

**Notes from Geospatial/GIS Meetup  
March 12, 2024**

**Rivera Library, Room 140 and Zoom**

**Attendees:** Janet Reyes, facilitator;

**In person:** Emily Esposito, Jimmy Calanchini, Kayla Chaplin, Liz Wilson, Marleen Stelter, Matt Vaughn

**Via Zoom:** Bolu Daodu, Deja Simon-Jennings, Iniobong Essien, Isaiah Kim, Mike Cohen, Nic Barth

**Announcements**

This meeting was recorded; video is available [here](#). The passcode to view is xC6+%wr

**Spring 2024 meetups** will be held on Thursdays: April 4, May 9, June 13.

[CalGIS 2024](#) is a 3-day event being held in Visalia March 18-20. It will feature “preconference workshops and training, keynote speakers, breakout sessions, networking, and a Solutions Showcase.”

The [AAG conference](#) is being held in Honolulu April 16-20. There is a virtual option for attending.

Janet will be presenting an **Introduction to ArcGIS Pro workshop** on Tuesday, April 30.

The [Esri User Conference](#) is being held a week later in July than usual. It will still be at the San Diego Convention Center. The [Education Summit](#) that precedes it will start on July 13; the User Conference starts on July 15. A few complimentary passes are available through UCR; ask Janet about the procedure for obtaining one.

**Presentation**

Kayla Chaplin, a 3rd year PhD student in Psychology at UCR, presented on **Examining Relationships Among Regional Economic Conditions, Cognitive Control, and Racial Prejudice in the Implicit Association Test: A Regional Modeling Approach**. Kayla started by noting that economic stress in individuals can lead to psychological distress, which can have negative impacts on cognitive control<sup>1</sup> and can exacerbate prejudice.

The research question is: What factors could be contributing to variation in cognitive control and racial evaluations in different regions? Kayla’s first hypothesis was that cognitive control will be lower in states where higher proportions of the population experience adverse economic conditions. A second hypothesis was that racial prejudice will be more biased in favor of the ingroup and against the outgroup in states where higher proportions of the population experience adverse economic conditions.

---

<sup>1</sup> As defined on a slide, cognitive control is the ability to intentionally guide thought and behavior according to one’s goals, especially in the presence of distraction or competing responses (Botvinick et al., 2001)

Kayla's research pulls from three areas of study. The first is the effect of (adverse) economic conditions (economic stress and economic inequality) on cognition. Previous studies have shown a connection, as well as that economic conditions can influence the racial evaluations (positive or negative judgments towards a racial group) that individuals make, which in turn influence their biases and prejudice behaviors.

The second area is regional psychology. A relatively new idea is that psychology can vary at a regional level in meaningful ways. Regional study removes unsystematic variance, leading to focus on regional systems such as structures, culture, etc. Mechanisms for regional psychology include selective migration to/from a region, social influence, and environmental influence.

The third area is the use of multinomial processing trees in conjunction with the Race Implicit Association Test, a data source which can measure both degrees of bias (racial evaluations) and cognition levels. Test scores, which were collected from [Project Implicit](#), showed how individuals categorized two traits (Black - White and Good - Bad) together. Multinomial processing trees are the best available tool for evaluating the scores of such tests. Test scores were aggregated by state, and then by black participants and white participants within each state. Data on economic conditions (poverty, unemployment, economic inequality) by state were obtained from the [American Community Survey](#).

Kayla presented some of the results that were obtained from regression analyses.

Regarding cognitive control:

- Cognitive control estimates were lower for both the Black and the White population in states where more Black residents live below the poverty line
- Cognitive control estimates were higher for the Black population in states where more of the White residents live below the poverty line
- Cognitive control estimates were higher for the White population in states with higher inequality and more of the White residents are in poverty

Regarding racial evaluations:

- For both Black and White populations, where levels of both inequality and economic stress are high, evaluations of the outgroup are more negative
- For White populations in regions of high inequality, ingroup evaluations are higher overall, regardless of the ingroup's poverty status

The results of the study contribute to understanding the interplay between economic stress, cognitive control, and racial evaluations. The findings can help shape targeted interventions to support marginalized communities. The results also can contribute to informing policies and practices aimed at reducing discrimination.

Limitations of the study included some assumed correlations, the use of states (many with wide internal differences) as the units of analysis, and that the data was from 2009 (shortly after the 2008 market crash). Future studies could examine data from different years, and could dive more into what psychological constructs mean at a regional level.

## **Discussion**

**Marleen** suggested that results could be compared based on overall poverty rates vs. ingroup poverty rates.

**Janet** wondered if the results would be different in countries where income inequality is less of a factor and social supports are greater.

**Isaiah** asked about adding positivity to the systems, and Kayla's own feelings about the future in light of what her study has shown. Kayla favors seeing policy changes in the system, from the top down, that will reduce the discrepancies.

**Liz** asked about other types of stress besides economic, such as those related to health or environmental concerns. Kayla speculated that economic stress is unique in that it relates to the resources the individual has to get to a better future or deal with near-term challenges. Having economic stress is perceived as more of a *threat*, that needed resources can be lost or remain unavailable.

## **Contact**

[kayla.chaplin@email.ucr.edu](mailto:kayla.chaplin@email.ucr.edu)