

**UNIVERSITI TEKNOLOGI MARA**

**THE ENVIRONMENTAL COMFORT  
FACTORS TOWARD  
CHILDREN PERFORMANCE AT  
CHILD CARE CENTRES**

**NUR IDAYU BINTI ZULKIFLI**

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## ABSTRACT

It is known from previous research that environmental comfort is very important in human life because it affects human's productivity and performance. Good environmental conditions is important for the comfort of children at child care centre (CCC). The environmental comfort of CCC should be appropriate to ensure positive development among young children because inappropriate environmental comfort condition at CCC causes negative influences on children's performance. The aim of this study is to investigate the quality of environmental comfort conditions at CCCs and its effect on children's performance at CCCs in Shah Alam. Data were collected through observation on environmental comfort at CCCs and questionnaire on the performance of young children within the ages of two to four years old. The investigation were conducted at 21 registered CCCs in Shah Alam within May, June, September, October, November and December 2016. Data were analysed using SPSS version 23. Descriptive statistics were used to measure environmental comfort factors which consisted of temperature, relative humidity, air velocity, noise level and illuminance. The analysis also includes mean scores for five aspects on children's performance elements. It includes communication with caregivers, communication with friends, attendance and health status, indoor activities and outdoor activities. Inferential statistic was applied through the Spearman's Rank Correlation in order to measure the relationship between environmental comfort condition and children's performance. The main finding was that the overall environmental comfort conditions that have been measured at CCCs exceeded the thermal comfort recommended standards range of the MS 1525:2014, ISO 7730:2005 and ASHRAE 55-2010. However, even though the overall environmental comfort condition were poor, the findings found that the overall children's performance score of young children at CCCs in Shah Alam achieved good score range. The study proved that environmental comfort components has an impact on the children's performance. However, the result shows that the performance of children at CCCs in Shah Alam were not highly affected by the poor environmental comfort conditions. The effect is not too significant due to a low percentage of correlation. The result shows that, children's performance does not really depend on environmental comfort factors only but may also depend on other factors as well.

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# CHAPTER ONE

## INTRODUCTION

### 1.1 Research Background

The population has been increasing drastically since the past decades. The social and economic trends today forces parents to work in order to support their daily expenses of their family. Therefore, the total of working women in Malaysia has increased from 45.9% in 2005 to 52.4% in 2013 (Ministry of Women Family and Community Development, 2014). The working parents may have no choice but to send their young children to CCC (CCC). This situation would increase the enrolment and the demand of children in CCCs.

Selangor has recorded the highest number of 1,258 registered CCCs. Meanwhile, the total number of children at registered CCCs in Selangor from new born until six (6) years of age has recorded 21, 734 of children (Portal Data Terbuka Malaysia, 2016). The children that are sent to CCC would spend about 8 to 10 hours of their daytime everyday in the CCCs. Compared to other states, Selangor also recorded the highest population which is about 6 million people.

In Shah Alam, there are 132 registered CCCs (Department of Social Welfare, 2011). These numbers could be larger if combine with unregistered CCCs. The rapid growth of CCCs in Shah Alam, might place the comfort of the children as a critical factor for the children's performance. Therefore, thermal comfort (TC) condition became an important aspect that may generate good quality young children. The management of CCC should pay attention on thermal comfort in order to ensure that the children feel comfortable during their stay at CCC. However, some CCC buildings may not be able to provide appropriate thermal comfort. The studied have shown that children understand the concept which they have greater sensitivity to changes in their metabolism compare to adults. Most of young children also would prefer lower temperature (Fabbri, 2013; Rupp, Vásquez, & Lamberts, 2015; Yun et al., 2014).

According to the American Society of Heating, Refrigerating and Air-Conditioning Engineers ASHRAE Standard 55, (2010), thermal comfort is "the condition of mind which expresses satisfaction with the thermal environment and is assessed by subjective evaluation". Commonly, CCCs will be occupied with a large