perception which could be changed through careful advertising by the racing industry to attract more customers, especially as racing is one of the most socioeconomically diverse

sports in terms of audience participation in the UK [3]. Crowd behaviour is a high concern to Millennials who have not considered attending.

Gantz [25] found viewers' motivations for watching televised sports were similar to their motivations for attending sports events. We found this similarity for factors stopping participants watching and attending horse racing with ethical considerations the biggest barrier for both. For those who watch sports on television, from *table 2*, viewers clearly need to seek information about the sports event during the broadcast (as noted previously older participants seek information during the broadcast while Gen-Z prefer to wait for ad breaks). All participants appreciate good infographics. They are less keen on allowing viewer questions and are not interested in sharing hashtags during the broadcast. From *Figure 5*, the Gen-Z demographic was most interested in forming online communities around horse racing (c20% agreed) agreeing with Lim *et al.* [8]. We note respondents picked their top-3 needs so 20% of Gen-Z considered it a top-3 requirement. Participants across all ages would appreciate a dictionary of terminology. *Figure 6a* further supports the need for a dictionary with specialist terminology dissuading those who had considered watching.

Participants who have either attended or viewed horse racing and engaged with other competitive sports were asked to compare them. When asked what the other sport did better (n=65 and free text responses), respondents answered with suggestions including: *'interviews'*, *'fan engagement and ... more media friendly participants'*, *'engages younger audience better through coverage on mainstream TV'*, *'more free content for fans'*, and *'statistics'*. When asked what horse racing did better than the other sport (n=35), 14.3% of participants stated *'betting availability'* and 11.4% preferred horse racing because it was a *'family day out'*. Hammervold & Solberg [26] revealed that in Norway individual winter sports, such as biathlon and cross-country skiing, are more popular than football but football fans were significantly more motivated to pay to view on TV than fans of individual sports. This is driven by affectionate relationships toward their favourite club and sport which are lower in individual sports including horse racing and the findings above support that. Our findings here further agree with Wann *et al.* [21] and Pugh [22] that team/competitor identification is a motivating factor and responses indicate that horse racing lacks celebrities that television viewers can support. Horse racing broadcasts need to emphasise the horses and jockeys and provide more of a celebrity focus with well-recognised names to support engagement of television and streaming viewers and also to emphasise the sport's social appeal.

## **Limitations**

One limitation of this survey is using self-report questionnaires. These rely on the assumption that respondents answer all statements truthfully and honestly. We supplemented them with focus groups but these could be expanded further.

Although the Gen-Z participant group size was statistically sufficient, the Millennial and 40+ participant group sizes were smaller, therefore further research into Millennial and 40+ motivations regarding horse racing could be collected in future to complement this data set.

Further research could establish if participants who have ethical objections relating to horse welfare are fixed in their perception, or whether reassurance and industry transparency could encourage a new market of ethically aware customers to engage with horse racing.

## **Conclusion**

The key findings from our survey are:

Ethical concerns and a lack of ethical transparency are reducing customer engagement with horse racing and driving a reduction in in-person and on-screen horse-racing attendance and viewing.

In particular, ethical concerns surrounding whip use, horse injury, jockey injury, racehorse fate on retirement, and betting are deciding factors for many participants in deciding whether to engage with horse racing and horse racing related media.

The majority of respondents who have attended or would consider attending horse racing are motivated by the opportunity for social interaction, over the opportunity to watch the racing itself.

As such, horse racing lacks easily identifiable figures and could be made more engaging to the audience by creating celebrity focus on the horses and riders.

We found statistically significant differences between Gen-Z, Millennials and aged 40+ age groups. Older people tend to agree more that their friends would happily go to the races with them while ethical concerns increase as respondents get younger.

## **Contributions**

Contributed to conception and design: HP, VJH

Contributed to acquisition of data: HP, VJH

Contributed to analysis and interpretation of data: HP, VJH

Drafted and/or revised the article: HP, VJH

Approved the submitted version for publication: VJH, HP

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## **Ethical Approval:**

The study was given ethical approval by the University of York, Dept of Computer Science Ethics Committee. Only adults (>18 years) were involved. All participants took part on a voluntary basis and could withdraw at any time. Information regarding the study purpose, the potential uses of data, and the methods of data collection were provided to participants at the beginning of the focus groups and questionnaire. All data were collected anonymously and it was not possible to identify participants in the raw research data.

## **Data and Supplementary Material Accessibility**

The datasets for this manuscript are not publicly available. Requests to access the datasets should be directed to the corresponding author.

## **Conflict of Interest**

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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