

106 學年度大四工工專題摘要

第 3 組	學生宿舍床位的使用者表現評估與改善
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摘 要	
本研究主旨在探討現有的床位設計是否真的能夠滿足學生的需求，並藉由學生日常上下床位的這一連串動作，來分析究竟怎麼樣尺寸設計的宿舍床位，才能真正的符合大學生的需求。 本研究分為兩個部分，第一個部分是通過問卷調查得方式了解目前清華大學學生對於學生宿舍床位設計規劃之滿意程度。總計發出問卷 114 份，回收有效問卷 105 份，有效回收率高達 92.1%。而本研究以描述統計分析住宿生對床的設計及樓梯的設計滿意度之狀況，利用獨立樣本 t 檢定檢定及單因子變異數分析不同體型和環境因素之住宿生對不同床型的設計及樓梯的設計滿意度之差異。 第二個部分則是徵求男女研究參與者各 15 位，拍攝研究參與者在目前兩種不同類型的床位進行上樓梯，爬上床躺下，起身，下樓梯這四個步驟之動作以探討不同個人對於爬樓梯上床、躺下、起身、下樓梯的動作是否有差異，並利用動作分析軟體 Kinovea，藉由標記髖關節，與膝蓋的彎曲幅度，進而探得不同人體計測值對於上下樓梯時，關節的屈曲和伸展角度是否符合人體需求。 最後，藉由問卷獲取的滿意度分析與宿舍床位攀爬的實驗結果，本研究將可以得知較適合目前清華大學學生之學生宿舍尺寸，並就現行的宿舍提出一些可以改善的方案。 The purpose of this study was to investigate that whether the types of dormitory bed design properly and provide sufficient functions to current students by evaluations of their getting in and out of bed movements. There were two parts in the current study. In the first part, we investigated the level of satisfaction regarding the design of dormitory bed at National Tsing Hua University by a questionnaire. There were 114 respondents invited to take this questionnaire. We received 105 valid respondents and the valid response rate was 92.1%. Descriptive statistics were used to evaluate the level of satisfaction of the current student regarding the design of dormitory bed. An independent samples t-test and one-way analysis of variance (ANOVA) were used to determine effects of different types of bed and stair on the level of satisfaction in students with different demographic characteristics.	

In the second part, 15 male and 15 female participants were recorded and instructed to perform getting in and out of bed movements. These movements were divided into four phases: (1) climb the stairs, (2) climb into the bed and lie down, (3) get up from the bed and (4) climb down the stairs at two different types of dormitory beds. A postural analysis software Kinovea were used to measure the flexion and extension angles of joints in students with different anthropometry.

Based on the outcomes of satisfaction and the experimental results, this study will point out the better appropriate size of dormitory bed for current National Tsing Hua University students and some suggestions will be provided as a reference to improve the current dormitory beds.