



# Understanding the Needs and Perceptions of Extension Agents for Climate-related Professional Development

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## Background

In September of 2014, a team of PINEMAP Extension specialists and colleagues led a workshop as the kickoff event for the Southeast Region Extension Climate Academy (SRECA). The Academy encourages regional collaboration and climate literacy among Extension agents in the Southeast United States. Participants arrived with climate perspectives ranging from alarmed to dismissive.<sup>1</sup> This research explores their informational and professional needs. Using the Reasonable Person Model<sup>2</sup> and investigating agents' professional responsibilities, we hope to better understand how to provide climate-related tools, concepts, and skills to Extension agents in the Southeast US.

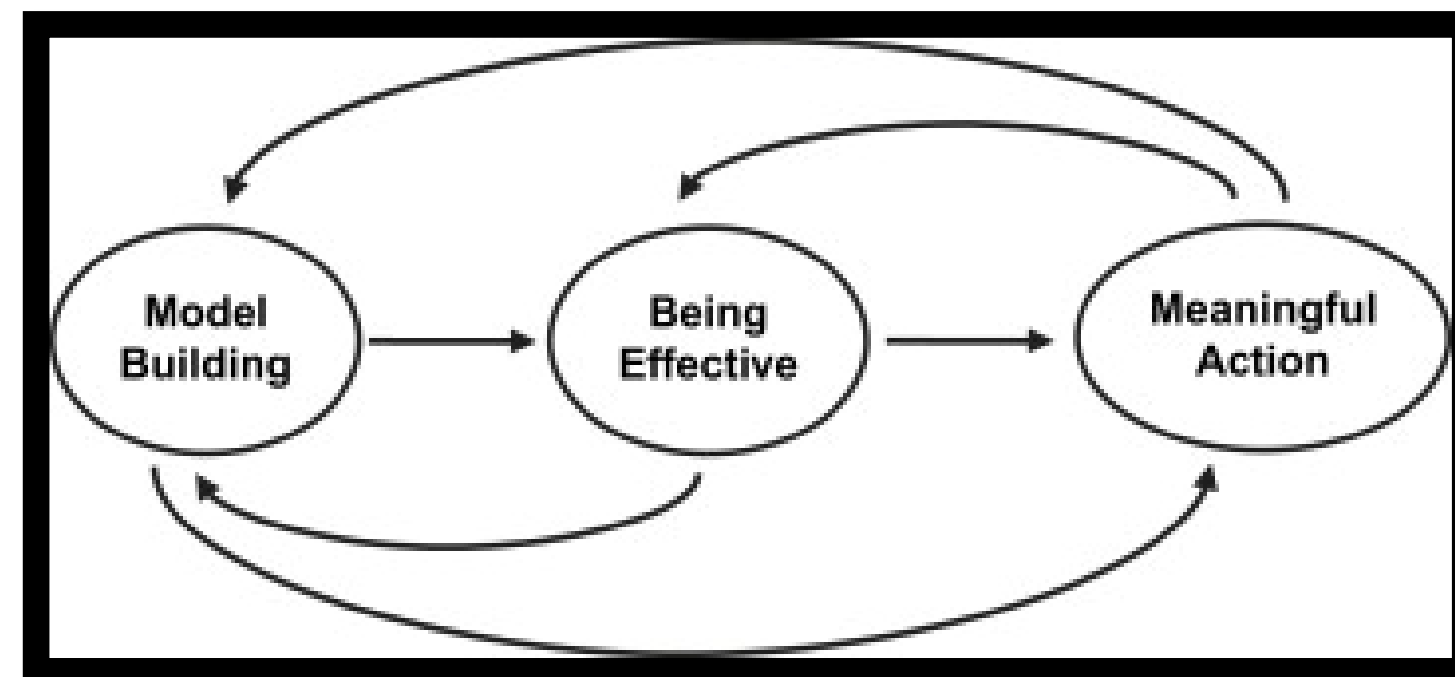


Figure 1. Reasonable Person Model

## Reasonable Person Model

The Reasonable Person Model proposes that there are three interrelated elements to reasonableness: *model building*, *being effective*, and *meaningful action*. According to the RPM, the way in which an environment supports a person's *informational needs* has implications for their ability to develop mental models, and improve competency and quality of life. SRECA was designed with the RPM in mind and evaluation of the workshop uses the model as a framework to better understand what kind of informational environments could be most productive for agents with a variety of perspectives and needs.

## Research Questions

- **RQ 1** How do participants' informational needs vary by their perceptions of climate change?
- **RQ 2** How well did SRECA meet climate-related informational needs of participants and are there perspective-specific lessons to be learned?
- **RQ 3** How do Extension agents view their roles and responsibilities regarding communicating complex controversial issues?
- **RQ 4** What kinds of climate-related information and skills do Extension agents need to effectively interpret climate science complexity appropriately for different clients?

## References

1. Monroe, M., et. al. *Harnessing Homophily to Improve Climate Change Communication*. Environmental Education Research. Vol 21, Issue 2. 2015.
  2. Kaplan S. and Kaplan R. (2009). Creating a larger role for environmental psychology: The Reasonable Person Model as an integrative framework. *Journal of Environmental Psychology*. 29: 329-339.
  3. Sommer, E. *Agriculture and Climate Change: Perceptions of Reticent Extension Agents in the Southeast USA*. University of Florida. 2014.
- Photos by Shelby Krantz.

## Methods

Before the workshop, a leadership team developed a survey to assess the climate-related perceptions, knowledge, worldviews, and self-efficacy of the attendees (n=69). A similar survey was administered on the final day of the workshop (n = 71) and respondents were categorized into groups based primarily on their beliefs regarding the cause(s) of current climate change. One-way ANOVA tests and Tukey's mean comparisons were used to organize responses into categorical groupings.

## Results (RQs 1 & 2)

Two main groups of climate perspectives were identified with significant differences across a range of worldview, climate, and self-efficacy related questions. One group consists of those who believe that current climate change is caused primarily by humans. These people, called the Human Cause group, are more concerned, less confused, and more sure of their capacity to address challenges related to climate change. The other, referred to as the Natural Cause group, is composed of those who hold a range or other beliefs regarding climate change causes. In general, the Natural Cause group is less concerned, more confused, and less sure of their ability to address challenges associated with climate change. Within the Natural Cause group, is a subgroup that is more *concerned* about climate change than others in the group but are more *confused* about climate change than those in the Human Cause group. Table 1 and Figures 2 and 3 show the relationship of the Concerned Natural group to the two majority groups.

Table 1. Mean comparison of responses to prompts related to perceptions of climate change shows three different groups.

Statement	Human Cause N = 25	Concerned Natural N = 9	Natural Cause N = 31
12. 1 The scientific community has not reached a consensus on climate change and I don't believe it's worth further consideration.	1.27	1.56**	2.61**
12.3 There is so much confusing information out there about current climate change that it is hard for me to know what to believe.	1.96*	3.22*	3.65

\*\* p < .01  
\* p < .05

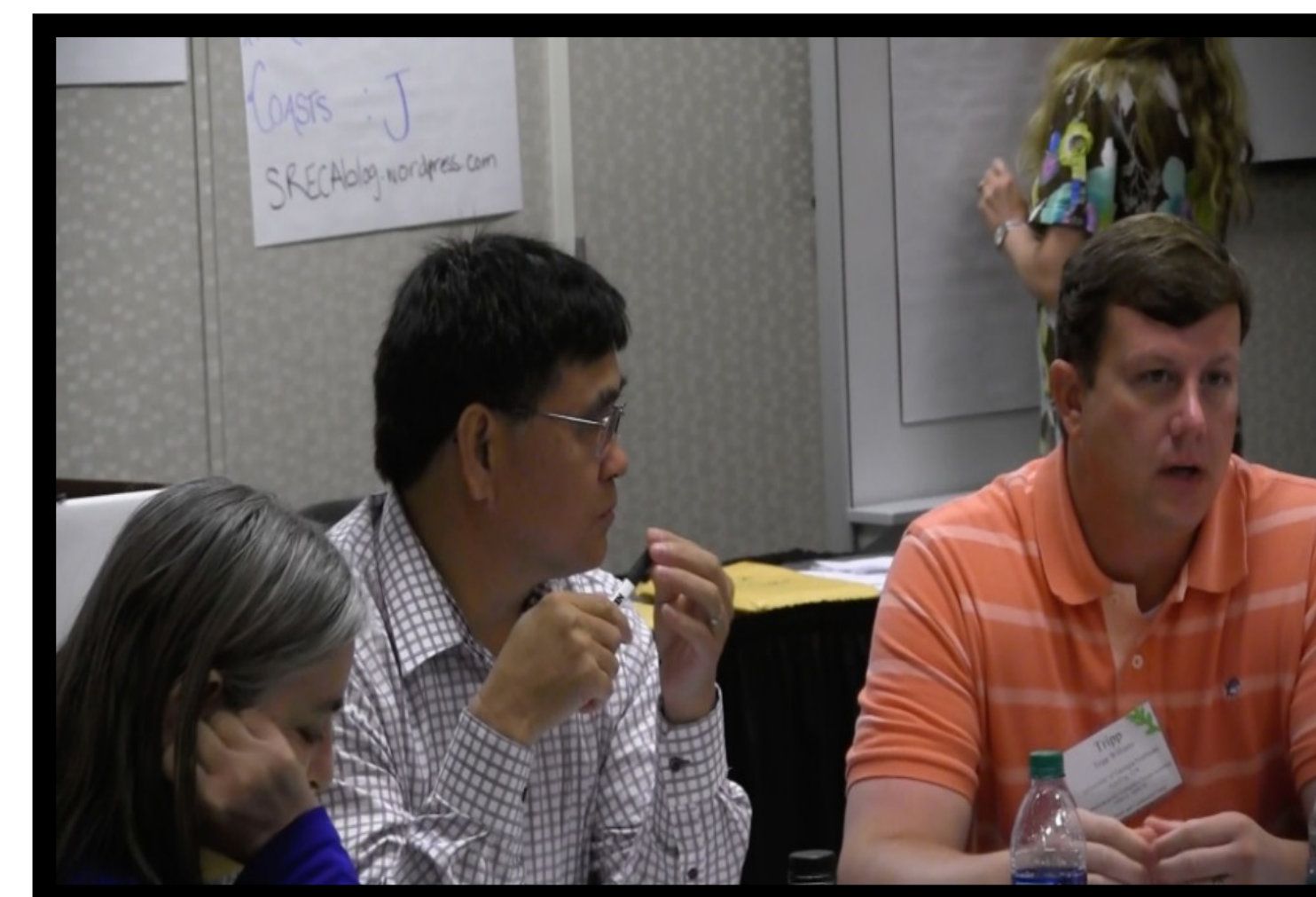


Photo 1. Sector breakout session at the SRECA workshop. September 2014.



Photo 2. Interactive plenary session at SRECA workshop. September 2014.

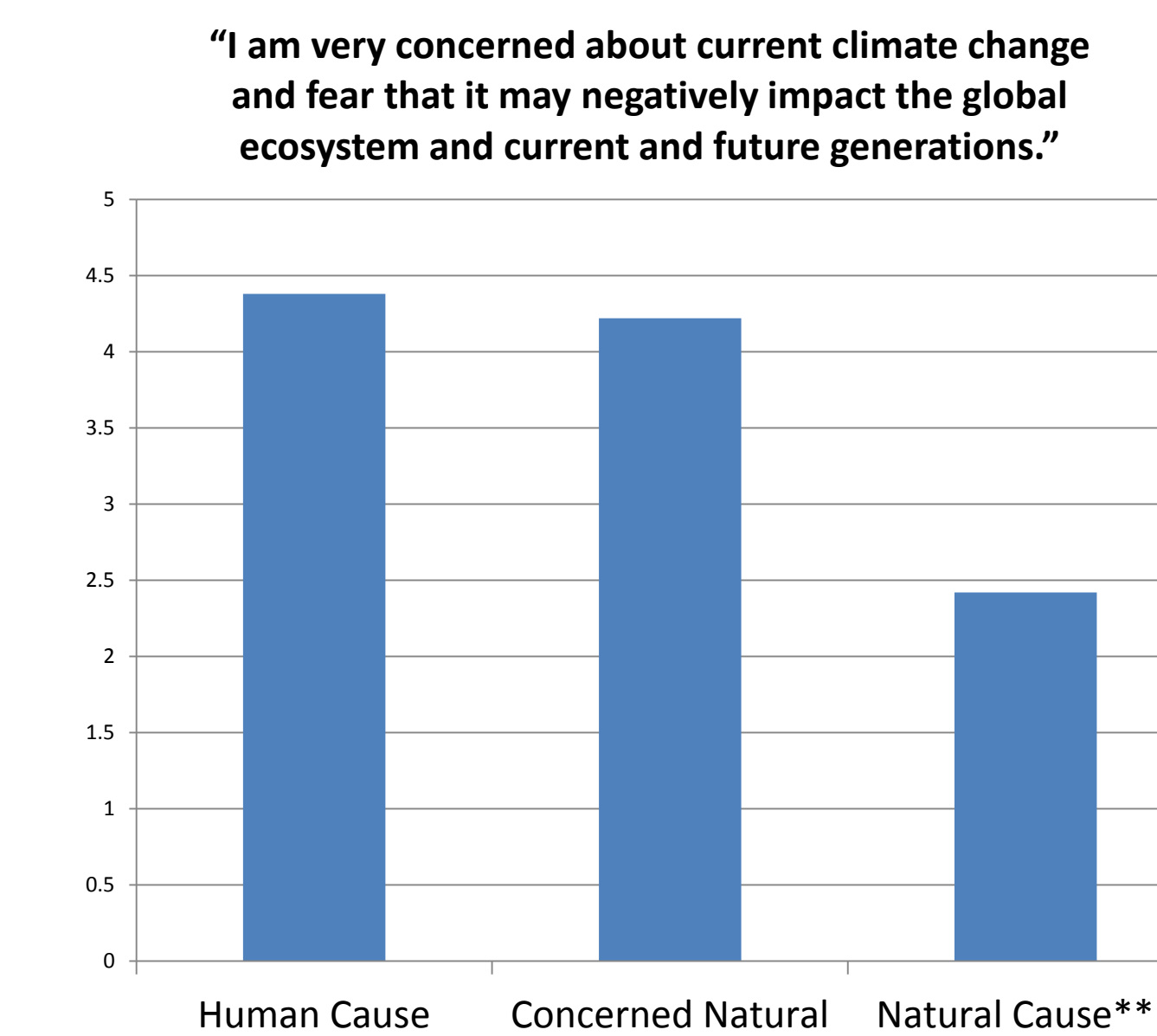


Figure 2. Concerned Natural group is significantly different from the Natural Cause group (\*\*\*) in their concern about climate change.

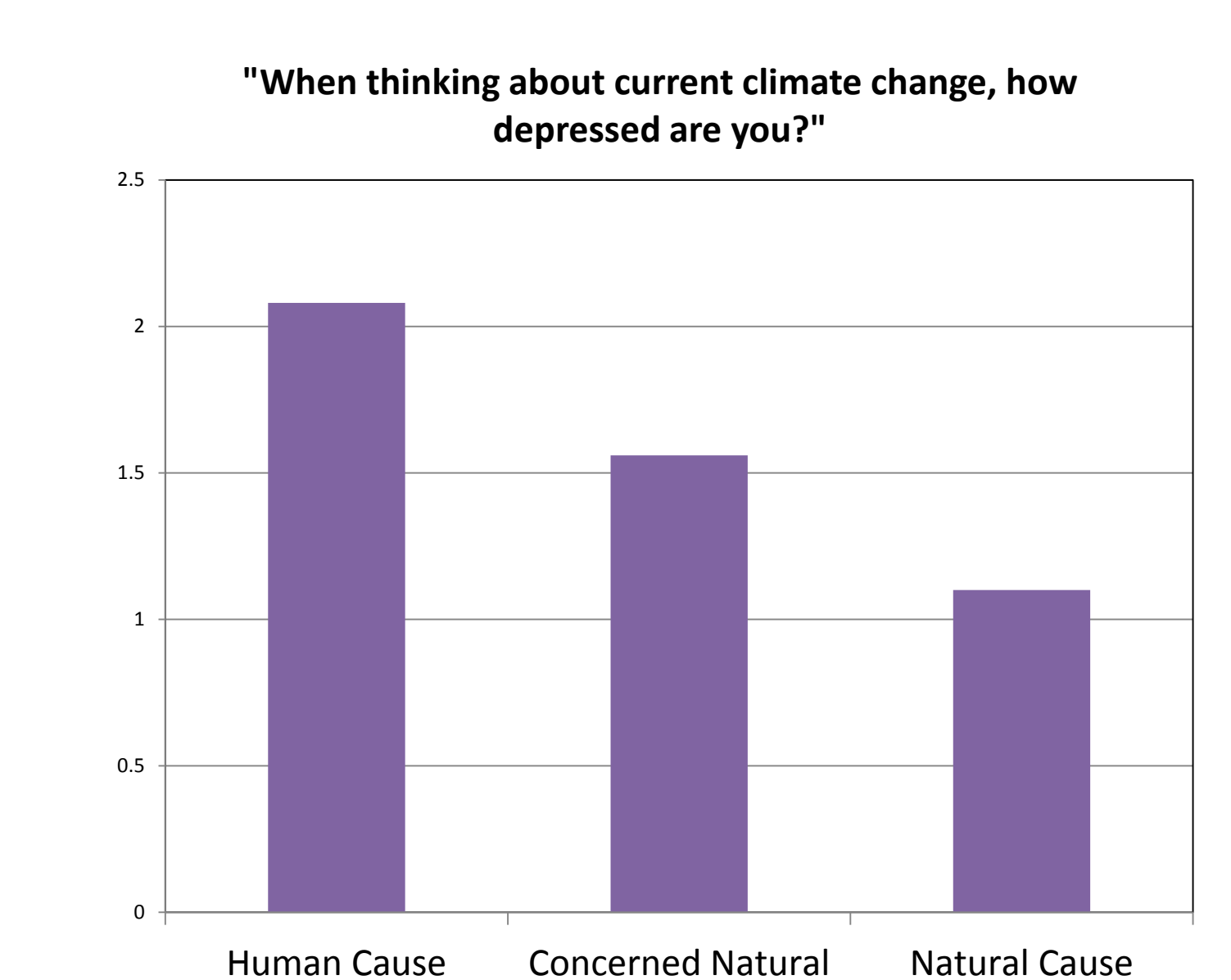


Figure 3. Concerned Natural is not significantly different from the Natural Cause nor the Human Cause group in how depressed they are when thinking about climate change.

## Further Data Collection (RQs 2,3 & 4)

In summer of 2015, phone interviews with participants in each of these three groups will be conducted to further explore their perceptions of the SRECA workshop, their professional responsibilities, incorporation (or lack thereof) of climate-related information in their programs, and their climate-related informational and resource needs. Throughout the interview process, we expect to find patterns of informational needs for members in these different groups and link them to the three elements of the Reasonable Person Model. We expect that the Human Cause group will want primarily information that relates to meaningful action and being effective. While we expect that the Natural Cause group will also be interested in similar kinds of information, their needs for model building and basic climate science-related information may emerge in the interview process.<sup>3</sup> Given the low level of concern for climate change in the Natural Cause group, however, effectively sharing information for model building presents challenges.



Photo 3. Plenary session at SRECA workshop. September 2014.

## Discussion

Understanding the climate-related perspectives and informational needs of Extension agents can help program developers prepare better, more useful resources for professional development in Extension. There is some debate about what climate-related information agents want and need. This research could help clarify their needs and provide some guidance for how to meaningfully share climate science with agents in the Southeast. As PINEMAP prepares to publish and release research findings and DSS tools, it is imperative that climate-related professional development initiatives incorporate agents' perspectives and informational needs in the planning process.

