

# Valheim - Interpretation of Cartographic Symbols on the Map Based on the Characteristics of the Respondents

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## Abstract:

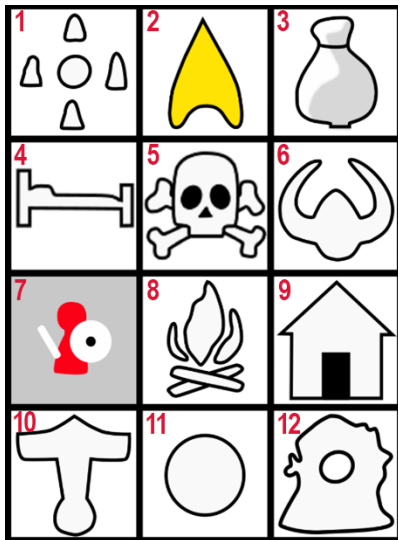


Figure 1. Cartographic map symbols set

In this article authors examined the differences that may characterize selected groups of gamers with regard to age and time spent on playing a survival game, Valheim, confronted with their interpretation of map symbols used in the game. The Valheim video game, which was released in early 2021, is a survival game set in a gameplay world inspired by Norse mythology. The designed game world has a very simple and understandable user interface, which includes a map of the game world. The game map is an uncomplicated cartographic product that has a basic outline of the game world and 12 cartographic symbols occurring in various locations (Figure 1).

In this article, the authors want to use the data from the survey to investigate the differences in interpretations of cartographic symbols from the video game "Valheim". This study does not deal with the problem of interpretation of symbols and their meaning, as this aspect was addressed in the article by Horbiński & Zagata (2021). The authors looked for differences between independent groups of gamers in terms of their age and experience, i.e., time spent in the virtual game world. The authors concluded that the research questions posed may help in obtaining answers to the interpretation of cartographic symbols: "Is there any correlation between the age of gamers and their interpretation of symbols?" and "Is there any correlation between the time spent on playing Valheim and the

interpretation of symbols?" In selecting the factors that could determine a good interpretation of symbols, the authors focused on the universal factors in the questionnaire when it comes to video game literature. In the literature, the age of players and the time spent in the game are often studied in a psychological context, but also in cognitive research and interpretation of game phenomena that directly affect the player (Kovess-Masfety et al., 2016; Przybylski, 2014; Shen and Williams, 2010). The authors, through the analysis and query of the scientific literature, concluded that these two factors will best reflect the interpretation of symbols for different groups of respondents.

As research methodologies, the authors collected data through an online survey via the LimeSurvey platform. The link to the online survey was shared worldwide via gaming related forums (Reddit, Gamespot, IGN, NeoGAF, Facebook groups). An online survey is a valuable way to learn about a large group of people that is dispersed over a large geographic area. The number of respondents who took part in the survey was 1,043, of which only 513 were Valheim players. The respondents had full subjectivity of the answers in the questionnaire, therefore a categorization process was proposed to distinguish individual groups of players. All answers to the questions asked were given separate categories during the categorization, and the authors developed a separate data categorization for each of the discussed cartographic symbols. In the statistical analysis the authors employed the Pearson's chi-squared test and the Benjamini-Hochberg procedure to find statistically significant differences between selected groups of respondents and their subjective interpretation of map symbols. Statistical analysis showed several differences and interesting relationships in the interpretation of symbols in relation to the age of the players and in the interpretation of symbols in relation to the time spent in the game. For the 4 symbol, the two age groups 26-30 and 31-45 interpreted the symbol due to their in-game function, while the -19 and 20-25 age groups interpreted the symbol more often due to the actual position of the symbol (bed) in the game. For the 10 symbol, younger players did not interpret the symbol as Mjolnir, which may have contributed to the lack of interest in Norse mythology. For the 3 symbol, players who played less in Valheim interpreted the symbol literally (bag of goods) rather than functionality as an NPC. For the 11 symbol, differences in interpretation were noticed between the group of -30h players, whose interpretation of the symbol was very dispersed, and the group of 120h+ players, who interpreted the symbol, due to the given function, which was repeated throughout the game.

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