# Abstract

This thesis examines the use of subject-expectancy effect on enhancing fire threat perception in virtual reality. The study involves a virtual fire scenario design and 33 participants who experience virtual fires of three different scales in the scenario using a head-mounted display as visual and auditory perception and adopting physical movement in real world as their way of locomotion. The experiment investigates the subject-expectancy effect on cognitive safe distance judgements from the virtual fires with the absence and presence of self-made thermal radiation device as the primary manipulated variable. The collected data is evaluated statistically with box plots assisted to facilitate the identification. The study found that the application of the subject-expectancy effect has only slight benefit on the realism of the fire scenario in virtual reality.

本論文檢驗受試者期望效應在增強虛擬現實中火災威脅感知中的效果。 此研究涉及一個虛擬火災場景設計，33 名參與者使用頭戴式顯示器作為視覺與聽覺感知接收，並在指定空間中直接行走於場景中體驗三種不同規模的虛擬火災。 實驗以自製熱輻射裝置的存在與否作為主要操縱變量，研究受試者期望效應對安全距離判斷的影響。 數據通過統計檢驗進行評估與箱型圖繪製助於識別。研究發現應用受試者期望效應僅對虛擬現實中火災場景的真實性有些微增強。