

**Climate Closeness: An Exploration of Psychological Distance and the Perceived Severity of Climate Change**

Sudarshan Adhikari

Department of Agricultural Communication, Education, and Leadership  
The Ohio State University  
331 Agricultural Administration Building  
[adhikari.165@osu.edu](mailto:adhikari.165@osu.edu)

Cara Lawson

Department of Agricultural Communication, Education, and Leadership  
The Ohio State University  
[lawson.182@osu.edu](mailto:lawson.182@osu.edu)

Laura Fischer

Department of Agricultural Education and Communications  
Texas Tech University  
[Laura.Fischer@ttu.edu](mailto:Laura.Fischer@ttu.edu)

## Introduction

Climate change is a worldwide issue impacting the livelihood of the global population and researchers seek to mitigate its impacts (Sethi et al., 2020). One possible solution to mitigate climate risk is to raise awareness about the effects and, in turn, encourage and impact behaviors related to climate action (Halady & Rao, 2010). For awareness programs to be effective, it is important to understand what and how people think about climate change risk. How near or far people consider climate change (psychological distance) influences their climate change concerns and mitigation intentions (Jones et al., 2016). While previous research has attempted to study psychological distance in relation to climate change intentions and resulting behaviors (Brugger et al., 2016; Jones et al., 2016), limited studies have explored its relationship with the perceived severity of climate change. This gap is important to explore as people are more likely to act on issues they perceive as more threatening (Aguilar-Luzon et al., 2023). Hence, in this study, we sought to explore psychological distances to climate change and perceptions of climate risk severity, along with the potential relationships between these variables.

## Theoretical Framework

Construal level theory (CLT) of psychological distance was used to guide our study. The theory posits that people perceive, interpret, and act on things based on their psychological distance about the objects/issues they are thinking about (Trope & Liberman, 2010). Psychological distance refers to perceived closeness or distance of an object/issue among people, representing their mental concreteness or abstractness on the object/issue. The theory focuses on four kinds of psychological distances: temporal, spatial, social, and hypothetical (Trope & Liberman, 2010). Temporal, spatial, social, and hypothetical distances describe how near or far the object/issue is perceived based on time, physical space, social relationships, and likelihood to occur, respectively (Fugita et al., 2006; Liberman & Trope, 1998; Trope & Liberman, 2003, 2010). While positive relationships among these distances are assumed, the relationships do not always exist (Egger & Kim, 2024). According to CLT, more distant objects/issues are associated with higher construal (higher abstractness) and near objects/issues are associated with lower construal (higher concreteness) (Trope & Liberman, 2010). The CLT has been used to study perceived distance, level of construal, their associations and influences, and associated concepts not only in psychology, but also in a wide variety of other areas such as communication, sociology, economics, and environment (Alder & Sarstedt, 2021). Climate change is a prominent area studied using CLT (Brugger et al., 2016; Haden et al., 2012).

## Methods

We employed quantitative methods for data collection and analysis. The validity of the researcher-developed survey instrument was ensured by a panel of experts and reliability was satisfied during a pilot test using Cronbach's alpha values (temporal distance = .96, social distance = .89, hypothetical distance = .78, perceived severity = .94) (Nunnally, 1978). While the reliability was not achieved in the pilot for spatial distance, it was achieved in the full study ( $\alpha = .71$ ). All the psychological distances and perceived severity of climate change were measured on 5-point Likert scales. Example items included, *climate change is unlikely to affect my local area* (spatial distance), *climate change is not harming people right now all over the world* (temporal distance), *climate is unlikely to have a big impact on people like me* (social distance), *I'm uncertain that climate change is happening* (hypothetical distance), and *how serious is the threat*

of climate change to you? (perceived severity). In each measure, the larger value represented more distance or a more significant threat, as applicable. A sample was obtained by Qualtrics Research Services based on quotas for U.S. region and state populations. Data were collected between November 7 and December 8, 2023, and a total of 2,191 responses were complete and usable. The participants averaged 46 years in age ( $M = 46.06$ ,  $SD = 16.52$ ), with the majority identifying as women ( $n = 1102$ , 50.30%), followed by men ( $n = 1075$ , 49.06%). Data were analyzed by using descriptive statistics and correlation techniques in SPSS Version 29.

### Results

Participants indicated neutral perceptions of spatial distance ( $M = 2.86$ ,  $SD = 1.02$ ), social distance ( $M = 3.36$ ,  $SD = 1.26$ ), and hypothetical distance ( $M = 3.27$ ,  $SD = 1.25$ ) of climate change. However, participants perceived climate change to be temporally near ( $M = 2.19$ ,  $SD = 1.08$ ) and as a serious threat ( $M = 3.71$ ,  $SD = 1.16$ ). Multiple significant correlations were observed between variables (Table 1).

**Table 1**

*Psychological Distances and Perceived Climate Change Severity Correlations (N = 2191)*

		Spatial distance	Social distance	Hypothetical distance	Temporal distance
Social distance	<i>r</i>	-.58			
	<i>p-value</i>	<.05			
Hypothetical distance	<i>r</i>	-.48	.62		
	<i>p-value</i>	<.05	<.05		
Temporal distance	<i>r</i>	-.04	-.39	-.31	
	<i>p-value</i>	.067	<.05	<.05	
Perceived Severity	<i>r</i>	-.10	.43	.34	-.80
	<i>p-value</i>	<.05	<.05	<.05	<.05

### Discussion, Conclusions, Implications, and Recommendations

This study provides additional insights in the research area of climate change perceptions. Based on our findings, while climate change was perceived as a current, serious threat overall, participants were only partially certain about its occurrence and impacts on the areas close to them and with people connected to them. Similar to the findings of Egger and Kim (2024), our research suggests that psychological distances do not necessarily correlate with one another, and when they do, the relationship can vary in direction. Psychological distance can also relate to perceived severity of climate change in any direction. These findings suggest the need to communicate climate risk considering the influence of psychological distance. As people are more likely to act on the issues they perceive as severe (Aguilar-Luzon et al., 2023), audience-tailored interventions about climate change severity and perceived psychological distance can be useful to help guide their behaviors. These implications may be useful in sectors with pronounced climate change impacts including agriculture. For instance, research has suggested an immediate need to motivate farmers in adopting climate change mitigation strategies (Haden et al., 2012), and our findings may help policy makers informing their decisions regarding the formulation and implementation of climate change initiatives.

## References

- Adler, S., & Sarstedt, M. (2021). Mapping the jungle: A bibliometric analysis of research into construal level theory. *Psychology & Marketing*, 38(9), 1367-1383. <https://doi.org/10.1002/mar.21537>
- Aguilar-Luzon, M. C., Carmona, B., & Loureiro, A. (2023). Future actions towards climate change: the role of threat perception and emotions. *European Journal of Sustainable Development*, 12(4), 379-379. <https://doi.org/10.14207/ejsd.2023.v12n4p379>
- Brügger, A., Morton, T. A., & Dessai, S. (2016). “Proximising” climate change reconsidered: A construal level theory perspective. *Journal of Environmental Psychology*, 46, 125-142. <https://doi.org/10.1016/j.jenvp.2016.04.004>
- Egger, M., & Kim, H. (2024). *Temporal, but neither social nor hypothetical, distance maps onto spatial distance*. OSF. <https://doi.org/10.31219/osf.io/4jdr2>
- Fujita, K., Henderson, M. D., Eng, J., Trope, Y., & Liberman, N. (2006). Spatial distance and mental construal of social events. *Psychological Science*, 17(4), 278-282. <https://doi.org/10.1111/j.1467-9280.2006.01698.x>
- Haden, V. R., Niles, M. T., Lubell, M., Perlman, J., & Jackson, L. E. (2012). Global and local concerns: what attitudes and beliefs motivate farmers to mitigate and adapt to climate change?. *PloS one*, 7(12), e52882. <https://doi.org/10.1371/journal.pone.0052882>
- Halady, I. R., & Rao, P. H. (2010). Does awareness to climate change lead to behavioral change?. *International Journal of Climate Change Strategies and Management*, 2(1), 6-22. <https://doi.org/10.1108/17568691011020229>
- Jones, C., Hine, D. W., & Marks, A. D. (2016). The future is now: Reducing psychological distance to increase public engagement with climate change. *Risk Analysis*, 37(2), 331-341. <https://doi.org/10.1111/risa.12601>
- Liberman, N., & Trope, Y. (1998). The role of feasibility and desirability considerations in near and distant future decisions: A test of temporal construal theory. *Journal of Personality and Social Psychology*, 75(1), 5–18. <https://doi.org/10.1037/0022-3514.75.1.5>
- Nunnally, J. C. (1978). *Psychometric theory: 2d Ed*. McGraw-Hill.
- Sethi, M., Lamb, W., Minx, J., & Creutzig, F. (2020). Climate change mitigation in cities: A systematic scoping of case studies. *Environmental Research Letters*, 15(9), 093008.
- Trope, Y., & Liberman, N. (2003). Temporal construal. *Psychological Review*, 110(3), 403–421. <https://doi.org/10.1037/0033-295X.110.3.403>
- Trope, Y., & Liberman, N. (2010). Construal-level theory of psychological distance. *Psychological Review*, 117(2), 440–463. <https://doi.org/10.1037/a0018963>