

Brandteknisk projektopgave

Titel: The influence of alcohol on the reaction and decision time of evacuees

År: 2017

In the past decades night club fires worldwide where people are influenced by alcohol or other substances have demanded many innocent lives. The information about the effects of alcohol impairment on evacuees is relevant for the fire safety design and for making sure that safety level in nightclubs and similar establishments is acceptable. The available literature only provides limited information on how the reaction and decision phase of an evacuation is affected if people are influenced by alcohol.

The aim of this study is to investigate how consumption of alcohol impacts the reaction and decision (pre movement) phase of an evacuation. The study is based on a large scale evacuation experiment. The experiment consists of two reference experiments and two similar experiments conducted under the influence of alcohol. The experiments was designed so the participants would be exposed to two different warning methods, one being a spoken message in a room without music present and the other a tone alarm replacing the music present in the room. During the different experiments the participants were asked to do small assignments to see if they could maintain their focus on the assignments and how they evacuated when warned in different scenarios. The composition of the participants consisted of students from the Technical University of Denmark with an average age of 22.5 years. It was the same composition who conducted the reference and experiment with alcohol. The experiments were conducted in a four hour period on a Friday afternoon and had 28-30 participants.

Based on the results in this study it can be concluded that there was found no significant different in the reaction and decision (pre movement) time when the participants were influenced by alcohol. However there was found a difference in the behavior and ability to maintain focus on the assignments, when under the influence of alcohol. These results cannot be used without caution, because of the many factors which have impacted the results. For instance the participants are familiar with the layout of the building, have an ability to understand and follow instructions from being under education and the environment change when changing locations between experiment room and alcohol consuming room which have changed the focus of the participants significantly. The drinking culture of the Danish students is also something that needs to be considered, because the culture provides an ability to cope with large amounts of alcohol. If these experiments were done in countries or regions where the alcohol culture is different, it is most likely that the results and behavior would be different. It is therefore important to have these factors in mind when using the results from this study to gain a better understanding on how alcohol impacts the reaction and decision (pre movement) time and behavior during evacuation.