

**THE ART OF NUDGING:**  
INCREASING HEALTHY EATING AMONG  
STUDENTS IN AN EDUCATIONAL SETTING

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## Summary

Healthy eating is a challenge for many young adults and most do not meet the WHO's (World Health Organization) recommendations for fruit and vegetable consumption. The need to employ interventions promoting healthy dietary behavior has been recognized. As young adults spend many hours per day at, for example, their school or university educational settings have been identified as suitable for applying these interventions. Many effective healthy eating interventions (like cookery classes or information providing workshops) focus on the active participation of the individual. However, dietary behavior is believed to seldomly involve active cognitive processes and it is influenced by many factors (such as taste or presentation). Among those influential factors is the environment (the immediate surroundings) in which dietary behavior takes place. A promising type of health intervention that utilizes these environmental influences and often target automatic cognitive processes is called *nudging*. Nudges are simple changes made within the immediate surroundings of an individual that aim at highlighting a certain option without taking away or forbidding any other options. In this way, choosing a certain option is made easier for the individual. An example for a healthy eating nudge is changing the order in which food is arranged in a buffet by placing healthy foods at the beginning and unhealthy foods at the end of the buffet. Such healthy eating nudges have effectively been applied in educational settings, but not all are easy to apply. In this regard a promising type of nudge that can easily be applied are nudges based on artwork. So far, these artwork nudges have not been focused on in research. The predicament of healthy dietary behavior is explicated in Chapter 1.

The present dissertation set out to investigate the effects of artwork nudges on dietary behavior. To deepen the understanding of the working mechanisms of artwork nudges different influencing factors on nudge effectiveness were researched as well: the acceptance of nudges as a health intervention and the awareness of the presence of a nudge within the decision-making context. Based on research findings and existing research gaps regarding the effects of nudges on dietary behavior, five research questions were formulated and addressed in four research articles all taking place in different educational settings – a high school, a university and a university cafeteria. All articles involved nudges that were based on the artwork of Alberto Giacometti. His sculptures depict skinny, human-like individuals. The exposure to this type of art has been found to improve dietary behavior and reduce food consumption.

Chapter 2 explores the effects of a Giacometti-like nudge (a more contemporary version of the original Giacometti nudge) regarding the dietary behavior of high school students in a controlled setting. Chapter 3 applies different artwork nudges within a virtual vignette setting to measure their effects on virtual meal choices made. In this chapter, university students and employees are considered. Also, the degree to which individuals were aware of the nudge's presence is included as an influential factor on nudge effectiveness. Chapter 4 assesses the susceptibility to nudges as measured with a questionnaire. Susceptibility to nudges is defined

as *nudgeability*. Chapter 5 assesses the effects of the original Giacometti nudge in a real-world university cafeteria setting. Specifically, the immediate and sustained effects of the original Giacometti nudge on students' meal purchase in the university cafeteria are considered. In addition, the role of awareness of the nudge's presence as well as the acceptance of this specific nudge are discussed.

The findings of the present dissertation reveal that the effects of the artwork nudges were mixed and not always as intended or expected. The original Giacometti artwork nudge only effectively improved the eating behavior of employees in a virtual cafeteria and of students in a real-world cafeteria. Unexpectedly, it increased the number of calories purchased by students in a real-world cafeteria after it had been removed from the environment. It also increased the number of calories ordered by university employees who were highly aware of the nudge – another unexpected finding. While nudgeability varied among university students, they generally agreed on rating the original Giacometti as rather unacceptable. There is still a lot to learn from the findings of this dissertation. Practitioners can draw important conclusions: 1) Nudges need to be designed based on a sound theoretical background, tested rigorously and possibly refined; 2) Nudge application needs to carefully consider the target group to which a nudge will be applied; 3) The application of nudges in an educational setting is easy and cost-effective. More research on artwork nudges is needed to master this art of nudging completely.

At last, the present dissertation reflects on two simple questions that are not so simple to answer. 1) Should the original Giacometti nudge be applied in an educational setting to improve healthy eating? The answer is yes, if the intended target group and environment in which the nudge is to be applied meet certain conditions. 2) Should artwork nudges be applied in an educational setting to improve healthy eating? The answer is yes in regard to the application of artwork nudges within an educational setting. Regarding healthy eating the answer is yes, after rigorous testing and more research reflecting healthy eating in its entirety and testing various types of artwork nudges.