Who uses VR in Norway?

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Abstract. Despite much hype, the extent to which VR is accepted and used by the general population is unclear. To shed light on this, we conducted a representative panel survey with 936 respondents in the spring of 2021. The survey revealed that while many know what VR is, only 20 % have tried it, and only 0.6 % use VR more than once a week. This poster explores the demographics of VR users in Norway.

Keywords: Virtual Reality · Acceptance · Survey

1 Introduction and method

Both reporters and researchers have had high hopes for the possibilities promised by virtual reality (VR), a hope that has faded out and returned several times since the first prototype saw the light of day in the 50s [2]. The latest hype cycle arguably started in 2012 by a Kickstarter campaign for what later became Oculus Rift DK1 [4]. Since then, a range of VR products have been produced and launched on the market, with increasing levels of sophistication; a series of research projects have also commenced the vast job of addressing the related challenges and opportunities. However, both journalistic and scientific investigations indicate that VR headsets are still a niche product [1, 3].

There are plenty of research publications on the limitations and applications of VR, but studies on the technology's acceptance and use are few and far between. Going back to 2016/2017 and Germany, a survey study found that only 9% of the sample had tried VR [3], whereas a commercial report from the US found that 19 % of adults had used VR in 2020, up from 16 % in 2019 [1].

To find out if the situation is the same in 2021, and in Norway specifically, we carried out a novel survey study on the use and acceptance of VR. To obtain a representative sample of the Norwegian population, we benefited from the aid of the survey agency *Kantar*. The survey was carried out in April 2021 by professional interviewers who collected data over the phone. *Kantar*'s panel consisted of 931 respondents, ensuring a varied sample that represented the overall population's age, gender, regional and educational distribution, as well as domestic situations. The sample does however not contain people under the age of 18. This poster presents the demographic distribution of VR users in Norway.

2 Results

The use of VR is still sparse in the Norwegian population. 11% of the sample reported that they had never heard about it, and a mere 20% had actually tried VR. Among the latter group, only 6 used VR more than once a week, this corresponds to 3% of those who have tried VR and 0.6% of all respondents. The use of VR seems to be both infrequent and brief. The majority of respondents who had tried VR used it no more than 15 minutes at a time (Figure 1), and less than 10% use VR more than half an hour during an average session.

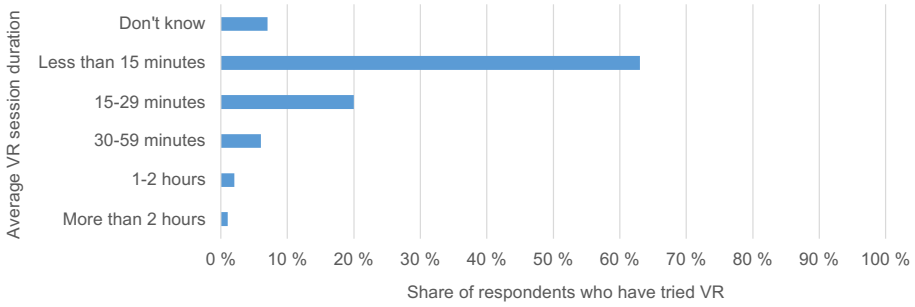

Fig. 1. Duration of an average VR session, among those who use it.

When breaking down the results by age and gender, we found that the difference between men and women is fairly small (Figure 2). Conversely, the age difference is quite prominent (Figure 3), with use decreasing steadily with older age groups. These distributions also show that there are not many who plan to try out VR, if they have not already. Distribution of VR usage across the major Norwegian regions are not included due to the very small variations.

Looking at the distributions across household income, we see that the number of people who have tried VR increases somewhat with income (Figure 4). The increase could indicate that this type of technology is not a priority in households with strict budgets. However, our results also point out that the number of respondents who have tried VR increases with the number of people in the household, so the relation between VR experience and household income may just as likely be due to the accumulated income of several people.

For the purpose of anecdotal insight, we include additional information about the 6 participants who use VR more than once weekly:

- 4 identify as men, 2 as women
- 3 are aged 25 or below, 1 is in their 30s, 1 in their 40s and 1 in their 50s
- 5 use VR for *games*, 4 for *other entertainment* and one for *socialising*
- 2 reported experiencing symptoms of discomfort using VR
- 2 expected to be using VR more frequently in the future
- 3 use VR more than one hour at a time

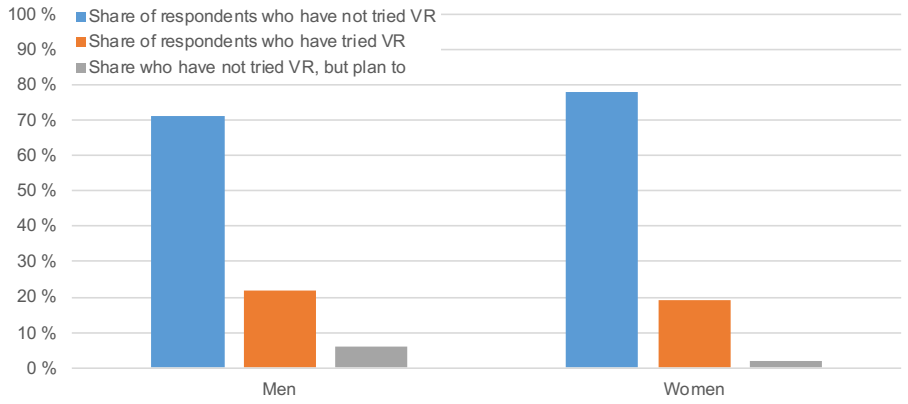

Fig. 2. Share of male and female respondents who have, and have not, tried VR.

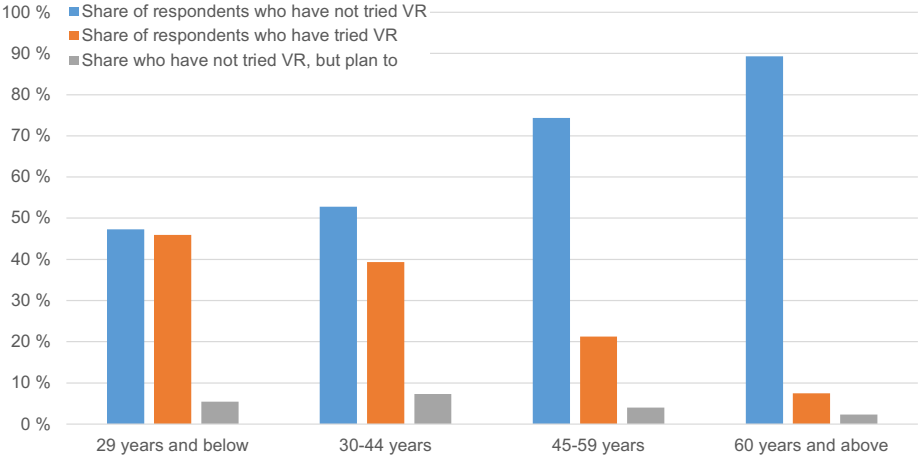

Fig. 3. Share of respondents in different age groups who have, and have not, tried VR.

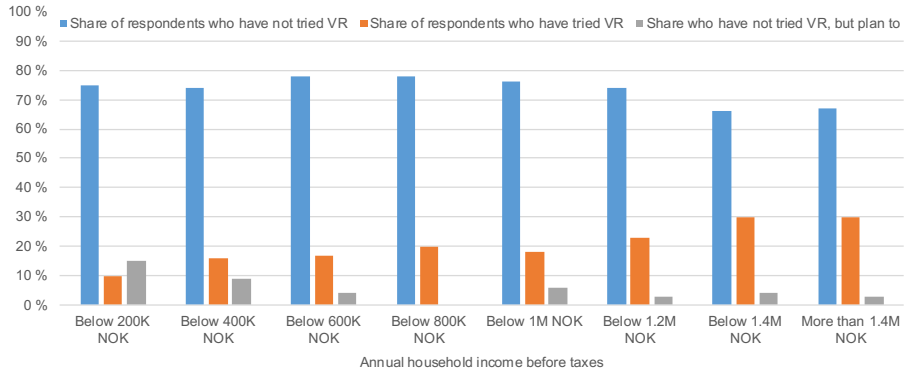

Fig. 4. Proportion of respondents who have tried VR, or not, split by household income.

Delving further into a statement provided by one of the frequent users, we learn that variety in VR games is desirable: "FPS or Racing are my favourites in VR. Games such as Boneworks (physics based game) is the best experience I have had in VR. Further, games such as Pavlov VR (FPS) and VR Chat have given me many contacts and entertaining hours in VR. I have also spent some time in applications such as Google Blocks and Tiltbrush, but these are more fleeting entertainment. [...] adventure and casual games work very well."

3 Takeaways

With this survey study, we found VR familiarity to be greater in 2021 than it was in 2016/2017 [3], and comparable to that of 2019 [1]. With that said, our sample is recruited as a representation of the Norwegian population, the earlier surveys are conducted in Germany and USA, respectively. Thus the increase from 2016/2017 may either be due to an increasing accept and use over time, or it may due to national differences. Moreover, the number of regular users is still minuscule, and the time spent in VR is short.

Demographically, we see that the distribution is fairly even across gender and region, but different across age group. A limitation of the study is that we did not ask people to indicate how many times they had tried VR, other than regular usage. It turned out that the vast majority of those who had tried VR used it once a week or less, this could mean anything from once in a lifetime to every single week. Our speculation would be that many people have tried VR only a handful of times. We recommend that future surveys ask about not only about the frequency of use, but also the number of uses. A further limitation is that our sample does not contain people under 18. Extrapolating from the age groups we have, it would not be unresonable to assume that teenagers use VR even more than the youngest people in our sample.

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