

Food Waste Behaviors of College Students

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Introduction/need for the research

Food waste is a significant environmental, economic, and social issue (Devin & Richards, 2018). Globally, 1.3 billion tons of food are lost annually (Food and Agricultural Organization [FAO], 2019), with Americans disposing of over 0.6 pounds of food per person daily (Thyberg & Tonjes, 2016). Disposed foods eventually end up in landfills, making food waste responsible for a significant amount of fugitive greenhouse gas (GHG) emissions (Lee et al., 2017). The primary reasons for food waste in homes include over-purchasing food and not using food promptly (Aschemann-Witzel et al., 2015). These behaviors result from a complex interaction between social and psychological factors influencing food waste. While consumers are the most significant contributors to food waste, research on specific behaviors is limited, especially for emerging adults (Neff et al., 2015; Qi & Roe, 2016; Stancu et al., 2016). Examining emerging adults (ages 18-29) is essential because this age group is a significant contributor to food waste and is more prone to waste food than older age groups (European Commission, 2014; Mondejar-Jiminez et al., 2016; Parfitt et al., 2010; Pearson et al., 2013). This study examined the psychosocial factors influencing food waste behaviors among college-age students, which aligns with the American Association for Agricultural Education (AAAE) National Research Priority Area 7: Addressing Complex Problems (Roberts et al., 2016).

Conceptual/theoretical framework

The theory of planned behavior (TPB) served as the theoretical framework for the study as it specifies cognitive antecedents of behavior. The TPB states that behavior is guided by attitude, subjective norms, and perceived behavioral control (Ajzen, 1991). When these three constructs are measured as aggregates, they represent a more valid measure of the underlying behavioral disposition than any single behavior. To predict whether a person intends to do something (behavior), one needs to know whether the person is in favor of doing it (attitude), how much the person feels social pressure to do it (subjective norm), and whether the person feels in control of the action in question (perceived behavioral control) (Francis et al., 2004).

Methodology

This research employed a quantitative, non-experimental correlational design to study the relationships of psychosocial factors (attitude, subjective norms, and perceived behavioral control) as they relate to food waste behaviors and the demographics of college students. After IRB approval, a sample of intact courses during spring 2022 at the University of Arkansas was selected for the survey. The researcher developed the instrument of 40 items containing statements related to the constructs of TPB with Likert scales ranging from 1=strongly disagree to 4=strongly agree. Cognitive interviews were conducted to ensure readability and pilot-tested with graduate students. Content validity was established with faculty knowledgeable of the constructs. Coefficient alpha (Cronbach, 1951) levels were used to determine internal consistency for instrument reliability. The instrument was administered in person and online, and data were analyzed using SAS statistical software (SAS Institute, Inc., 2013). Descriptive statistics and multiple regression were used to determine the correlation between variables.

Results/findings

The study population was students in the College of Agricultural, Food, and Life Sciences at the University of Arkansas in the spring 2022 semester. Of the 804 useable responses (96.3% response rate), more than half (78.6%) were female, with 36.0% sophomores, 29.6% freshmen, 19.5% juniors, and 14.0% seniors. Over half (55.5%) indicated they were responsible for preparing 50% or more of their meals each week, and slightly more than half (50.1%) eat out 1-2 times each week. Most students responded favorably to attitudes toward food waste behaviors. The highest mean score was for the statement, "I feel eating leftovers helps reduce food waste" ($M=3.54$, $SD=0.58$), while the lowest item was "I feel guilty or bothered when I throw away edible food" ($M=3.04$, $SD=0.75$). Regarding subjective norms, the item "My parents encourage me to eat leftovers had the highest mean score ($M=3.41$, $SD=0.67$). The lowest mean score was "I feel socially pressured to reduce food waste" ($M=2.22$, $SD=0.72$). Respondents agreed with their ability to control food waste, agreeing, "I am confident that I can put the effort in reducing food waste" ($M=3.22$, $SD=0.58$). The lowest mean score was for the statement, "In my opinion, wasting food is unavoidable" ($M=2.50$, $SD=0.73$). Of food waste behaviors reported, respondents asked for to-go boxes, save uneaten food for leftovers, and plan meals before shopping. They disagreed with the item, "I take specific actions to prevent food waste." Gender was significantly correlated ($p<.005$) with attitudes ($r=0.11$) and subjective norms ($r=0.10$), while classification ($r=0.12$), frequency of takeout ($r=0.11$), and preparing meals ($r=-0.21$) were significantly correlated with behavioral control.

Conclusions

Respondents generally had positive attitudes about food waste. They believed that wasting edible food contributes to food waste, yet it seemed they did not fully understand its implications or consequences. They disagreed with some statements that household food waste is harmful to the environment, or that it was a genuine concern. Regarding subjective norms, the respondents agreed that most people their age waste edible food, and their families think it would be a good idea for them not to waste food. This finding is consistent with other literature. Conflicting results indicate the respondents did not feel socially pressured to reduce waste, yet feel their friends expect them to reduce food waste. Respondents were confident they could reduce food waste and store food properly. However, there were conflicting responses about whether they could avoid food waste in their homes, even though they prepare more than 50% of the meals each week. This conflict may be a result of shared spaces of apartment living. Most felt that throwing away edible food was easy. While correlated to TPB constructs, gender, classification, takeout, and food preparations had weak linear relationships.

Implications/recommendations/impact

Further study on college students using a mixed-methods approach is recommended to seek clarity on specific questions where disagreement seems consistent on all TPB variables. To raise awareness and positively influence food waste behaviors, students need information regarding the environmental effects of food waste through messaging campaigns in dining facilities or food recovery programs to communicate the effects of food waste.

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