

**TITLE:** How do colors convey political information and affect individual attitudes?

**PROTOCOL VERSION DATE: June 6, 2023**

**VERSION: 0.0.2**

# PRINCIPAL INVESTIGATOR (PI):

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# KEY PERSONNEL

**Name**: Anand Edward Sokhey, University of Colorado Boulder

**Role in project**: Faculty advisor

**Name**: Enter name of key personnel

**Role in project**: Enter the role (e.g., co-investigator, faculty advisor, research coordinator)

# GENERAL RESEARCH STAFF

NA

# OBJECTIVES

# The study seeks to test the following hypotheses about how people interact with color as it relates to politics:

* People notice color in campaign branding.
* Red yard signs are associated with Republicans; Blue yard signs are associated with democrats.
* Republicans support candidates using red on their years signs; Democrats support candidates using blue on their yard signs.
* Republicans spend less time evaluating red yard signs; Democrats spend less time evaluating blue yard signs.

# BACKGROUND AND SIGNIFICANCE

Existing work in political science recognizes the tendency for Republicans to use the color red and for Democrats to use the color blue in the party branding. This has been quite common as a result of the standardization in election campaign coverage during the 2000 Presidential election using the color red to describe districts that Republicans have won and the use of the color blue to describe districts that Democrats won. Concurrently, the existing literature in political science has a big gap in our theorizing about how color can be used as a form of information for Americans. This project tries to fill this gap to explain this phenomenon that has been going on since 2000. It will help us understand the strategic motivations of campaigns as they continue to differentiate themselves from opponents/the other political party. It will also help us understand how voters can come to conclusions about who they are going to vote for without significant information about the candidate’s policies, but rather, based on whether the candidates have branded themselves as a Republican or a Democrat.

# PRELIMINARY STUDIES

In the spring of 2019, I performed a preliminary study on 400 undergraduates at Boise State University. This preliminary study showed some initial evidence supporting my first two hypotheses (noted above). This preliminary study had a number of weaknesses which necessitated an updated and more sophisticated approach to answering my questions.

# RESEARCH STUDY DESIGN

I will ask participants a number of questions on their demographic background and on their political views. For demographic background questions, they will be self-reported responses to questions about their age, race and ethnic identity, gender identity, sex assigned at birth, and levels of education. In the politics questionnaire, I will ask subjects to self report on their party identification (which political party they identify with, if any), how often they pay attention to politics, and to respond to an open-ended question asking for a sentence or two on their first memory of a political event.

For the experimental portion of the study, I will record the latitude and longitude coordinates of the participants cursor and how long their cursor stays in that coordinate. This will occur only as they are viewing the experimental treatment which is a yard sign owned by a fictional political candidate. Between viewing three yard signs, participants will be asked to report whether they feel that the candidate was a Republican, Independent, or a Democrat. At the end of viewing these three yard signs and reporting perceived party affiliation of the candidates, they will be asked to report their preference between the three yard signs that they saw.

To determine sample size, I performed a simulation and determined that, based on statistical model assumptions I will use for eventual analysis of these data, I can extract correct inferences from my data if my sample is at approximately 1000 subjects total.

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| **Name of procedure/instrument/tool** | **Purpose (i.e., what data is being collected?)** |
| **Mouseview.JS (Treatment)** | * The latitude and longitude (in pixels) the cursor is at. * How long the cursor stays at that particular spot on the screen. * Perception of party identification of candidate owning the yard sign. * Preference between yard signs viewed. |
| **Demographics questionaire** | * Age * Race * Gender Identity * Sex * Education |
| **Politics questionnaire** | * Party identification * Attention paid to politics * Open-ended question on “first memory of political event” |

# FUNDING

The Department of Political Science here at CU will cover the cost of the experiment up to $2057.

# ABOUT THE SUBJECTS

I am to have 1000 subjects participate I the study. The population of interest are adults (18+) residing in the United States. Participants will be asked to use a web browser other than Safari (as this interferes with the MouseView.JS software).

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| **Subject Population(s)** | **Number to be enrolled in each group** |
| **U.S. Adults** | 1000 |
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# VULNERABLE POPULATIONS

NA

# RECRUITMENT METHODS

Participants will be recruited through the online survey experiment platform Prolific. Participants are those who have signed up themselves to earn money by participating in online surveys and survey experiments. The recruitment settings I have on Prolific require that my study shows up on the list of studies that individuals can opt into only for those that are citizens of the United States – this aids in my goal of having a nationally representative sample.

Participants will be taken to the informed consent page if they choose my study. For those who agree to participate, they will be redirected to Pavlovia, a program that runs my study and collects the data on the participants. For those who disagree to participating after reading the Informed Consent statement, they will be able to return back to the page on Prolific listing possible studies they can participate in. At any time participants, can close their browser to leave my study, even if they have agreed to the Informed Consent. Only participants that complete the study will be considered as part of my sample and will be compensated after being redirected to Prolific after completion on Pavlovia – this is noted in the informed consent.

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| **List recruitment methods/materials and attach a copy of each in eRA** |
| 1. **Prolific. Materials included in eRA** |
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# COMPENSATION

Upon completion of the study, participants will be automatically redirected to Prolific. Once there, participants will be compensated through their Prolific account according to their policies. Compensation will be calculated based on a $12.00/hour rate using the amount of time participants took to complete the study (as determined by Prolific). I anticipate the average participant should take no more than 6 minutes, on average, to complete my study, which means ~$1.2 per participant.

# INFORMED CONSENT

Before beginning the study, participants will be presented with the Informed Consent document. Before participants can begin the study, they will need to “Agree” to participate in the study. For those that do not want to participate in the study after viewing the informed consent agreement, they can close their browser tab on pavlovia. No data will be collected on these participants.

# PROCEDURES

Participants will be recruited through Prolific. Participants will be redirected to Pavlovia where they will view the informed consent. For those that choose to participate in the study, they will continue. For those that do not choose to participate, they can leave and go back to Prolific. Those that continue will experience the following.

The participants will answer the Political Attitudes Questionnaire which will comprise of self-reported answers to their party affiliation, their knowledge about politics, and their interest in politics. They will also complete the demographics and background questions, which comprises of self-reported answers to their age, education, race and ethnic identity, their gender identity, their sex, and whether they have been diagnosed with visual impairments.

Participants will also be exposed to three trials for the experiment. While exposed to the treatments, data will be collected on the location of the screen their cursor is on and the amount of time the cursor spends in that location. This data will only be collected when viewing the yard signs (the treatments). The participants will also provide self-reported data on their perceptions of the party identification of the owner of the yard signs, as well as their own preference for each pair of treatments they view.

Half of the participants will view the politics and demographics questionnaire first while the other half will receive the experiment first.

At the end of the study, participants will be debriefed then and directed back to Prolific.

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| **Visit #** | **Procedures/Tools** | **Location** | **How much time the visit will take** |
| 1 | * Political questionnaire * Demographics questionnaire * Treatment | - Pavlovia after being redirected from Prolific | 6 minutes |
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# SPECIMEN MANAGEMENT

NA

# DATA MANAGEMENT

The data of the participants will be collected mostly through self-reports. The only data not explicitly provided by participants will be cursor tracking information that is collected only while viewing the treatments, but at no other point. This data only includes the latitude and longitude (in pixels) that a cursor is on their screen at any point in time, along with the amount of time (in milliseconds) their cursor sits at that location on the screen.

Participants can take the study in the setting of their choosing, on a device of their choosing.

The data will be collected on Pavlovia and deidentified data will be downloaded in a database format. The database with the deidentified data will be stored on a password-protected device in a locked office. As individuals are recruited through Prolific, I have minimal interaction with participants – the platform is providing the respondents, like other providers (Mechanical Turk, YouGov, etc.).

The data security risk is standard.

# PROVISIONS TO PROTECT THE PRIVACY INTERESTS OF PARTICIPANTS

Most data collected in this study are based on voluntary self-reports by the participants. They can choose to not answer questions if they would like. For the data collected on their cursor movements while viewing the treatments, participants are not compelled to move their cursor or to view the treatment for longer than they like (or more then the 5 seconds that it is displayed for). This data does not collect information on the size of the participant’s monitor, on their operating system, on their computer, etc. That is, The data collected here will largely be common to any online study they participate in.

Participants can complete this study anywhere and at anytime they choose — so long as they have access to the internet. Participants are not in any position where a researcher can put any undue pressure on participants to share anything about themselves they are uncomfortable with.

# WITHDRAWAL OF PARTICIPANTS

Once participants have provided informed consent, the researchers will not withdraw participants. Any premature completion the study on behalf of the participants will be their choice or if they face technical problems (e.g., disconnection from the internet).

# RISKS TO PARTICIPANTS

I anticipate minimal risks to participants. As the subject material is about politics, participants may experience slight psychological discomfort, but no part of the study intends to induce discomfort/more discomfort than people may normally experience when coming across political materials in the everyday world.

# MANAGEMENT OF RISKS

NA (minimal risk)

Informed consent is obtained and a debrief at the end of the study provides additional information on the purpose of the study.

# POTENTIAL BENEFITS

There is no direct benefit to the subjects.

The study hopes to contribute to our collective understanding of how colors may convey politically-relevant information to individuals. I hope that this will explain the effects of political polarization coming from such information, how voters can use such simple sources of information to make decisions about which candidates to vote for, and how the choice to use particular colors in politics may cue (either accurately or inaccurately) policy preferences of candidates.

# PROVISIONS TO MONITOR THE DATA FOR THE SAFETY OF PARTICIPANTS

NA (minimal risk)

# MEDICAL CARE AND COMPENSATION FOR INJURY

NA

# COST TO PARTICIPANTS

Participation should take only about 6 minutes. Participants should have internet access and can preform the study on a laptop or desktop. There are no required additional costs to the participant.

# DRUG ADMINISTRATION

NA

# INVESTIGATIONAL DEVICES

NA

# WORKING WITH OTHER INSTITUTIONS

**NA**

# SHARING OF RESULTS WITH PARTICIPANTS

During the debriefing participants are welcomed to email the researchers about the study and are told that I am happy to share results and papers that use the data from this study.

# REFERENCES

Courtney Kennedy and others, Strategies for Detecting Insincere Respondents in Online Polling, *Public Opinion Quarterly*, Volume 85, Issue 4, Winter 2021, Pages 1050–1075, <https://doi.org/10.1093/poq/nfab057>