

THE RELATIONSHIP BETWEEN CLIMATE PROTECTION ACTIVITIES, ECONOMIC PREFERENCES, AND LIFE SATISFACTION: EMPIRICAL EVIDENCE FOR GERMANY

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Overview

Individual climate protection activities, which are an important dimension of mitigating climate change, can lead to personal costs (e.g. Schmitt et al., 2018, Andor et al., 2020). In spite of these costs, however, a large number of previous studies reveals that individual climate and other environmental protection activities are positively correlated with subjective well-being (SWB) in terms of both happiness and life satisfaction (for an overview see e.g. Welsch, 2020). Against this background, we econometrically examine the relationship between different types of environmental protection activities and SWB. The contribution of our empirical analysis to previous empirical SWB studies is three-fold: First, we differentiate between climate protection activities and non-climate environmental protection activities to examine which types of environmental protection activities are more relevant for SWB. Due to the increasing public awareness and concern about climate change (e.g. El Ouadghiri et al., 2021), especially after the Paris Agreement in 2015 and the formation of climate movements like Fridays for Future (FFF), it might be possible that the positive correlations between climate protection activities and SWB are stronger than the corresponding correlations between non-climate environmental protection activities and SWB.

Second, to the best of our knowledge, the relationship between revealed climate protection activities and SWB has not been examined so far. Instead, previous empirical SWB studies consider stated environmental protection activities based on common questions in surveys. However, the problems of stated activities as indicators for real activities like interviewer demand effects or social desirability bias are well-known. Therefore, we examine interpersonally comparable revealed climate protection activities, which are measured with an incentivized donation scheme. The individually donated amount is used as alternative indicator for climate protection activities in our empirical analysis. The third contribution of our empirical analysis refers to one concern of previous results, i.e. that estimated positive correlations between pro-environmental behavior and SWB might be biased due to omitted variables. For example, Binder and Blankenberg (2017), Welsch (2020), and Welsch et al. (2021) examine and discuss such biases due to the omission of green self-image and (stable) personality traits. We specifically consider economic preferences such as risk and time preferences, which are often examined in behavioral economics (e.g. Falk et al., 2018) and which play an important role for a wide range of individual behavior including climate protection activities (e.g. Ziegler, 2020, 2021, Fischbacher et al., 2021). SWB benefits conventionally attributed to pro-environmental behavior including climate protection activities may thus (at least partly) be attributable to economic preferences.

Methods

The econometric analysis is based on data from a large-scale computer-based survey in Germany, which was carried out in April and May 2021. Due to the focus of the survey, only adults who are solely responsible for the purchase of major household items or services (e.g. vehicles, furniture, electricity contracts) or responsible together with a partner were included. The data for 1614 respondents, who are widely representative for German household decision makers in terms of age groups, gender, education, and place of residence, are analyzed with linear regression and ordered probit models. The dependent variable in our econometric analysis refers to life satisfaction, which is measured on a scale with eleven ordered response categories, ranging from zero (“fully dissatisfied”) to ten (“fully satisfied”).

Results

Our econometric analysis reveals that climate protection activities are more robustly and more strongly positively correlated with life satisfaction than non-climate environmental protection activities. Furthermore, not only stated climate protection activities, but also revealed climate protection activities are significantly positively correlated with life satisfaction. Our empirical analysis additionally shows that economic preferences play an important role since some economic preferences are significantly correlated with life satisfaction. In particular, the estimated correlations between climate protection activities and life satisfaction become weaker and the estimated correlation between non-climate environmental protection activities and life satisfaction even becomes insignificant when economic preferences are included in the econometric analysis. These results strongly suggest omitted variable biases in cross-

sectional econometric analyses of the relationship between pro-environmental behavior and SWB when economic preferences are not included as control variables.

Conclusions

Our empirical analysis provides two important insights: First, the estimated positive correlations in previous studies are obviously not generally due to the consideration of stated environmental protection activities since both stated and revealed climate protection activities are significantly positively correlated with life satisfaction, even when controlling for economic preferences. This result thus suggests that the previously empirically validated positive correlation between pro-environmental behavior and SWB is not generally a spurious result due to unreliable indicators, at least for climate protection activities. While we have made a first attempt to analyze the relationship between revealed environmental protection activities and SWB, an important direction for further research is the consideration of alternative meaningful indicators for pro-environmental behavior. These indicators might, for example, be measured in alternative climate-related donation experiments. Even more interesting would be the use of data for climate protection activities that are neither collected in surveys nor in (hypothetical) incentivized experiments, but which are observed in real life.

Second, our empirical analysis points to an important methodological shortcoming of previous empirical studies on the relationship between pro-environmental behavior and SWB. Our estimation results suggest an overestimation of the positive correlations between environmental protection activities and life satisfaction when economic preferences are not included as control variables. While the estimated positive correlations at least remain significant in the case of stated and revealed climate protection activities so that the previous conclusions remain valid, the omitted variable bias is especially strong for non-climate environmental protection activities. Therefore, economic preferences should generally be included as control variables in econometric analyses of the relationship between pro-environmental behavior (and possibly also other variables) and SWB, especially if cross-sectional data are used. While it might be argued that controlling for unobserved heterogeneity in panel data analyses (e.g. Krekel and Zerrahn, 2017) is sufficient to avoid omitted variable biases in this respect, it should be noted that recent studies reveal intertemporally changing economic preferences (e.g. Schildberg-Hörisch, 2018). Therefore, it seems to be useful to also address economic preferences in panel data studies.

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