

Optimism towards green technologies and personal responsibility for environmentally sound behaviour

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Introduction

The fostering of “green” technologies (e.g. energy efficiency and renewable energy) has a predominant role in public discussions on sustainable development strategies. It can be assumed that this may lead to a general optimism towards the ecological benefits of such technologies. In our study we address the question what effects on environmentally relevant behaviour such optimism could bear.

From the phenomenon of the rebound effect (Khazzoom, 1980) we know, that improvements the energy efficiency of a technology (e.g. light bulb) can lead to more extensive use of this technology (e.g. not switching light off, when not used). Such behaviour lacks to a certain degree of environmental soundness, as more energy is used than needed for the actual purpose.

As shown by Hunecke (2000) environmentally sound behaviour is dependent on the degree to which an individual feels a personal responsibility for showing environmentally sound behaviour. In our study this feeling of personal responsibility serves as the dependent variable. We hypothesise that optimism towards the ecological benefits of green technologies leads to decreased felt personal responsibility for environmentally sound behaviour.

Methods and results

As no existing scale measuring such optimism could be found, a “green technology optimism” scale has been developed on theoretical assumptions. A pretest (N=40) has been conducted in order to improve and shorten the scale. In the main study (N=642, Swiss and Austrian residents) the scale (7 items) showed good internal consistency (Cronbach’s Alpha = 0.81) and approximatively a normal distribution.

The dependent scale - measuring felt personal responsibility for environmentally sound behaviour - consisted of six items related to energy-saving measures at home which required active performance of environmentally sound behaviour (e.g. switching off lights, when not used) or abstinence from environmentally harmful behaviour (e.g. using tumble dryer).

The negative relationship between green technology optimism and felt personal responsibility for environmentally sound behaviour has been tested using structural equation modeling. First results seem to confirm this negative relationship, although only for participants, who show medium scores for environmental concern. For participants with high scores or low scores the expected negative relationship could not be found.

Discussion

If the first results can be confirmed in further analyses, it can be argued that - via a decrease in felt personal responsibility - optimism towards green technology can (under certain conditions) lead to decreased levels of environmentally sound behaviour. From a practical point of view this means that communication on the success of green technologies can bear the risk of giving people the impression that green technologies alone will fix our environmental problems and that personal responsibility is no longer required. Rebound effects will be the consequence, if not addressed properly in the communication strategies.

References

- Hunecke, M. (2000). *Ökologische Verantwortung, Lebensstile und Umweltverhalten*. Heidelberg: Asanger.
- Khazzoom, J.D. (1980). Economic implications of mandated efficiency in standards for household appliances. *Energy Journal*, 1(4) 21-40.