**Research Proposal – What factors cause residential fires in UK**

Residential fire can always be a significant threat of living environments, social property, and the most important and long-term impacts is on human's physical and psychological health (Kountouris, 2021). Therefore, the research question that I would like to investigate is what the factors cause residential fires in UK?

The investigated paper is written by Kountouris (Kountouris, 2021) who evaluated the relationship between daylight saving time, disruptions in sleep patterns and residential fires. Many researchers had already explored the correlation between fire risks and social demography, but few researches focused on specific behaviors affect fire occurrence. He believed that human factors significantly caused fire incidence, and the breaking of sleep pattern can definitely influence on human performance. Therefore, an experimental approach was introduced which was the transition of Daylight Saving Time (DST) to naturally break the sleep time for 40-60 minutes. Nevertheless, the results indicated that the sleep disruption caused by DST transition was not a key factor driving dwelling fire incidents, and the reason could be that DST-caused sleep disruption was transient and temporary. The researcher also stated that sleep deprivation of more than 1 hour would have an absolute impact on human performance enough to increase dwelling fire incidents. Thus, I supposed it would be valuable to investigate whether there are other factors can impact on residential fires.

P.S. I am also confused whether I must conform with the conditions such as proposed question, methods and impact factors in the paper, or I just get the idea and explore other relative directions?

**Bibliography**

Kountouris, Y. (2021). ‘An Assessment of the Relationship Between Daylight Saving Time, Disruptions in Sleep Patterns and Dwelling Fires’. *Fire Technology*, 57 (1), pp. 123–144. doi: 10.1007/s10694-020-00983-1.

You need to plan in more detail what datasets and methods you will use to analyse this question. Do you have access to statistics on residential fire occurrences? You could start by visualizing the trend of residential fires before going on to try and explain what causes them. If you have the location or area code the fire took place in you could look for correlations between other factors such as building type or household occupancy (both of these are available from the census). Try to explain clearly what each method tells you and how it helps to answer your research question.

你需要更详细地计划你将使用什么数据集和方法来分析这个问题。你有机会获得关于住宅火灾发生的统计数据吗？你可以先将住宅火灾的趋势可视化，然后再尝试解释火灾的原因。如果你有火灾发生的地点或地区代码，你可以寻找其他因素之间的相关性，如建筑类型或家庭居住情况（这两种情况都可以从人口普查中获得）。试着清楚地解释每种方法告诉你什么，以及它如何帮助回答你的研究问题。