

# SOCIAL NORMS DO NOT IMPROVE INDIVIDUAL FLOOD PREPAREDNESS DECISIONS

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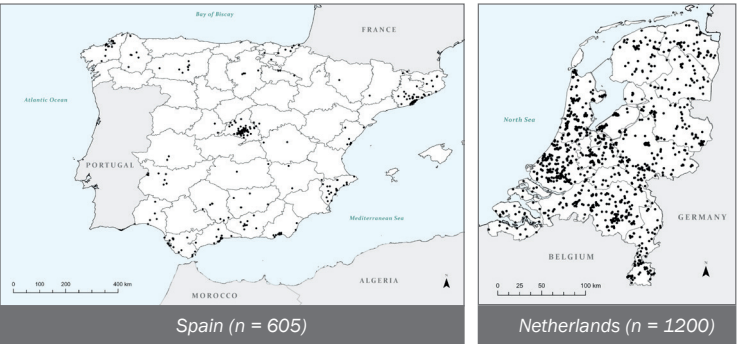
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## INTRODUCTION

Social norms are rules of behavior that are commonly approved by society. Nudges based on social norms (norm-nudges) are compelling interventions compared to traditional interventions, but they have to be carefully designed to be effective.

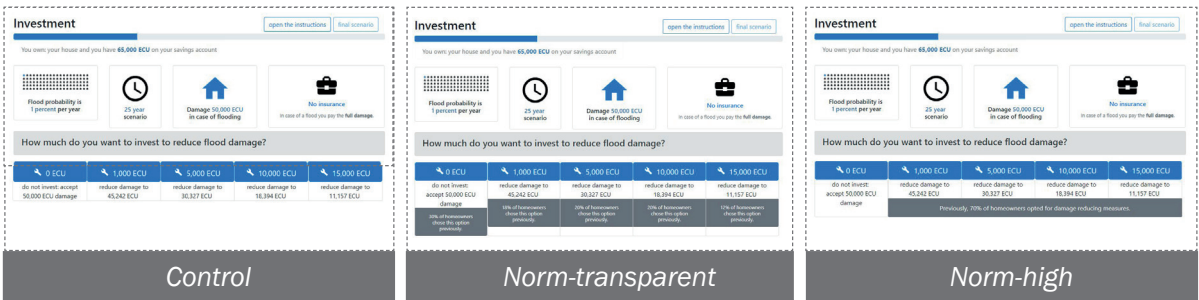
We test three empirical norm-nudge frames with a large sample in two European countries, to evaluate the possible interactions between norm-nudge effectiveness, individual characteristics and intercultural differences.



## METHOD

Participants played an investment game under flood risk, computerized in oTree. The online experiment was preregistered and conducted with a sample of homeowners. Subjects were randomly distributed over four (Netherlands) or two (Spain) treatments. We used two descriptive norm treatments, which showed the high (70%) percentage of previous respondents who invested something (Norm-high) or the full distribution of previous choices (Norm-transparent).

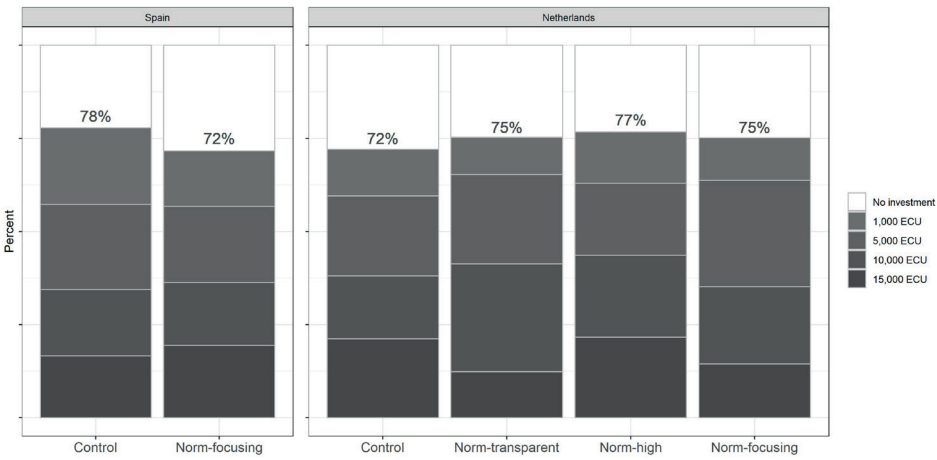
Following Krupka & Weber (2009) and Bolton et al. (2019), we designed a Norm-focusing treatment, which used incentivized belief elicitation to focus participant's attention to the norm, before making their own investment decision. The Control treatment showed the belief elicitation page afterwards.



## RESULTS

We find no evidence for any treatment effects with Wilcoxon rank-sum tests and ordered probit regressions, which controlled for various covariates including demographics and flood risk perceptions. The results are consistent across countries, see top right figure.

Investments were positively correlated with beliefs, as in the bottom right figure. In our sample, 75 % of respondents invested, as indicated in blue. However, most respondents did not think that the majority of their peers would invest.



## DISCUSSION

Flood-preparedness decisions are conceptually different from other decisions where social norm nudges have been successful. After analyzing the Dutch sample, we hypothesized that the stakes are too high. To test this, we implemented a short intention measure on the last page of the Spanish survey, but found no effect of descriptive norms on intention.

Possible explanations include the degree of uncertainty and the lack of observability in flood-preparedness decisions.

