

Cognitive and Non-Cognitive Factors that influence food waste behaviour in a domestic setting

Introduction

Food waste can be defined as, “food that goes unused at the retail and consumer levels.” Whilst people appear guilty about their waste behaviour, 61% of food waste is being generated in households. Perhaps they are unaware that their habitual routines, emotions and attitudes are some of the biggest motivators for food waste. Failing to understand and address waste practices can have significant environmental impacts. “Food waste... is among the leading causes of freshwater pollution.” and contributes, “...8 to 10% of the world’s greenhouse gases.” The use of Sustainable Development Goals (SDGs) identified by United Nations (UN) helps to make clear what society can do to achieve a sustainable future. Goal 12- Responsible Consumption and Production and Goal 13- Climate Action could aid in the management of food waste.

Non-Cognitive Factors

Routines:

Routines largely influence food waste besides socio-psychological factors. Figure 2 demonstrates that food-related routines impacted food waste the most. This is determined by the number of (*) used. Leftovers and shopping contributed to food waste by -32*** and 21***. The study combines influences of psychological factors in figure 1, with food-oriented routines to create figure 2, to highlight the importance of considering natural and habitual routines related to food waste. For example, Perceived Behavioural Control (PBC) significantly contributed to food waste, being -44*** in figure one before household-related activities was added in figure 2 and caused PBC to become less of a significant, influential factor, decreasing to -34**. Individuals might not acknowledge routines as a cause of food waste, compared to their thoughts and feelings which would usually provoke action. To achieve goals 12.3, 12.7, 13.2 and 13.3 of the SDGs, knowing that routines are an additional factor determining food waste is vital for society to successfully manage food waste at home.

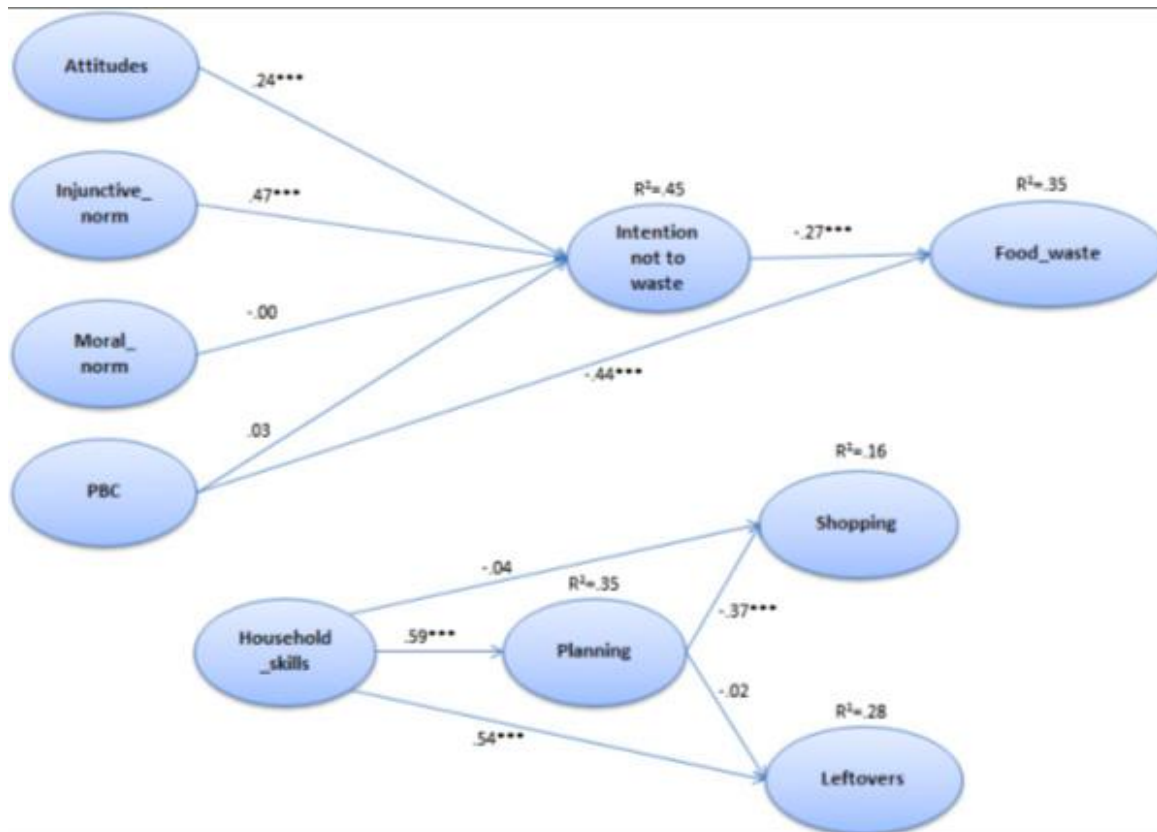


Figure 1- looking at only psychological inputs into food waste to highlight what the structural model looks like before habitual routines are added as an input into food waste and how the model then changes.

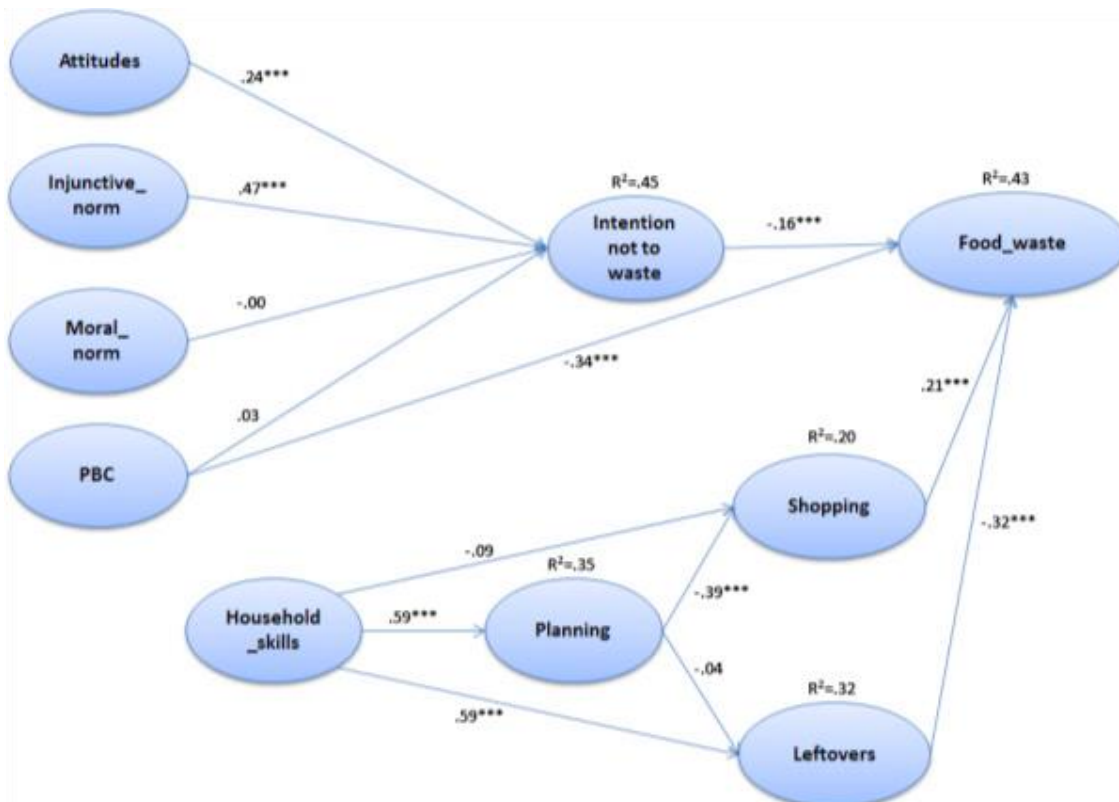


Figure 2- The combined structural model of food waste behaviour: effects of psychological and household related constructs. Model considers the covariance (relationship between the quantitative variables and how when the value of one variable increase or decreases, the other variable increases or decreases.) *, **, ***= RMSEA (The Root Mean Square Error of Approximation. Values that are closer to 0 represent a good fit) Number of stars represent how significant that input is. ***p < .001; **p < .01; *p < .05.

Emotions:

Emotions can make people behave in unexpected ways. One might believe that if an individual felt negative about food waste, they would attempt to reduce the amount they wasted. However, figure 3 shows that negative emotion positively related to food waste. 'Positively' referring to it causing food waste and having a relationship between negativity and waste behaviour. ($\beta = .17$, $p < .001$) It has been suggested that instead of people acting on food waste due to negative feelings about it, they could be avoiding the problem all together because they do not know how to cope and address the problem. If the UN want the public to engage in more sustainable activities, perhaps more research should be dedicated to studies to explore the impact of feelings. Then researchers are likely to have extensive knowledge and be able to provide precise strategies.

Cognitive Factors

Perceived Behavioural Control:

Perceived Behavioural Control (PBC) strongly correlated with food waste, contributing - 34*** as seen in figure 2. The idea revolving around, "...potential barriers or facilitators of the behaviour and represents the perceived ease or difficulty of engaging in the behaviour."⁶ This can have an indirect effect on routines due to individual's perceived abilities about their household skills, referring to the capability to make food, plan meals and using plans to shop for food. Individuals who are positive about managing food-related routines are more likely to be able to create plans to ensure they minimise food waste. To, "... Halve per capita global food waste... at consumer levels and reduce food losses... post- harvest..." persuasive and reinforcing techniques will be beneficial in encouraging individuals that they do have the household skills to reduce food waste. Otherwise, people will feel they cannot be responsible for a sustainable future.

Attitudes:

Injunctive norms and attitudes largely influence the intention not to waste food, which impacts food waste. Whilst norms and attitudes are not the biggest determinants of food waste, they are still significant in understanding to effectively manage food waste. Figure 2 illustrates injunctive norms are (expectations society holds on others) and attitudes as the biggest influencers on intention to reduce food waste, both contributing 47*** and 24***. One might say this highlights the importance of making the topic of food waste a mandatory subject to learn about. The more individuals can talk about managing food waste and sustainability, the more likely others will feel the need to be informed about it, even competitive perhaps.

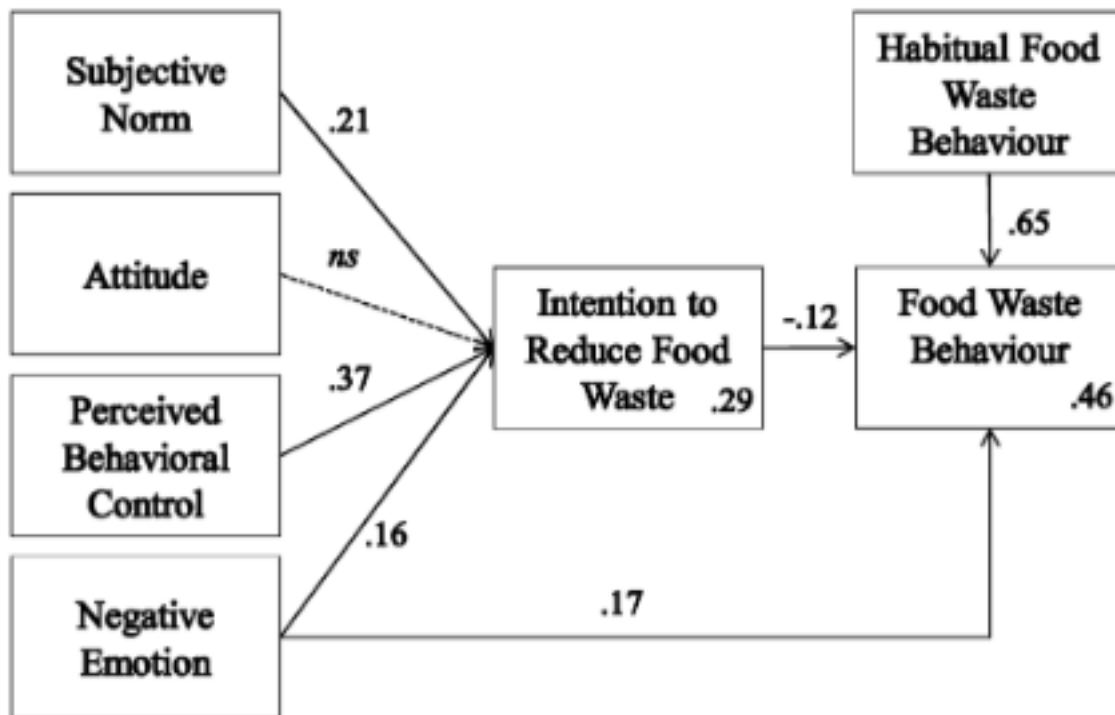


Figure 3- Results of Path analysis including Standardised Beta Weights (How a dependent and independent variable(s) co-exist, the data having been standardised and the independent and dependent variables being equal to 1.) How inputs factor into intention to reduce food waste that then factor into food waste behaviour.

How food waste can be addressed

The UN aims to introduce policies and strategies that engage more with the public. Plenty of websites relating to food have published easy and accessible tips for anyone to follow. This includes not over-buying, planning, home composting and freezing food. Another way to avoid food waste is trying to accurately estimate size portions of meals. It is better to cook less to avoid having leftovers that then become waste or just directly having to chuck an excess amount in the bin. Everyone can help achieve a sustainable future.

Conclusion

Food waste is a sustainability issue causing environmental impacts. The use of SDGs can provide support to society. Different factors contribute to food waste, such as emotions, habits, attitude and PBC. There are varying levels of ways to address food waste, such as further research on existing studies, or controlling how much food is bought and cooked. Everyone is capable of creating a sustainable future.

Word count: 1042 (-176 is without the title and figures, so that would be 866 total)

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Reliability	Type of source	Justification
Very Reliable	Website- <i>Sdgs.un.org</i> , United Nations, 2022, sdgs.un.org/goals/goal13	Whilst some websites can be unreliable to get information from, I know that this website was very reliable due to the UN publishing the information about the SDGs. As the UN created the SDGs themselves, I trust that the information is going to be reliable.
Reliable	Journal	The journal was reliable due to only relying on it to understand numerical and quantitative data, which I do not think is going to vary over time or have many new ideas or theories become developed.
Somewhat Reliable	Journal Article	Due to the article being written in 2015, it could be said that the data is reliable but not as reliable due to the fact it is not recent. Perhaps if there was recent research it would have been better for my essay as results and data might have changed.
Perhaps Unreliable	Book (hard copy)	Despite being able to rely on the book for concise and accurate information, as it is written by professionals in the field, as it was published so long ago it is hard to completely rely on the book.
Usefulness	Age	Purpose and scope
Very useful (Journal Article)	2015	Even though the article was published in 2015, it provided extensive support in providing a lot of my theory for my essay and led me to many resources which I could refer to and make use of.
Useful (Webpage)	2022	Whilst the SDG's were not published in 2022, I know that the website is regularly reviewed so this was useful to my essay because I know it is up-to-date and the information provided was going to be reliable. It was concise and gave clear, short definitions of goals 12 and 13.

Somewhat Useful (journal)	1999	Considering the journal was published a long time ago, it was useful in helping me understand the data I was using to illustrate the effects of socio-psychological and non-psychological factors on food waste. Whilst the theory on covariance could have changed, it is quite numerical and objectively based, therefore I do not feel the year it was published is particularly relevant.
Perhaps not useful (Hard copy Book)	2005	Whilst the book of, "attitudes, personality and behavior' book provided a wealth of information regarding how attitudes can influence food waste behavior, it was published in 2005, meaning there has been time in between for the theories and ideas to have developed or have become outdated.

□