

Promoting sustainable food choices with nudging techniques

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ABSTRACT

This research explores the use of nudging techniques in order to encourage more sustainable food consumption among university students. Nudging, a concept proposed by (Thaler, 2018), offers a novel approach to guide individuals towards desired behaviours without limiting their freedom of choice. Understanding how nudging can be applied in mensas is crucial for promoting sustainable eating habits among students (Kawa et al., 2022).

The research examines nudging strategies employed in mensas in Germany, focusing on choice architecture, menu labelling, and social norms. Data is gathered through observation, short on-site interviews and analysis of existing practices in campus cafeterias.

Choice architecture, through strategic placement of sustainable options and adjusting default choices, significantly influences food selection among students. Menu labelling, featuring calorie counts and environmental impact indicators, empowers students to make informed decisions. Highlighting the popularity of sustainable options through social norms further encourages adoption of eco-friendly eating habits. Implementing nudging strategies in university mensas presents a promising avenue for promoting sustainable food consumption, contributing to healthier lifestyles and environmental conservation among the student community.

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Key words: nudging, sustainable food consumption, consumer behaviour, university mensas, choice architecture

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1. Introduction

The global food system stands at a critical point, confronting challenges that extend beyond mere sustenance. Biodiversity loss, climate change, and widening socioeconomic disparities loom large as consequences of our unsustainable food practices (McIntyre, 2024). In the face of such multifaceted crises, innovation becomes imperative; we must reimagine and reconfigure our food systems to foster sustainability and resilience. Central to this imperative is the recognition that all actors within the food supply chain bear a responsibility for effecting change. Yet, among these stakeholders, consumers are key in driving the transition towards sustainability (Pais et al., 2021). As they engage with the food system on a daily basis, their choices wield significant influence over its trajectory. Sustainable food consumption emerges as a complex phenomenon, intertwining social consciousness, environmental stewardship, and economic viability (László, 2022). It necessitates a holistic approach that integrates diverse considerations, from ethical sourcing practices to carbon footprint reduction strategies. However, effecting meaningful change in consumer behaviour presents a formidable challenge, requiring a nuanced understanding of human decision-making processes and psychological mechanisms.

Most healthy eating interventions in Europe provided consumers with information to enable them to make better-informed food choices (Grunert & Wills, 2007) quoted by (Bucher et al., 2016), but behaviour change at the individual level is not effective unless it becomes a habit, which necessitates support and reinforcement through structural or environmental changes in order to ensure that the new behaviour is maintained. While behavioural economics have influenced certain policy interventions, the argument for interventions related to food is still evolving and represents a promising area with the potential to deliver significant social benefits (List & Samek, 2015).

This research aims to explore possibilities for innovation in food systems, with a particular focus on the role of consumers. Specifically, it examines the interplay between awareness-raising initiatives and behavioural nudges as strategies for fostering sustainable consumption patterns. Drawing upon theoretical insights and empirical observations, this study seeks to understand the potential of nudging interventions in reshaping consumer preferences and choices.

2. Theory

Understanding consumer behaviour through behavioural economics

Behavioural economics offers valuable insights into the decision-making processes of individuals (Ariely & Erzsébet, 2011; Szakály, 2021; SZÁNTÓ, 2011) challenging traditional assumptions of rationality and self-interest. Consumers do not always behave according to the classical model assumptions of utility maximization and stable preferences; rather, their decisions are influenced by emotions, biases, and situational contexts. Mental biases, cognitive errors, and decision traps shape consumer behaviour, are much more common in that, therefore developing effective intervention strategies should be the key.

In the maze of modern life, consumers often find themselves overwhelmed by choices (Iyengar & Lepper, 2000). This cognitive overload leads to shortcuts in decision-making, which can sometimes result in unsustainable practices, particularly in food consumption. The robust amount of information in the environment might overwhelm consumers, leading to decision-making shortcuts or heuristics. Misconceptions and cognitive biases may result in suboptimal food handling practices and wasteful behaviours. However, by leveraging insights from behavioural science, we can design interventions that steer consumers towards sustainable practices, as according to (Bucher et al., 2016), nudging strategies may be used to promote healthy eating behaviour, offering an effective approach to guide consumers towards more sustainable choices.

Nudging

Nudging works by altering the environment or choice context to make sustainable options more attractive and convenient. Foodscapes (Mikkelsen, 2011) and food environments contribute to the so-called ‘obesogenic environment (Hill et al., 2003; Hill & Peters, 1998) and influence food choices (quoted by Bucher et al., 2016). For example, displaying eco-friendly products prominently or labelling them with positive descriptors can lead consumer decisions. Leveraging social proof, by highlighting the popularity of sustainable choices among peers, further reinforces this behaviour. By understanding and leveraging these cognitive biases, nudging interventions have the potential to steer consumers towards more sustainable food choices effortlessly.

Nudging, as conceptualized by (Thaler & Sunstein, 2009), offers a promising approach to influencing decision-making by subtly altering choice contexts. Nudging offers framework for steering individuals towards more sustainable behaviours (Thaler, 2018). Rooted in behavioural economics, nudges operate by subtly altering the decision-making environment, thereby prompting individuals to make choices aligned with their long-term interests. By leveraging principles of choice architecture, nudging interventions seek to nudge individuals towards

desirable outcomes without restricting their freedom of choice. In contrast, awareness-raising and educational campaigns adopt a more explicit approach, seeking to empower consumers through knowledge dissemination and skill-building initiatives.

While these efforts aim to enhance consumer understanding of sustainability issues, they often fall short in translating awareness into tangible behavioural change. Blackford (2021) suggests that interventions targeting automatic, intuitive, and non-conscious processes, such as heuristics, mental shortcuts, and biases, are most effective in promoting sustainable food consumption. Nudging, with its emphasis on modifying choice contexts, presents a complementary strategy that augments traditional educational approaches.

Nudging for better food-related choices

Choice architecture, as conceptualized by Thaler and Sunstein, offers a powerful framework for guiding individuals towards healthier dietary decisions without impinging on their freedom of choice. Leveraging this concept, there are several strategies that could be implemented within mensas to promote sustainable and nutritious eating habits (further discussed amongst the research results). By implementing nudging strategies within mensas, institutions can create environments conducive to healthier food-related choices, ultimately fostering a culture of sustainability and well-being among university students.

As we delve into the theoretical considerations of nudging and awareness-raising, we go towards a case studies and observations conducted at a German University canteen between 2023 September and 2024 February. This empirical investigation serves as a lens through which to examine the efficacy of nudging interventions in influencing consumer behaviour. By theoretical insights with real-world observations, I aim to reveal the practical implications of integrating nudging strategies within food environments.

3. Methodology

Aim of the research

Aligned with the principles of behavioural economics suggested by Thaler and Sunstein, this study aims to investigate the practical implementation and effectiveness of nudging techniques in promoting sustainable food consumption among university students. By examining real-life examples within university mensas, the research seeks to show effective strategies for nudging individuals towards more sustainable eating habits. Additionally, the study aims to identify and assess awareness-raising tools designed to encourage sustainable food consumption patterns

among students.

The research concentrates on the efficacy of various nudging strategies, focusing particularly on choice architecture, menu labelling, and social norms within German (and Hungarian) mensas. Through observation and analysis of current practices, the study aims to examine the impact of these strategies on students' food choices and attitudes towards sustainability. Theoretical frameworks drawn from behavioural economics and consumer behaviour literature supports the research methodology, providing a robust foundation for analysis and interpretation.

Data collection

The data collection process was conducted on-site, allowing for an in-depth exploration of the university mensas' sustainability initiatives. Leveraging the fact that I studied in Germany during the previous semester I had an excellent opportunity to examine the operational dynamics of mensas, particularly in Osnabrück and Giessen, totalling five establishments. During some of these visits, I engaged in short on-site interviews with students at one mensa, while at another, I conducted informal discussions to gather insights into students' experiences and perceptions. Upon returning to my institute in Hungary, I have tried to compare the knowledge and observations collected from the German context to assess the sustainability practices within the local mensa. Though faced with some challenges, I focused on documenting instances of best practices (and areas to develop).

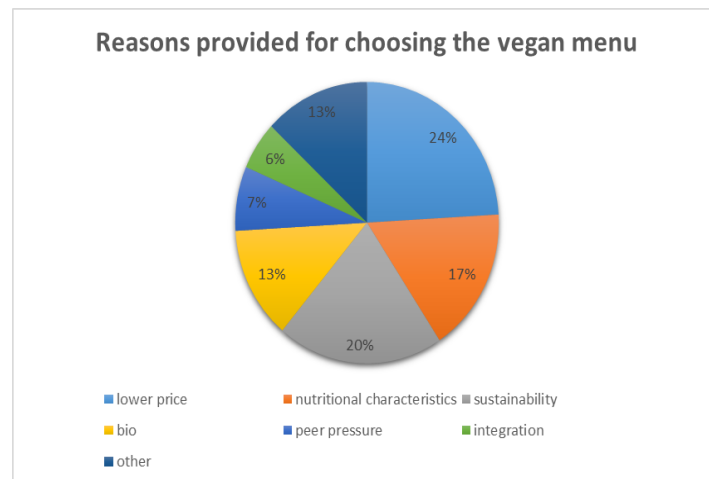
4. Findings

The findings of this research have been systematically organized according to the potential nudging techniques that could be utilized. This approach allows for a structured presentation of the research outcomes, categorizing them based on the various strategies of nudging that may be employed.

Affordability

The affordability of healthier food options plays a crucial role in influencing individuals' dietary choices, particularly among price-sensitive demographics such as students. The observations made in Osnabrück and the disparities between the German and Hungarian mensas highlights the significance of pricing strategies in promoting healthier or sustainable eating habits.

Graph 1: *Reasons provided for choosing the vegan menu (n=34) Osnabrück, 2023*



Source: Self-edited figure

Reducing the price of healthier food options is not only a practical strategy but also aligns with classical economic principles aimed at boosting sales. By making nutritious choices more financially accessible, institutions can effectively incentivize healthier eating habits among students, thereby contributing to their overall well-being and academic success. In the German mensa context, the affordability of healthy choices stood out, with nutritious options often priced lower than fizzy drinks or biscuits. This pricing strategy not only encourages students to make healthier selections but also reflects a commitment to promoting health within the university community.

In contrast, my observations in Hungarian mensas revealed a disparity in pricing between fruits and bakery products or sweets. Fruits were either relatively expensive or entirely absent from the mensa, while less nutritious alternatives remained readily available and affordable. This discrepancy underscores the need for concerted efforts to address pricing barriers and make healthier options more economically viable for students.

By addressing affordability barriers and implementing pricing strategies that prioritise healthful choices, such initiatives contribute to fostering a culture of health and sustainability within university campuses, ultimately benefiting the holistic development and academic success of students.

Fostering a good choice only by making it easy

Simplifying the process of making healthier choices is a fundamental nudging technique. In the dining environment, this can be achieved by streamlining the selection process and eliminating barriers to sustainable practices. For instance, addressing the inconvenience of disposing of

leftover food (like in the mensas of Giessen) by providing easily accessible containers encourages students to opt for appropriate portion sizes. Additionally, offering the option to use food boxes or takeout meals promotes eco-friendly practices without compromising convenience. Furthermore, integrating information and awareness materials into mobile applications enhances accessibility and facilitates informed decision-making, ultimately making it easier for individuals to choose well-balanced and sustainable options. By prioritizing ease and accessibility, dining establishments can effectively nudge students towards healthier and more environmentally conscious choices.

Making the better choice also trendy

By making the better choice appear popular, nudging can effectively influence behavior. Social norms play a significant role in decision-making, and suggesting that others have opted for a certain choice can sway individuals to follow suit. For example, highlighting the growing demand for organic food signals that choosing organic options is not only beneficial but also aligned with current trends and societal values. Similarly, promoting sustainability initiatives, such as the "climate plate" at Osnabrück Student Service, emphasizes the collective effort towards environmental stewardship and encourages individuals to participate by selecting eco-friendly options. By leveraging social influence and aligning choices with prevailing trends and values, nudging can motivate individuals to make more sustainable and socially responsible decisions.

Empowering informed food choices through nutritional disclosure

In today's health-conscious society, younger generations are increasingly mindful of the nutritional content of their food (Lau et al., 2013). Within this demographic, factors beyond price, such as the nutritional characteristics of menu items, emerge as influential drivers of choice. The German mensa experience provides a compelling example of how disclosing comprehensive nutritional information empowers individuals to make informed dietary decisions. By prominently presenting nutritional characteristics and calorie counts, mensas effectively guide students towards choices that align with their health and sustainability values. This practice not only fosters transparency but also reinforces the notion that sustainable options are inherently better for consumers' well-being.

In Osnabrück mensa, for instance, a notable 17% of students opted for the vegan menu due to its favourable nutritional profile (see the Figure above). This statistic shows the significance of nutritional disclosure as a potent nudge, encouraging students to prioritize sustainability and healthfulness in their food choices. By embracing nutritional disclosure practices, mensas can

facilitate a culture of informed decision-making among students, empowering them to select options that not only meet their dietary preferences but also contribute to their overall well-being. Furthermore, such initiatives align with the evolving expectations of consumers, particularly younger generations, who seek transparency and accountability in food procurement and consumption.

Fostering health through specialised menus

In addition to the awareness-raising materials within campus environments, mensas can introduce specialised menus tailored to meet the needs and preferences of various demographic segments, such as the "Mensa Active" option designed for individuals committed to a fitness-oriented lifestyle in Osnabrück mensa (studentwerk-osnabrueck, n.d.).

The communication surrounding these menus extends beyond mere nutritional values and pricing considerations, employing compelling messaging to highlight their benefits. By positioning the "Mensa Active" menu as vitalizing and balanced, mensas effectively convey the message that these offerings are not only nutritious but also conducive to achieving and maintaining optimal physical well-being. This integrated approach to menu presentation serves as a persuasive nudge, encouraging students to make choices that align with their health and fitness goals. By presenting the positive impact of these menu options on overall health and vitality, mensas empower students to make informed decisions that support their well-being. The implementation of specialized menus reflects a commitment to catering to the diverse dietary preferences and lifestyle choices of students, thereby fostering a supportive and inclusive dining environment within the university community.

Placement of products

The strategic placement of food products within dining environments can significantly influence consumer choices. Placing healthier options, such as salads, at eye level ensures they are prominently displayed and easily accessible, increasing the likelihood of selection. Conversely, positioning unhealthy items a few steps away requires individuals to exert additional effort, subtly nudging them towards healthier alternatives. Moreover, the layout of food offerings can impact decision-making. In German mensas, salads are typically placed at the beginning of the food line, while desserts are located towards the end. This arrangement encourages individuals to prioritise healthier options initially, but may leave out dessert purchases due to tray space (or money) constraints.

In contrast, some mensas often place chocolate and similar products prominently at the beginning of the food line, while healthier alternatives like fruits or yoghurt are less readily

available. Additionally, the inconvenience of requesting certain items, such as sandwiches, further discourages healthier choices. This layout not only undermines nudging efforts but also limits the availability of nutritious options, presenting a significant challenge in promoting healthier eating habits.

5. Conclusion

In conclusion, this research focused on the application of nudging techniques aimed at fostering more sustainable food consumption behaviours among university students. Rooted in Thaler, (2018) concept, nudging offers a nuanced approach to guiding individuals towards desired behaviours while respecting their autonomy. Understanding and implementing nudging strategies within mensas are essential steps in promoting sustainable eating habits among students (Kawa et al., 2022). The examination of nudging strategies and good practice collection, deployed in German mensas, with a focus on choice architecture, menu labelling, and social norms, has revealed several effective interventions. Through observation and analysis of existing practices in campus cafeterias, valuable insights have been gained into the mechanisms driving food choices among students.

The strategic arrangement of food options within choice architecture, coupled with adjustments to default choices, holds power over food selection behaviours. Menu labelling, incorporating calorie counts and environmental impact indicators, empowers students to make informed decisions about their choices. Furthermore, leveraging social norms to highlight the popularity of sustainable options reinforces the adoption of eco-friendly eating habits among students. By fostering healthier lifestyles and contributing to environmental conservation efforts, these initiatives have the potential to positively impact the well-being of the student community and beyond. However, challenges persist, particularly in addressing placement and accessibility issues within mensas. The layout of food offerings and the availability of certain items can undermine nudging efforts and limit the availability of nutritious options.

Considering these findings, it is essential for institutions to continue exploring innovative strategies to enhance the effectiveness of nudging interventions in promoting sustainable and healthier food choices among students. By prioritizing affordability, accessibility, and transparency, mensas can create environments that foster a culture of health and wellness, ultimately contributing to the holistic development and well-being of university communities.

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