

Economic analyses on sustainable behaviors through cognitive interventions: Experimental approach

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February 24, 2026

Abstract

Sustainable behaviors are crucial for ensuring long-term wellbeing and stability across social, economic and environmental systems. Adopting sustainable behaviors, such as sustainable consumption and reducing inequality, is essential for addressing climate change, improving health outcomes and achieving Sustainable Development Goals (SDGs). To understand these behaviors, concern and commitment for the next generation, i.e., generativity, is established to be important. However, little is known about how generativity is related to sustainable food purchase intentions and what encourages people to make a lasting shift to sustainable food consumption (SFC). In addition, few studies have investigated how fairness and inequality arise from the status quo of equality and how winners righteously act to losers in different situations. Therefore, the aim of this study is to examine the effect of cognitive interventions, i.e., future design (FD) approach and accountability, for the persistent change to sustainable behaviors and suggest some possible policy recommendations to achieve SDGs in both developed and developing countries.

The first study in this research considers the extended theory of planned behavior (TPB), investigating the question “how generativity matters for consumers’ intentions to purchase sustainable foods along with environmental concerns (EC)?” and the hypothesis “prosocial attitudes for future generations (PAF), one measure of generativity, is the key determinant.” We employ a field survey, collecting data on the intentions to purchase organic foods (INT), TPB constructs, i.e., attitudes, subjective norms and perceived behavioral controls, PAF and EC with 300 household heads in Bangladesh. We confirm the significance of PAF and EC on top of TPB constructs by testing the causality through partial-least squares structural equation modeling, yielding two main results. First, not only PAF but also EC have substantial positive effects on consumer intentions to purchase organic foods. Second, the relations between PAF and INT as well as those between EC and INT are fully and partially mediated by attitudes, respectively. Thus, PAF and EC are established to be key determinants for favorable attitudes toward sustainable food-purchase intentions. Overall, the results demonstrate that enhancement of people’s orientations for environment and future generations is effective at shaping sustainable food cultures and practices, and to this end, some future-studies approaches in education, i.e., school and family levels, shall be recommended.

In the second study, we consider a FD approach where people are asked to think about a problem and take actions through taking a perspective of future generations, investigating the question “how does the FD approach impact food consumption?” and the hypothesis “FD induces a lasting shift to SFC.” We employ a social experiment with three treatments of “control group,” “deliberation” and “FD,” collecting data on organic and nonorganic vegetable consumption with 300 households in Bangladesh over three months. In the control group, households report the consumption. In deliberation, they additionally deliberate among their family members to think of a vision, a mission and a strategy for the consumption. In the FD treatment, participants additionally consider the perspectives of past, current and future generations before deliberating on the same issues. Results indicate that FD affects people to have a sustained increase (decrease) in organic (nonorganic) vegetable consumption as compared to any other treatment, and the effect under FD is approximately twice as much as that under deliberation in magnitude and in each round. Overall, FD demonstrates a great potential for inducing people to make a persistent change to SFC.

The third study considers the accountability, investigating “how being accountable for decisions influence winners to behave toward losers, even when the winners are determined by chance.” It is hypothesized that “winners behave righteously (or fairly) to losers as they are asked to be accountable for their decisions.” We institute a winner righteousness game (WRG) in a group of three subjects with equal endowments as the control, and conduct a laboratory experiment with 297 subjects that consists of three steps. First, each subject decides how much to take endowments from losers as if she is a winner. Second, a lottery determines whether she becomes a winner or a loser. Third, she takes the endowment from each loser following her decisions in the 1st step if she is a winner. Otherwise, her endowment shall be taken by each winner. Two treatments are prepared: (i) intragenerational accountability (IAA) and (ii) intergenerational accountability (IRA). Additionally, every subject is asked to be accountable for her “take” decisions, providing the reasons and advice to unknown others in groups that will play WRG later for IAA or to unknown others in the “subsequent groups” within a generational lineup for IRA. Being accountable signifies subjects not to take the endowments as compared to those in the control, and the “take” reduction in IRA is twice as much as that in IAA. Overall, winners righteously behave towards losers for fairness and equality, specially when they are accountable for their decisions with an intergenerational linkage of groups.

Key Words: Sustainable food consumption; Organic vegetables; Purchase intentions; Righteousness; Generativity; Environmental concerns, Future design; Accountability; Social experiment; Laboratory experiment; Bangladesh; Japan