Participant Count =73
Male = 45 nos.
Female = 28 nos.
Average age = 29 years
Previous VR experience = 26 participants
No previous VR exp = 26 participants
VR experience not captured = 19 participants

Table 1 Analysis of Variance (ANNOVA) - Subjective Questionnaire

Q. No.	Question	ST	FOA	HOA	NS	p-value	df	F
1	Retaining Attention	4.4	4.6	4.4	3.7	0.01	3,68	4.11
2	Conscious Awareness of real world	2.7	2.8	2.5	3.7	0.02	3,68	3.23
4	Experiencing vs. watching	4	4.2	3.9	2.8	0.02	3,68	5.27
5	Enjoying the experience	4.7	4.5	4.8	3.8	0.007	3,68	4.3
9	Engagement of senses	4.1	4	4.3	3.1	0.0009	3,68	6.13
11	Naturalness of interaction	3.7	3.8	4	2.8	0.01	3,68	3.55
13	Sound identification	4.7	4.8	4.8	1.5			
14	Sound location	4.4	4.5	4.3	1.4			
16	Sound Realism	4	4	4.4	1.5			
18	Sound Clarity	3.8	3.9	4.3	1.3			

The table represents the results of a subjective questionnaire aimed to measure the Quality of Experience (QoE) of participants who watched the ten 360° videos under four different sound conditions: no sound (NS), stereo (ST), first order ambisonics (FOA), and high order ambisonics (HOA) across the Indoor and Outdoor categories. The questionnaire consisted of 20 questions, and the table shows the average responses for each question and sound condition, as well as the p-value, degrees of freedom (df), and F-value for each question.

Statistically significant results are those with a p-value less than 0.05, which indicates that there is a low probability of obtaining the observed difference in means by chance alone. From the table, we can see that questions 1, 2, 4, 5, 9 and 11 have statistically significant differences in means across the four sound conditions.

Question 1: Retaining Attention - The means for all conditions are relatively high, but the ST and HOA conditions have a significantly higher mean than the NS condition, indicating that sound can help retain attention.

Question 2: Conscious Awareness of real world - The means for the ST, FOA, and HOA conditions are significantly lower than the NS condition, suggesting that sound can reduce awareness of the real world.

Question 4: Experiencing vs. watching - The means for the ST, FOA, and HOA conditions are significantly higher than the NS condition, indicating that sound enhances the feeling of experiencing rather than watching.

Question 5: Enjoying the experience - The means for the ST, FOA, and HOA conditions are significantly higher than the NS condition, indicating that sound enhances enjoyment.

Question 9: Engagement of senses - The means for the ST, FOA, and HOA conditions are significantly higher than the NS condition, indicating that sound enhances sensory engagement.

Question 11: Naturalness of interaction - The means for the ST and FOA conditions are significantly higher than the NS condition, indicating that sound enhances the naturalness of interaction.

Question 16: Sound Realism: The HOA condition received the highest rating, indicating that it was the most realistic sound condition.

Question 18: Sound Clarity: The HOA condition received the highest rating, indicating that it was the clearest sound condition.

In conclusion, sound conditions significantly impact the subjective QoE in participants who watch the 360° videos. Specifically, sound can enhance attention, experiencing vs. watching, enjoyment, engagement of senses, and naturalness of interaction. On the other hand, sound can reduce awareness of the real world. HOA may be more motivating and enhance the naturalness of interaction.