

Understanding Public Attitude towards NBS Projects

A case of dike relocation projects in Saxony-Anhalt, Germany

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BACKGROUND

- Traditional FRM has faced various limitations (e.g., rising costs, levee effect).
- One of the critical aspects impeding the successful implementation of NBS is often related to the residents with resistance.
- The reasons behind such resistance include (but are not limited to) underestimating the potential of NBS due to uncertainty around effectiveness.
- Therefore, understanding factors that form people's attitudes toward NBS is essential.
- So far, the knowledge about public attitudes towards NBS projects is still limited and lacking.

METHODS

- A theoretical framework inspired by the constructs from theories of risk perception and place, namely a 'Place-based Risk Appraisal Model' or 'PRAM' is developed for the analysis.
- A citizen survey was conducted in five communes in Saxony-Anhalt where dike relocation and floodplain restoration projects were performed near the Elbe River.
- The constructs were analyzed with structural equation modeling (SEM) to explore the path coefficients.

CASE STUDY SITES

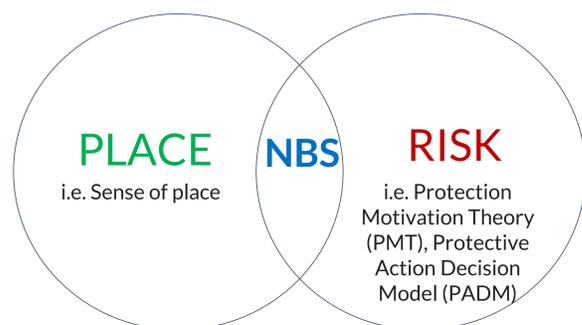


Image source: Wikimedia Commons

KEY FINDINGS

- For the risk-related constructs, while well-communicated information, trust, perceived co-benefit were positive consistent factors for both perceived risk-reduction effectiveness and supportive attitude, threat appraisal affected both attitudinal factors negatively.
- For the place-related variables, while nature bonding was a positive predictor of perceived risk-reduction effectiveness, place identity was a negative predictor of supportive attitude toward the dike relocation project.
- The study emphasized that individual appraisal on a threat, coping, and cost-benefit, as well as pluralities of place context to each individual, are key for determining attitudes.

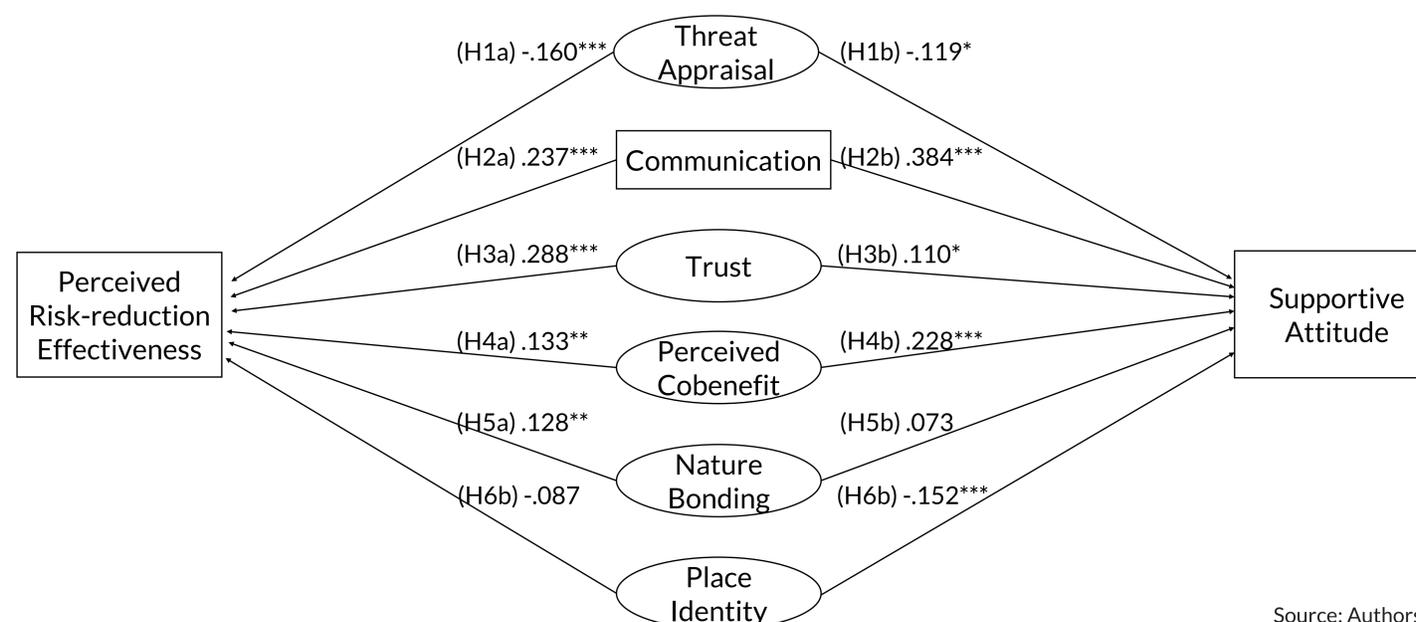
THEORETICAL BACKGROUNDS



RESEARCH QUESTIONS

1. "How are the public attitudes towards the NBS projects shaped?"
2. "How do risk-and place-related factors shape individual attitudes towards NBS?"

STATISTICAL RESULTS



Source: Authors

'Place-based Risk Appraisal Model' using structural equation modeling with standardized path coefficient (β) per hypothesis. Note: Standardized coefficients are presented. *** indicate the path with a significant relationship with $\alpha = 0.01$, ** with $\alpha = 0.05$, * with $\alpha = 0.01$. Covariance coefficients are omitted. Goodness of fit: $X^2 = 273.050$ (190 d.f.), $p = 0.000$, CFI = 0.970, TLI = 0.962, RMSEA = 0.052, SRMR = 0.063.

IMPLICATIONS

- The study recommends that attitudes need to be understood with heterogeneous place contexts to individuals and their dynamic relations with risk appraisal.
- Understanding these shaping elements and their relationship allows us to provide theory and evidence-based implications and the effective realization of NBS.

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