

論文題目     Modelling Waste Prevention Behaviour and Application to Reduce Household Solid Waste

(和訳 廃棄物抑制行動のモデル化と家庭廃棄物減量への適用)

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(本文)

The purpose of this research is to address the issue of public engagement in waste prevention activities. The study investigated the most influential aspects towards waste prevention behaviour, and thus, identified the driving forces, which underpin it through cognitive psychological modelling. The proposed model was utilized to design an orientation solid waste reduction program to be applied on a small sample, with the objective to quantify the real impact on the individuals' involvement in reducing solid waste.

The specific objectives are the following: (a) develop a hypothetical model based on previous cognitive psychology theories regarding environmental behaviours; (b) determine a proposed model for waste prevention behaviour using structural equation modelling based on surveyed questionnaire data; (c) validate the proposed model results through designing and implementing a solid waste reduction program, and; (d) determine how future waste prevention policies may be planned in order to raise population engagement and to effectively decrease household waste.

The proposed model for waste prevention behaviour, developed on this study, is an extensive cognitive framework to comprehend waste prevention involvement, merging well-known attitude-behaviour theories with elements from broader models from environmental psychology. The results verify the use of theory planned behaviour and Schwartz' s altruistic model as a basis for modelling waste prevention participation. However, results also proved that a more elaborate integrated model is required in order to fully analyse the attitudinal aspects associated with waste prevention. This part of the research also proved that recycling and waste prevention represent different dimensions of solid waste management behaviour, and thus will require different strategies and messages to increase population' s engagement in future policies. The proposed structural equation model indicates that personal norms and perceived behaviour control are to be the main predictors and, that unlike recycling; subjective norms have a weak influence on the behaviour. It also suggests that, since social norm have not present a direct influence, waste prevention behaviour is likely to be influenced by a concern for the environment and the community as well by perceptions of moral obligation and inconvenience.

The second part of this research investigated the changes in participants' involvement before and after an outreach solid waste reduction program. The attitudinal and behavioural characteristics of householders were monitored across during the intervention period. The experimental intervention consisted of individual exploratory interviews, distribution of teaching materials and evaluative questionnaires. The program was designed based on the proposed model for waste prevention behaviour in combination of environmental and economic rationales to reduce solid waste at the source. From data collected in baseline and post-intervention survey instruments, it was shown that using the proposed model as first step to design the program led to significant increased in self-reported behaviour. Additionally, the type of waste prevention behaviour promoted (e.g., package reusing) and the location in which it is practiced (i.e., at home, at a supermarket) were found to have an impact on the success of the interventions. Participants were more likely to adopt home-based source reduction over either store-based activities, mostly because of lack of products and/or packages options. The age of the householders have not any influence on their involvement in the program, however household size was a decisive factor in adopting some activities such as home composting.

Overall, the methodology applied in this research is comprehensive, and thus, justifying its adoption in future studies and public policies involving waste prevention behaviour. Understanding individuals' behaviour proved to be the key to achieve an effective reduction of household waste. The research demonstrates its utility with by using a new framework to provide important new findings about different attitudes and actions to reduce household waste. These findings have clear implications for public policy as well as lending considerable empirical support to the original conceptualisation offered by the proposed model.