

## The moderating effects of gender and education level on safe food handling intention among consumers in Sibul, Malaysia: based on the Theory of Planned Behavior

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### Abstract

The consumers who did not comply with safe food-handling practices also contributed to the occurrence of food contamination. This study adapted the Theory of Planned Behavior (TPB) to examine the moderating effect of gender and level of education differences that influence the intention of safe food handling at home. A total of 623 consumers based in Sibul, Malaysia completed a questionnaire that measured attitude, subjective norm, perceived behavior control (PBC), and intention. Based on PLS-SEM multi-group analysis (PLS-MGA) by permutation approach, gender demonstrated no moderating effect on the TPB relationships in each state. Meanwhile, the level of education was a significant moderator between PBC and intention. In this relationship, it was indicated that PBC for consumers from lower education group was stronger than their counterparts. These results offered useful information for local authorities or educational institutions to gain a better understanding of consumer behavior towards safe food handling, allowing the authorities to develop intervention accordingly.

## 1. Introduction

Food is vital for human to grow. Food is considered to be safe if it is not harmful to health. Nevertheless, the risk of food contamination from processing to consumers' consumption has become a global issue nowadays. The possibility of food contamination during processing occurred due to existing contaminants in raw food combined with improper cleaning, transportation, heat treatment, packaging, and storage (Nerín *et al.*, 2016).

In the southeast Asia region, more than 150 million people were infected with foodborne diseases (FBD) with more than 175,000 reported deaths every year (World Health Organization, 2015). Malaysia still has the highest number of food poisoning cases compared to other countries (Ministry of Health Malaysia, 2016, 2017). In Sarawak, a total of 805 cases of poisoning were reported in 2010 (Berita Nasional Malaysia, 2011) and

this number increased to 1,017 in 2014 (Boon, 2014). Food contamination does not only occur in premises such as hotels or restaurants; households are also the main source of foodborne pathogens transmission. Such cases are due to food mishandling among consumers including poor personal hygiene, cross-contamination, and violation of time-temperature control (European Food Safety Authority and European Centre for Disease Prevention and Control, 2016; Kamala and Kumar, 2018).

Improving safe food handling behavior among consumers should minimize the number of FBD cases, as recommended by the European Association for Food Safety (Flynn *et al.*, 2019). It was believed that an engagement in particular behavior can be explained by the individual's intention (Ajzen, 1991). The intention of safe food handling may influence consumer's behavior, causing them to be more likely to practice food safety measures.

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