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The Interplay Between Risk Framing, Attitude toward Policy, Negative Affect and Hard Policy Support

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Abstract. *This study examines the impact of risk framing (national security versus climate change) on attitude toward policy, negative affect and individual support for hard policy. A between-subject, vignette-based experiment was conducted. Results show that both climate change and energy security policies receive above-average support and evoke moderate levels of negative affect. In addition, no statistically significant results were found between the two risk framing policies. Moreover, attitude towards policy predicts individual support for hard policy, whereas negative affect has no influence.*

Keywords: risk framing, attitude toward policy, negative affect, policy support, experimental research design

Introduction

The fact of climate change is still not widely understood by societies (Hornsey et al., 2016). The increasing complexity and expense of the suggested activities, the public's desire to take action to reduce the consequences of climate change looks to decline (Dietz et al., 2007). People seem ready to adopt voluntary activities that will enable them to save money, such as buying energy-efficient equipment. This readiness declines when more challenging measures, like installing solar panels, are considered. It declines even more when the action requires a lifestyle change, such as driving less (O'Connor et al., 2002). Moreover, the lack of decisive action on climate change policies undermines public belief (Vainio & Paloniemi, 2011).

The study draws its inspiration from a German energy conservation policy implemented when Russia threatened to halt distributing natural gas to the EU in response to the EU's sanctions against Russia during the Russo-Ukrainian War. The fact that 55.2% of Germany's natural gas imports came from Russia in 2020 demonstrates the country's substantial reliance on Russian natural gas (Statista, 2022). As a result, Germany tried to improve its natural gas reserves in case its leading natural gas importer, Russia, reduced its supply owing to sanctions. In this regard, Germany passed an ordinance known as EnSikuMaV (2022), which has set a temperature restriction for public workplaces of 12 to 19 degrees Celsius depending on the type of labor, no heating in shared spaces, and no water heating. Regardless of the problems experienced with the energy supply and a drop in Germany's economic production, about 58% of Germans favor the sanctions toward Russia (Infratest dimap, 2022). In summary, an energy conservation policy, which was implemented by citing a national security problem, received above-average support from the general public. On the contrary, while Germany has chosen an enthusiastic approach to combat climate change, it has yet to take such drastic steps. For example, Germany fell short of the European Union's national goals under the 20-20-20 climate targets. As a result, it was obliged to

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use flexibility measures such as purchasing emission permits from other EU members (EEA, 2022). Nevertheless, it is questionable whether Germany would find a similar widespread support even if it implemented strict rules based on climate change. In other words, the reason for a policy which is stated in terms of different risky situations (national security versus climate change) may lead to different reactions.

According to the Risk-As-Feelings Hypothesis theoretical framework, people have emotional and cognitive responses to risky situations which interact to determine risk-related behaviors (Loewenstein et al., 2001). Previous studies show that as negative feelings about global warming increased, perceived risk and support for climate change policy increased (Brosch, 2021; Leiserowitz, 2006; Smith & Leiserowitz, 2012; Wang et al, 2018). Therefore, support for a risk-driven policy may be predicted by attitude toward the policy and negative feelings about the risk. Since policies with hard regulations are punitive and impose penalties for noncompliance (Wilms, 1982) and are less desirable to individuals than policies with soft regulations or voluntary actions (Attari et al., 2007), this study examines the impact of risk framing in the context of hard policies.

To sum it up, the following research questions are addressed in this study:

1) Is there any difference in attitude toward policy, negative affect and individual support for hard policies between national security and climate change risk frames?
2) Do attitude toward policy and negative affect affect individual support for hard policies in different risk framing contexts?

Literature Review

The literature on policy support as a decision-making process includes various studies in diverse disciplines (Attari et al., 2009; Gordon & Arian, 2001; Maes et al., 2012; O'Connor et al., 1999; Smith & Leiserowitz, 2013; Zahran et al., 2006). A decision entails selecting one of two or more options, whereas political judgment involves mapping some confusing information into a perceptual system (Lau, 2003). Decision-making theories assume that humans choose a course of action by doing a mental calculation that includes the likelihood of the decision's outcomes and an assessment of those outcomes (van Gelder et al., 2008). Risk judgment plays a role in decision-making (Kahneman & Tversky, 1984) and impacts policy and individual behavior (Rogers, 1975; Noll et al., 2023). Kaplan and Garrick (1981) argue that risk has two pillars: uncertainty and a potential for loss, harm, or damage. Their suggestion finds its basis in the idea that scenarios with no probability of damage or unavoidable damage do not involve risk. Their argument is based on the concept that risk is not present in situations where there is no chance of harm or harm is unavoidable. Therefore, how individuals view these pillars affects how risky something is. The following three questions constitute a risk analysis:

What can happen (i.e., what can go wrong?) - Scenario

How likely is it that will happen? - Likelihood

If it does happen, what are the consequences? - Consequence

Building on this work, cognitive risk perception researchers (O'Connor, Bord and Fisher, 1999; Stedman, 2004) have identified the link between perceived risk and climate change.

Although Kaplan and Garrick's (1981) framework is pioneering, there is also criticism of conducting risk assessment only on these two pillars described above. Loewenstein and colleagues (2001) proposed an alternative theoretical perspective, the risk-as-feelings hypothesis that highlights the role of affect experienced at the moment of decision-making. According to this theory, risk assessment is not only about the likelihood of harm but also about the emotional state created by the situation that poses a risk. Later, Slovic and colleagues (2004) coined the term risk-

as-analysis for the "two-pillar" cognitive take on risk, which brings the two theories under one roof. Studies show that both cognitive considerations and affective reactions influence risk perception (van Gelder et al., 2008). Since minor variations have significantly impacted important political outcomes in recent decades, one of the critical subjects debated regarding emotion was the influence of emotion on citizens' decision-making (Druckman, 2006). In parallel with this, fear, anxiety and anger affect people's political choices (Akdemir, 2021). Research has shown that affect is strongly associated with risk perceptions and policy support for various risk issues, including climate change (Leiserowitz, 2006; Smith & Leiserowitz, 2012, Wang et al., 2018). Specifically, caring about future generations and the planet triggers stronger emotional responses, and in turn, motivates support for climate change policy (Wang et al., 2018). Moreover, demographic characteristics (Drews & van den Bergh, 2015) and personal behaviors and credibility of the advocate for a policy (Attari et al., 2019) have an effect on public support for climate change policy. More research is needed to understand how emotions are evoked and how emotions prompt behaviors and actions towards climate change (Brosch, 2021).

Methodology

Participants

An online survey, conducted between 19-22 January 2023 via SurveyMonkey, was filled by 70 voluntary participants aged 18 and over. The survey was anonymous and did not request personal or contact information to protect academic integrity. The sample was composed of 64.8% female and 35.2% male. 26.8% of the participants were between the ages of 18-24, 26.8% were between the ages of 25-34, 9.9% were between the ages of 35-44, 9.9% were between the ages of 45-54, 21.1% of the participants were between the ages of 55-64 and 5.6% of the participants were over 65. The sample was composed of highly-educated people, 52.1% with an undergraduate degree and 26.7% with a graduate degree.

Procedure

Participants were randomly assigned to experimental groups via AllocateMonster. Then, they were first asked to read one of the two risk framing vignettes. Next, the level of support for the policy was measured on a single, 5-point scale ranging from "strongly oppose" and "strongly support" (Attari et al., 2019). After that, attitude toward policy was assessed by an 8-item, 5-point scale ranging from "strongly disagree" to "strongly agree" (Attari et al., 2019). Finally, negative affect, which refers to the negative emotions of fear, anxiety and anger experienced due to the stated reason of the policy, was measured by a 3-item, 5-point scale anchored by "not all" and "very much". The Cronbach's alpha values for the two constructs were above the 0.70 threshold as suggested by Nunnally (1978) ($\alpha_{\text{attitude toward policy}} = .715$; $\alpha_{\text{negative affect}} = .815$).

Vignettes

Two vignettes were created based on the literature and real-life policy statements, and then validated by field experts (Silva et al., 2019). The vignettes present an energy conservation policy declaration. Specifically, an opening narrative represents the importance of natural gas, primarily in heating, for the country and the state of being foreign-dependent due to no natural gas source in the country. Then, risk framing was manipulated using climate change and national security threats generated through high-probability high-damage scenarios (Kaplan and Garrick, 1981; UNSMS Security Policy Manual, 2017). National security threat was created by a very high likelihood of natural gas supply being cut off for an indefinite period, whereas the climate change

threat was created by a very high probability of experiencing a severe drought and related food and water scarcity caused by climate change. Finally, applications to be implemented are expressed as follows; "Therefore, to reduce natural gas consumption, for the next six months covering the coming winter, practices will be implemented for indoor workplaces and offices where sitting and light physical labor is performed. Accordingly, it has been decided to heat these spaces to a temperature not exceeding 19°C and, where possible, not to heat common areas such as halls and meeting rooms. Workers in indoor workplaces and offices will not be able to use other heaters. In addition, hot water supply systems will not be used". This part of the vignette quotes the natural gas energy conservation policy implemented by Germany (EnSikuMaV, 2022).

Results and Discussion

Manipulation check results illustrated that there was no statistically significant difference in the perceived risk of the two scenarios [$t(30)=.000$, $p=1.000$, $M_{climate\ change}=5.96$, SD=.884 versus $M_{energy\ security}=5.96$, SD=1.102]. In addition, both vignettes were found to be realistic, without a statistically significant difference [$t(30)=-.835$, $p=.410$, $M_{climate\ change}=4.50$, SD=1.633 versus $M_{energy\ security}=3.75$, SD=1.483].

Results indicated that both risk framing situations lead to favorable attitude toward [$M_{climate\ change}=3.43$, SD = .88 versus $M_{energy\ security}=3.31$, SD = .56] and support for the policy [$M_{climate\ change}=3.34$, SD = 1.34 versus $M_{energy\ security}=3.64$, SD = 1.125]. Similarly, these risk frames evokes moderately negative effects [$M_{climate\ change}=2.83$, SD = 1.13 versus $M_{energy\ security}=2.54$, SD = 1.05].

A one-way ANOVA was conducted to measure the effects of risk framing. However, results revealed no significant difference in group means in attitude toward policy [$F(3, 62{,}86)=1.691$, $p=.178$)], negative affect [Welch's $F(3, 62{,}86)=1.691$, $p=.178$] and individual policy support [Welch's $F(3, 62{,}86)=1.691$, $p=.178$] scores for two types of risk framing. Results are presented in Table 1 and 2.

Table 1. Risk Framing Descriptive Statistics

	Climate Change Risk Frame (n=38)		Energy Security Risk Frame (n=36)	
	Mean	Std. Deviation	Mean	Std. Deviation
Attitude toward policy	3.43	.88	3.31	.56
Negative affect	2.83	1.13	2.54	1.05
Individual policy support	3.34	1.34	3.64	1.125

Source: Authors' own research.

Table 2. ANOVA Results for Risk Framing

	df	F	p-value
Attitude toward policy	1,72	.443	.508
Negative affect	1,72	1.355	.248
Individual policy support	1,72	1.058	.307

Source: Authors' own research.

A series of simple linear regression analyses were employed to assess the abilities of attitude toward the policy and negative affect to predict the level of individual support for policy for each risk frame. Regarding climate change risk framing, results indicated that the model was significant and explained 66% of the variance [$F(1,36)=70.082$, $p<.05$]. It was found that attitude toward the policy significantly predicted individual support for policy ($\beta = .813$, $p<.05$). However, results of another simple linear regression analysis showed that there was no statistically significant relationship between negative affect and individual support for policy [$F(1,36)=.115$, $p=.736$, $\beta = -.056$]. Regarding national security risk framing, results demonstrated that the model was significant and explained 67% of the variance [$F(1,34)=67.404$, $p<.05$]. It was found that attitude toward the policy significantly predicted individual support for policy ($\beta = .815$, $p<.05$). On the other hand, there was no statistically significant relationship between negative affect and individual support for policy [$F(1,34)=.143$, $p=.708$, $\beta = -.065$]. Results are illustrated in Table 3.

Table 3. Regression Results for Individual Support for Policy

	R^2	β	F	p-value
Climate Change Risk Framing				
Attitude toward policy	.661	.813	70.082	.000
Negative affect	.003	-.056	.115	.736
National Security Risk Framing				
Attitude toward policy	.665	.815	67.404	.000
Negative affect	.004	-.065	.143	.708

Source: Authors' own research.

Conclusion

In policy implementation, public endorsement of the policy plays a crucial role. In a period where climate change is increasingly affecting daily life and projections predict irreparable consequences, developing effective policies will be decisive in the fight against climate change. With this aim, this study investigates the effectiveness of the two different reasons for the same hard policy, namely climate change and energy security.

In line with the responses to the national security-based energy conservation policy in Germany (Infratest dimap, 2022), results showed that both policies received a high level of support. Similarly, both policies moderately elicited negative effects. In addition, there were no significant differences between the level of support and negative affect for climate change and energy security policies. Moreover, current results revealed that attitude towards policy predicts support for policy (Attari et al, 2019). On the contrary to previous studies (Leiserowitz, 2006; Smith & Leiserowitz, 2012, Wang et al., 2018), it was found that negative effects have no effect on policy support.

Comparing soft and hard policies provides an opportunity for future research. In addition, literature argues that sociodemographic variables predict global warming risk perception national policy support (Leiserowitz, 2006), suggesting an area for future research.

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