Screen Engagement Study

Introduction

This study looks for an answer to the question - does screen size affect the degree to which viewers engage with a movie? The hypothesis being that screen size does affect the degree to which viewers engage with a movie. Since the study is looking for a difference of engagement level regarding screen size rather than whether one specific screen size is more engaging, this will be a two-tailed test. The null hypothesis being that screen size does not affect the degree to which viewers engage with a movie.

Method

The independent variable (IV) being manipulated in this experiment is the size of the screen size viewed by participants. The experiment has been devised to compare the difference in the degree of engagement viewers experienced watching a movie on a large screen (IV1/condition 1) compared to watching a movie on a small screen (IV2/condition 2). All participants were selected at random and completed a consent form prior to taking part.

The experiment utilised an independent measures design to avoid influencing the engagement levels that might occur if participants undertook the task twice. To avoid this each participant watched the movie trailer (Apple, 2015) on a standard 21 inch desktop screen OR on a small 5 inch mobile phone screen. Once each participant had finished watching the trailer they were asked to complete a SOPI questionnaire (Lessiter, et al., 2001). The dependent variable (DV) being measured was the participant's level of engagement.

The answers relating to the engagement sections of the questionnaire were collated using Excel. Specifically SOPI questions A1, A3, A4, A5 and A6 relating to engagement levels after the task had been completed and questions B1, B2, B3, B8, B16, B17, B30 and B32 relating to engagement levels during the task. This provided four sets of results. Those for the large screen engagement during and after the task and those for the small screen engagement during and after the task.

The 'Two-Sample Assuming Equal Variances *t*-test' was applied to the results to provide the necessary inferential statistics using a standard alpha of 0.05. This *t*-test (Student, 1908) was used to calculate if there was a statistical significant difference between the means for the group using the large screen and the group using the small screen. The *t*-test was applied to the mean results for the A questions and then the B questions separately to compare the levels of engagement during and after the task for each screen size.

Analysis

The results were analysed using the 'Two-Sample Assuming Equal Variances *t*-test' as follows:

Results for engagement during

- Small screen mean: 2.45
- Large screen mean: 2.05

The Null Hypothesis is rejected because t=6.09, p<0.05 (p=0.00/0%) two-tail and (p=0.00/0%) one-tail. Small screens appear to significantly increase the degree to which viewers engage with a movie.

Results for engagement after

- Small screen mean: 2.51
- Large screen mean: 2.42

The Null Hypothesis cannot be rejected because t=0.87, p>0.05 (p=40.58/41%) two-tail and (p=20.29/20%) one-tail. There appears to be no significant difference to the degree to which viewers engage with a movie on large or small screens after watching a movie.

Discussion

It makes sense that the results confirm screen size becomes irrelevant after viewers have watched a movie. Although the mean is slightly higher for small screen engagement after viewers watch a movie the *t*-test shows the difference is not significant with a poor probability level of p=40.58.

In comparison engagement levels during the task showed significant difference in engagement levels proving the hypothesis. Looking closely at the results the mean for small screen engagement is significantly higher with a good probability level of p=0.001 which is significantly lower than the 5% set. It was surprising however that it was the small screen and not the large screen that proved more engaging.

References

Apple, 2015. *Independence Day: Resurgence*. [Online]
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