

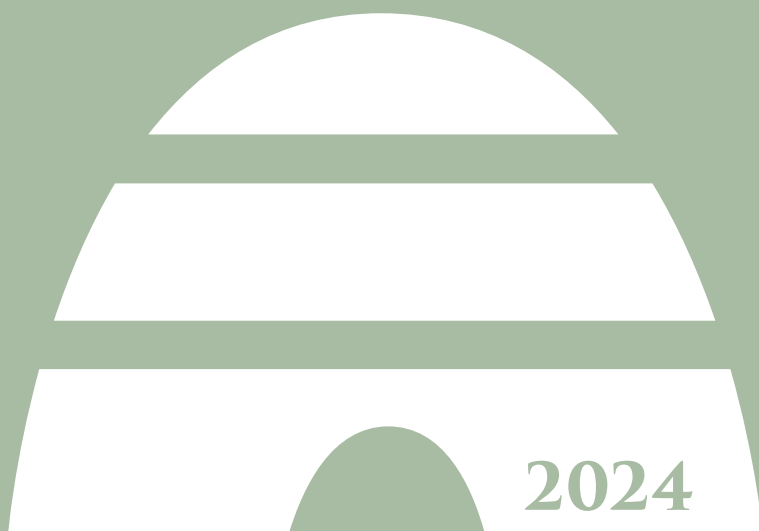
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A Letter From the Editor

Dear readers,

In a world that is increasingly plagued by insensitivity, ignorance, and incivility, there is an exigent need for individuals to learn to look past their own cultural and ideological boundaries. Investing time in learning about other people, viewpoints, cultures, and communities is an enabling process that allows us to recognize our blindspots and step outside of our own privileges, prejudices, and preconceptions. Even if we never come into personal contact with the communities or people we learn about, we honor them by learning their stories and ensuring they are not forgotten in the world. People need to be understood, and understanding begins with the individual.

For those who are interested in engaging in this kind of global learning, this edition of Sigma is a good place to start. The articles included in this journal seek to promote global understanding by diving into topics such as the effects of racial prejudice on private aid donations, female political participation in Malaysia, affective polarization in the United Kingdom, changes to China's monetary system, and whether there is room for grace in the American dream. By educating ourselves on global issues, we enrich the global narrative and strengthen the global community.

This edition of Sigma would not have reached print without the combined efforts of many dedicated individuals and the support of various campus departments. My thanks goes out to the Political Science and International Relations Departments, as well as the Kennedy Center for International Studies, for their support in facilitating, funding, and printing the journal. Many thanks as well to the faculty members who took time to read and edit this year's Sigma papers. Special thanks goes to the rest of the leadership team, Anna Nakaya and Ellie Mitchell, as well as our faculty advisor, Doug Atkinson. I would also like to thank Scott Cooper, long-time Sigma advisor, who has continued to support the journal from his new position as the head of the IR program. Finally, our many thanks to the authors of this year's papers for allowing us to share their work and research with the Sigma audience.

I am proud to present the 2023–24 edition of Sigma.

Amelia Watterson
Editor-in-Chief

Experimental Evidence on Leadership Experience and Women's Political Participation in Malaysia

Grace Burns

Introduction

Across the globe, there is a lack of gender parity in the political realm (Darcy, Welch, and Clark 1994). Solving this important issue will ensure increased representation for women's issues (Bratton 2005), greater diversity and effectiveness in leadership styles (Kathlene 1994), and better outcomes for countries as a whole (Cole et al. 2017; Garikipati and Kambhampati 2020). In Malaysia, women rank highly on many indicators such as literacy and labor force participation ("World Bank Open Data" n.d.), but lowly in political polarization, due to cultural and religious factors (Ariffin 1992). Women are not socialized to view themselves as leaders and therefore are likely to remain primarily in the domestic sphere (Azizah 2002; Zakuan and Azmi 2017). Additionally, the country's political structures make it difficult for female candidates to obtain promotions and win elections (Cheng and Tavits 2011; Iversen and Rosenbluth 2008; Sukhani 2020; Yeong 2018). Literature suggests several theoretical approaches to increasing female political participation in Malaysia, but few suggestions have been empirically tested (Atkeson and Carrillo 2007; Baqutayan and Abd Razak 2022; Gordon 2021; Lawless and Fox 2010; Yusoff, Sarjoon, and Othman 2016).

This study tests one theoretical approach: observing how providing women with leadership experience and positive feedback changes their openness to political participation. Through an experiment, we analyzed whether minor leadership experience in a lab setting encouraged women to feel more comfortable running for public office. The experiment tasked either all female, all male, or mixed-gender groups with piecing together a puzzle, while one participant was randomly assigned to be the group leader. Upon completing the task, each participant was given a survey that asked them about their experience in the group and their interest in running for

public office. By assigning women a small leadership role, we tested whether this experience increased their willingness to run for public office. We find that leadership experience does not significantly contribute to women's desire to run for public office, but stress caused by something other than task difficulty, group gendered interactions, and cultural norms does significantly dissuade women from expressing a desire to run for office.

Background

In Malaysia, there are lower female political participation rates than expected, given other female indicators. The female literacy rate was 94% in 2019, the maternal mortality ratio was only 21 deaths per 100,000 live births in 2021, and female labor force participation rates have been increasing up to 55% ("World Bank Open Data" n.d.; World Bank 2019). In comparison, globally, the average literacy rate was 83% in 2019, the maternal mortality ratio was 158.8 deaths per 100,000 live births in 2021, and the average female labor force participation rate was 47% in 2022 ("World Bank Open Data" n.d.; Bill & Melinda Gates Foundation 2021). Further, female Malaysian students outperform male students on standardized assessments and over 50% of women have a college degree (World Bank 2019). Despite these positive indicators, female political participation is low. In the Southeast Asian region, an average of 23.2% of parliamentarians in the lower or unicameral chamber are female, with 13.7% of parliamentarians in the upper chamber being female (Inter-Parliamentary Union 2023). In Malaysia specifically, these percentages are even lower. As of 2022, women constitute 14% of the lower house (Dewan Rakyat), 18% of the upper house (Dewan Negara), and only represent 12% of state assembly members ("Gender Quotas Database" 2023; Joshi and Echle 2022). In June 2021, Malaysia ranked 144 out of 184 countries for percentage of women in parliament, placing lower than most of its Southeast Asian neighbors (Joshi and Echle 2022). Some parties voluntarily have a 30% gender quota for party leadership positions or candidates in an election, but this is not formal legislation and is often not met ("Gender Quotas Database" 2023).

Female candidacy has been slightly increasing in recent years; the proportion of female candidates nominated in general elections rose from 10.7% in 2013 to 14.4% in 2018 (Sukhani 2020). The 2018 general election saw record-setting percentages of female representatives elected to both state and national political offices, as well as the election of the first female deputy prime minister (Yeong 2018).

Though Malaysian women have very little descriptive representation in political offices, they do have increasing substantive representation. Women's issues have been integrated into national policy since the 1970s, with a focus on equal opportunity for women. For example, the Income Tax Act 1975 allows married women to be assessed separately from their husbands and the Domestic Violence Act 1994 was the first in the region to legally protect victims of domestic violence (Yeong 2018). These substantive advancements are a product of high-quality interactions between female politicians and active women's NGOs, and the willingness of young male legislators

to represent women's issues (ibid.). This type of legislative progress may weaken women's desire and urgency to close the political gender gap and highlights the importance of increasing female political presence while simultaneously encouraging male politicians to champion women's perspectives and issues. This study chooses to focus on increasing female political presence, but notes the importance of substantive representation for women among all representatives.

Cultural and religious factors are important to consider when studying Malaysia's low female participation rates (Ariffin 1992; Chu 1994). Women traditionally work in the domestic sphere and have to break through this stereotype while balancing the burden of adding public sphere work to their preexisting domestic workload (Ariffin 1992; Azizah 2002). Cultural socialization generally causes women to view themselves as volunteers and supporters in the political realm, rather than as leaders (Zakuan and Azmi 2017). Conservative and ethnic politics also tend to diminish efforts to increase female participation (Azizah 2002; Welsh 2019). Additionally, most women lack the financial resources needed to run for office (Yusoff, Sarjoon, and Othman 2016; Zakuan and Azmi 2017) Malaysian society, and therefore politics, are very male dominated, making it difficult for men to be enthusiastic about inviting women to share valuable political power (Azizah 2002; Yeong 2018). The political environment in Malaysia is also considered to be aggressive, intense, and uninviting to women (Azizah 2002).

The political structure in Malaysia creates further difficulty for women to thrive in the political environment. Institutional barriers within parties keep women from being candidates for winnable seats because of male bias on the part of party gatekeepers (Cheng and Tavits 2011, Yeong 2018). Additionally, the presence of coalition politics requires all parties to push forward female candidates in order for increased female leadership to increase. This creates an uneven power balance between the coalition parties especially since only some parties have female candidates to choose from (Sukhani 2020). Furthermore, women across the world generally perform worse in first-past-the-post voting, which is the type of voting system Malaysia uses (Iversen and Rosenbluth 2008).

Many commentaries note the need for increased female political participation in Malaysia and suggest methods to do so, such as increasing education levels (Azizah 2002; Baqutayan and Abd Razak 2022), reforming the political system to include quotas or proportional representation (Yusoff, Sarjoon, and Othman 2016), or working with women's NGOs to connect with women (Ramli and Hassan 2009). However, there have been few experiments measuring the direct impact of these things on political aspirations. This study investigated how giving leadership experience and positive feedback to Malaysian women impacted their desire to engage in politics.

Literature Review

There is a global need for increased female presence in political offices and the puzzle of how to attract more women to the political sphere attracts many political

scientists. Globally, there are consistently lower numbers of female elected officials than male (Darcy, Welch, and Clark 1994). In worldwide parliaments, the average percent of female members in any chamber is between 26–27% (Inter-Parliamentary Union 2023). Having more women in office is beneficial for the advancement of women's issues (Bratton 2005; Gerrity, Osborn, and Mendez 2007; Thomas 1991) and for increasing diversity of thought and leadership styles in political spheres (Kathlene 1994; Fox and Schuhmann 1999). The positive externalities of having more women in political offices extends past women themselves and benefits the whole society; countries led by women fared better in the Covid-19 pandemic (Garikipati and Kambhampati 2020), have lower perceived corruption, and higher amounts of foreign direct investment (Cole et al. 2017). Women are shown to rank higher than men on leadership attributes (Zenger and Folkman 2019), showing that lack of capacity or skill is not what is preventing women from political participation. So, why are numbers of female political leaders not rising faster? Early scholarship hypothesized that voters do not prefer women; while this is often true, prior to being tested with this issue, the first hurdle is that women face is making the choice to stand for election, which is a decision involving a plethora of considerations (Lawless and Fox 2010; Schwarz and Coppock 2022). Thus, the current debate is focused on how to encourage women's desire to run for public office.

Several hypotheses have been presented for how to bring about more political aspirations among women. Some literature suggests the mere presence of women in office inspires other women and girls to want to run as well (Atkeson and Carrillo 2007; Campbell and Wolbrecht 2006; Ladam, Harden, and Windett 2018; Lawless 2004). Other literature suggests the need for political parties to play a role (Yusoff, Sarjoon, and Othman 2016) or collective activism and mobilization (Gordon 2021). Even extracurriculars, like placing more girls in childhood sports, may stir political aspirations (Lawless and Fox 2010).

Theory

Literature suggests that lack of confidence and inability to consider themselves leaders blocks many women from reaching for leadership (Appelbaum, Audet, and Miller 2003; Athanasopoulou et al. 2018). This experiment gave women experience making strategic decisions under pressure, an important attribute to leadership (Vroom and Yetton 1973). Because this put them in a unique situation that stretched them beyond their perceived abilities, it was an environment conducive to increasing self-confidence (Hollenbeck and Hall 2004). Further, positive feedback following a leadership task has been shown to diminish women's tendencies to rate themselves critically (Heilman, Lucas, and Kaplow 1990). Thus, the positive reinforcement provided by the experiment was hypothesized to increase their self-confidence. As this leadership experience gave women more confidence in their leadership abilities, we expected to see their willingness to run for office increase (Appelbaum, Audet, and Miller 2003; Baqutayan and Abd Razak 2022; Kolb 1999).

However, leadership experience does not come without stress for women in Malaysian culture. Women are socialized to view themselves as submissive, play a supporting role to men (Baqutayan and Abd Razak 2022; Zakuan and Azmi 2017), and focus their work in the domestic sphere (Ariffin 1992). This follows gender schema theory, which suggests that individuals are socialized from childhood to understand gender roles based on their culture (Bem 1983). In this study, it will be uncomfortable for women to go against their socialized roles and be in a leadership role, so we hypothesize that more women than men will feel discomfort and stress while being a leader. In addition to breaking cultural gender roles, this leadership stress will come from women's aversion to competitive environments—the same aversion that dissuades them from pursuing leadership (Preece and Stoddard 2015). However, gender schema theory recognizes sex typing as a learned thought process, so there is the potential for it to be modified (Bem 1983). Thus, perhaps if women gain small experiences making decisions in stressful environments, they could overcome this socialization and view themselves in new capacities.

Stress can also come when women are in group settings with men. Research shows that gender imbalances within a group can impact how members of each gender behave (Kanter 1977; Karpowitz et al. 2023). Those in the minority group are called “tokens” because they are seen as representatives of their gender and not as unique individuals (Kanter 1977; Gardiner and Tiggemann 1999). Tokens can experience stress in these group settings because of the increased attention they receive by standing out and often feel pressured to overperform. When tokens are keenly aware of their differences from others, they often become isolated from participating in the group and experience gender stereotyping (Gardiner and Tiggemann 1999). This is especially true for women; even when they engage in group deliberations, they still face discrimination in perceived influence (Karpowitz et al. 2023). In a small group setting, these interactions will still be present. We expected to see the gender composition of the group, and whether the woman was assigned to lead or not, impacting women's stress level and their feelings about future political leadership. Men typically do not have these same experiences when they are in the minority of female-dominated groups, so we did not expect to observe them feeling stress during the task.

There are two different ways the mind generally responds to this type of stress. As outlined by psychologists, the first response is to become overwhelmed and fearful, while the other response is to become motivated to press through uncomfortable or new situations (Javanbakht and Saab 2017). In this experiment, it seems likely that the biggest inhibitor to women increasing their self-confidence is feelings of stress. Should stress not seem to be a predictor of leadership interest, then women must have been able to use the second stress response discussed above and prevent negative leadership experience from dissuading their interest. Conversely, if stress is a predictor of political leadership interest, that means that women have the first response and stressful leadership experience further decreases their interest in future leadership opportunities.

Hypotheses

H1: Providing leadership experience for women will increase their willingness to run for public office.

When women gain experience in a leadership environment, see their ability to make decisions, and lead others in a stressful environment, they will see that they are capable leaders and thus increase their willingness to consider running for office. We expected that providing leadership experience for women would increase their willingness to run for public office.

H2: Women are more likely than men to rate being a leader as a stressful experience.

Women have been shown to find leadership stressful (Blackburn 2020; Nelson and Burke 2000). Our results will be in agreement with this literature. In addition, this study places Malaysian women in situations that go against common cultural norms by assigning them as leaders, and this will increase their stress levels. We expected to see women considering leadership experience to be stressful more often than men.

H3: Women are more likely to indicate the task as a stressful experience when they are leading at least one man.

Women in groups with at least one man are less likely to be seen, by themselves or others, as influential in the group. This stems from innate beliefs and behaviors that men and women portray when participating in group settings. Subconsciously, women are more likely to defer to men as the leaders. Thus, when women are put into leadership positions over men, they will most likely view the experience as uncomfortable and stressful. Further, women serving in leadership positions goes against cultural norms that say women are less suited for leadership; going against this norm will also induce stress. We expected to see women who led at least one man rate the leadership experience as more stressful than women who did not lead men or male leaders.

H4: Women who find leadership stressful are less likely to indicate a willingness to run for public office than women who do not find leadership stressful.

If women find the leadership experience to be stressful, they will most likely extend these perceptions to the idea of running for public office in the future. This will either discourage their aspirations or reinforce previously held ideas that they do not wish to hold political office. We predicted that women who found leadership stressful would be less likely to indicate a willingness to run for public office, compared to women who do not find leadership stressful.

Research Design

Measures

The first main independent variable is gender. Gender was measured using a combination of self-identification and observation by the researchers through ID assignment. We verified that all researcher-identified gender observations in ID assignments matched the self-identification from the survey, so missing self-identified gender variables were filled by researcher ID assignment.

The second independent variable is leadership experience. This is the treatment condition in the experiment, with equal numbers of male and female respondents randomly selected to be the group leader. Because leadership was block randomized ahead of time according to the unique identification number, we created a variable that indicated whether the participant was a “leader” or a “blindfolded” follower. We also allowed participants to self-identify their role on the survey by asking, “What role did you have?” This was cross-checked with the variable we created to ensure everything was entered correctly. We verified that all participants entered their role correctly, so the self-identified role variable was used in the analysis.

The main dependent variable is willingness to run for public office. There are several questions on the survey that ask the respondent to rank their likelihood of running for various political positions. Specifically, the respondents were asked about the following scenarios: “How likely are you to [run for local office/run for state office/run for national office (such as the legislature)]?” Respondents could then rate their likelihood using a five-point Likert scale of “Very Unlikely,” “Somewhat Unlikely,” “Unsure,” “Somewhat Likely,” and “Very Likely.” Our goal was to analyze the likelihood that women would run for office regardless of level, so these variables were combined into a single indicator. Factor analysis results loaded the three variables together into a single factor, allowing us to aggregate the responses into an additive index to indicate a respondent’s overall likelihood of running for any political office.¹ We then converted the data to a numeric scale, ranging from “Very Unlikely,” with a value of 1 to “Very Likely,” with a value of 5. Scores on the additive index ranged from 3 to 15, with the top 25% of respondents scoring an 11 or above. A respondent answering “Somewhat Likely” each time would score a 12 on the scale, meaning that only the top quarter of respondents consistently indicated at least a small desire to run for office. Of these respondents, 59% were male and 41% were female. The average score was an 8.4, meaning on average respondents were generally more hesitant about running for office. Of respondents in the bottom 25% (a score of 6 or below), 42% were male and 58% were female.

Another important variable to the analysis is stress. Respondents were asked, “How stressful was the task for you personally?” The responses were measured using a three-point scale including “Not stressful at all,” “A little stressful,” and “Very stressful.” In some models, we used stress as an independent variable to analyze how

¹ Factor loadings: Local Office: 0.84, State Office: 0.97, National Office: 0.89. Cronbach’s alpha = 0.926

the presence of stress impacts other outcomes. In other models, we investigated stress as a dependent variable to uncover which scenarios were more likely to cause stress.

We first controlled for how easy each participant found the task to be. This is an important variable to account for in the regression analyses because it removes the confidence created from how simple or complex they viewed the task to be, so that we were able to view confidence in leadership skills independently. The variable was measured by simply asking respondents to rate, "How easy was the task?" Individuals were allowed to respond using a four-point scale of "Very easy," "Easy," "Difficult," or "Very difficult." The majority of women (78%) and men (79%) said the task was easy or very easy; notably, no men and only 3% of women rated the task as very difficult. For inclusion in analysis, the categories were consolidated into one "Easy" and one "Difficult" category. The variable is binary with a value of 1 correlating to the "Easy" category.

Another relevant control variable is the gender of the blindfolded followers for groups with female leaders. To create this variable, we used the pre-assigned groupings that were created based on gender to know which groups had three women, two women and one man, two men and one woman, or three men. The gender and role variables were then used to create a categorical variable that indicated if a female leader led a group of two women, a woman and a man, or two men.

A final important control variable is Malaysian cultural norms. These beliefs are operationalized in our survey through two questions. Respondents were asked to "Rate how much you agree or disagree with the following statements" on a 5-point scale ranging from "Strongly disagree" to "Strongly agree" for the following statements: "Men are better suited emotionally for politics than are most women," and "Men are better suited than women for leadership outside of the home (e.g. religion, politics, the workplace, etc.)." These two statements were presented alongside several other statements about desires to see more women in politics, whether the respondent could or should run for office, and women's roles in the home in a randomized order. However, only these two statements were selected for use in the analysis because they cover broader societal views rather than the respondent's personal opinion (e.g. "I would like to see more women run for local office").

Method

The experiment gave women minor leadership experience along with positive reinforcement to see if this increased their openness to running for political office in the future. Twenty-three sessions of twelve participants each (divided into four groups of three) were studied by a local research company in Kuala Lumpur, Malaysia, between July 21 and July 22, 2023, for a total sample size of 276. Unique identification numbers were created ahead of time using information such as the day, session, and participant number. To block randomize gender into groups, it was decided ahead of time that numbers ending in a 1–5 or 7 would be randomized to female participants and numbers ending in 6 or 8–12 would be randomly distributed to male participants. Group numbers were also assigned using the genders associated with

each number so that in each session there was one group with all women, a second with two women and one man, a third with two men and one woman, and a fourth with all men. Randomly generated numbers were used to decide whether the first, second, or third group member would be the leader for each group. This way, gender of group members and leadership were block randomized.

Upon arriving, participants were randomly assigned one of the unique identification numbers according to their gender, which decided their group and role.² The two participants not chosen as the leader were blindfolded. The leader was tasked with providing instructions to the blindfolded participants to complete a puzzle while being unable to touch the blindfolded participants or the puzzle pieces. After completing the puzzle, the group was informed that they had a fast time regardless of the actual time elapsed. Before the experiment, each participant completed a pre-survey with demographic information and a consent form. Following the experiment, participants completed a survey about their experience during the task, their desire for future political participation, and their views on female political participation in general. Full question wording for both surveys are included in the appendix along with sample summary statistics.

We analyzed the results using OLS regression models. First, we examined the main treatment effect by regressing willingness to run for office on leadership and gender. Second, we explored the interaction of gender and leadership on willingness to run for office to see if the impact of leadership varies by gender. Third, we examined how the participant's gender and role in the group impacted their stress during the task. Fourth, we regressed willingness to run for public office on role, gender, and stress, while controlling for how easy they found the task. Fifth, we ran the previous model separately by gender to see if stress impacts men and women's interest in office differently. Next, we regressed willingness to run for public office on the interaction between leadership and stress by gender to see if stressful leadership impacts men and women's interest in office differently. Then, we examined how the gender of group members impacts the stress felt for female leaders and their willingness to run for public office while controlling for how easy they found the task. Finally, we ran a model by gender subgroups examining willingness to run for office when accounting for Malaysian cultural norms, group member genders, role, stress, and difficulty.

² A question on the pre-survey asked respondents to self-identify their gender as male or female. However, we found that many respondents did not answer this question, leaving us with missing data. Before the survey, we assigned unique identification numbers to each participant partly based on their gender, the full details of which are described above. This meant that certain unique identification numbers were set aside for members of each gender, allowing us to use these numbers to create a new gender variable and obtain full data for this question. The caveat to this is it means some values for our gender variable are based on the gender identity assigned by interviewer observation. Investigation of the data does not find any discrepancies with the expected ID numbers and gender for those who self-identified on the survey. It was important to have as much data as possible because gender is a key element to the study.

Results

We began by examining the main treatment effect. To see whether leadership experience influences leaders to aspire for public office, we ran an analysis of willingness to run for office regressed on leadership and gender. Next, we looked at if this effect was different when we took the gender of the leader into account. Table 1 provides a regression table summarizing these results. We found that after controlling for the participants' role in the task, female participants are 0.79 units less likely than men to indicate a willingness to run for public office. The interaction between gender and leadership shows that female leaders and followers have no difference in their likelihood to run for public office, but male leaders are surprisingly 1.2 units less likely to consider public office than male followers.

Table 1: The impact of gender and role on willingness to run for public office

	<i>Dependent variable:</i>		
	<i>Willingness to Run for Public Office</i>		
	<i>All</i>	<i>Women</i>	<i>Men</i>
Female	-0.79* (0.42)		
Leader	-0.61 (0.45)	-0.01 (0.62)	-1.20* (0.64)
Constant	9.02*** (0.33)	8.03*** (0.36)	9.22*** (0.37)
Observations	270	135	135
R ²	0.02	0.0000	0.03
Adjusted R ²	0.01	-0.01	0.02
Residual Std. Error	3.46 (df = 267)	3.42 (df = 133)	3.48 (df = 133)
F Statistic	2.70* (df = 2; 267)	0.0003 (df = 1; 133)	3.57* (df = 1; 133)

*Note: *p<0.1; **p<0.05; ***p<0.01*

Coefficients represent OLS slope coefficients. The first model uses the full sample of respondents, the second model uses a subset of female respondents, and the third model uses a subset of male respondents.

Next, we examined the role that stress played in the experiment. We began by using stress as a dependent variable and investigating how the participant's gender, role in the group, and ratings of the task's easiness impacted their stress. Including easiness as a control variable allowed us to isolate the stress that might come from the difficulty of the task itself and better examine stress from other factors. Table 2 provides a regression table with models separated by gender in which the independent variable is the participant's role and the dependent variable is the participant's rated

stress. For both men and women, leaders experienced more stress than blindfolded participants by nearly equal amounts (0.29 units for women and 0.26 units for men). When we controlled for task easiness, we found that leaders still had 0.23 units of higher stress. Finding the task easy did decrease stress among all participants by 0.42 units, but did not impact men and women's stress differently. Despite similar stress from their roles, this begs the question of whether this stress impacts political aspirations differently for men and women.

Table 2: Impact of the interaction between gender and role, interaction of gender and easiness of the task on stress

	<i>Dependent variable:</i>			
	<i>Stress During the Task</i>			
	<i>All</i>	<i>Women</i>	<i>Men</i>	<i>All</i>
Leader	0.27*** (0.07)	0.29*** (0.10)	0.26*** (0.09)	0.23*** (0.06)
Easy				-0.42*** (0.10)
Female	0.04 (0.06)			0.11 (0.13)
Female x Easy				-0.09 (0.15)
Constant	0.34*** (0.05)	0.38*** (0.06)	0.34*** (0.05)	0.69*** (0.10)
Observations	270	135	135	269
R ²	0.06	0.06	0.05	0.19
Adjusted R ²	0.05	0.05	0.05	0.17
Residual Std. Error	0.53 (df = 267)	0.54 (df = 133)	0.51 (df = 133)	0.49 (df = 264)
F Statistic	8.23*** (df = 2; 267)	8.50*** (df = 1; 133)	7.42*** (df = 1; 133)	14.98*** (df = 4; 264)

Note: *p<0.1; **p<0.05; ***p<0.01

Coefficients represent OLS slope coefficients. The first and fourth models use all the respondents. The second model includes only female respondents and the third model includes only male respondents.

We then examined stress as an independent variable that could impact willingness to run for public office. Results from this analysis are shown in Table 3. The first model uses the full set of respondents and includes gender and role as additional control variables. We saw that for respondents who found the task easy, meaning they had assumedly low stress from the task itself, gender and stress from other causes are

the most significant dissuaders of willingness to run. This shows that participants felt a stress separate from the difficulty of the task itself that dissuaded them from future leadership. Next, to see if this stress is felt stronger among women than men, we ran the same regression separately by gender. The results show that stress negatively dissuades both men and women from running for public office similarly.

Table 3: Impact of role, stress, gender, and difficulty on willingness to run for public office

	<i>Dependent variable:</i>		
	<i>Willingness to Run for Public Office</i>		
	<i>All</i>	<i>Women</i>	<i>Men</i>
Leader	-0.45 (0.46)	0.12 (0.64)	-1.02 (0.65)
Stress	-0.87** (0.43)	-0.97 (0.59)	-0.79 (0.62)
Female			-0.72* (0.42)
Easy	-0.55 (0.55)	-0.86 (0.77)	-0.25 (0.79)
Constant	9.78*** (0.62)	9.15*** (0.83)	9.70*** (0.83)
Observations	269	134	135
R ²	0.03	0.02	0.04
Adjusted R ²	0.02	-0.0004	0.02
Residual Std. Error	3.43 (df = 264)	3.39 (df = 130)	3.48 (df = 131)
F Statistic	2.37* (df = 4; 264)	0.98 (df = 3; 130)	1.73 (df = 3; 131)

*Note: *p<0.1; **p<0.05; ***p<0.01*

Coefficients represent OLS slope coefficients. The first model uses the full sample of respondents, the second is only female respondents, and the third is only male respondents.

Next, to see if this stress effect varies by the participant's role, we ran an interaction between stress, role and gender shown in Table 4. While the small sample size may contribute to insignificant results, we found that for women, being a leader and experiencing more stress decreased their desire to run for public office, while for men, a stressful leadership experience pointed to an increased desire to run for public office. This is especially interesting considering that leadership by itself increased women's desire to run for office, while significantly dissuaded men from wanting political office. These results show the importance of considering the impact of stress on political aspirations as well as its different behavior by gender.

Table 4: Impact of difficulty and the interaction between role, stress, and gender on willingness to run for public office

	<i>Dependent variable:</i>	
	<i>Willingness to Run for Public Office</i>	
	<i>Women</i>	<i>Men</i>
Leader	0.93 (0.91)	-1.54* (0.90)
Stress	-0.50 (0.70)	-1.15 (0.76)
Easy	-1.01 (0.78)	-0.18 (0.80)
Leader x Stress	-1.43 (1.15)	1.04 (1.23)
Constant	9.10*** (0.82)	9.76*** (0.84)
Observations	134	135
R ²	0.03	0.04
Adjusted R ²	0.004	0.01
Residual Std. Error	3.39 (df = 129)	3.49 (df = 130)
F Statistic	1.13 (df = 4; 129)	1.47 (df = 4; 130)

Note: *p<0.1; **p<0.05; ***p<0.01

Coefficients represent OLS slope coefficients. The first model uses only female respondents while the second model uses only male respondents.

Next, we investigated the women who were chosen to lead and how this impacted their stress and political interest. The gender of the followers in their groups was an important element to understanding their responses. Because of social norms in Malaysia, women are likely to feel more comfortable leading other women than men. We ran a regression with stress as the dependent variable and follower genders as the independent variable in order to analyze whether female leaders felt more stress from leading men than leading women. The sample was limited to female leaders because of the composition of the follower genders variable. Easiness was included to account for stress that may come from the task itself. The results are presented in the first model of Table 5. We can see that there was no difference in the stress that female leaders felt based on the follower genders. As would be expected, participants feel less stress when they view the task as easier. Next, to see whether follower genders impacted the leaders' interest in public office, we ran a regression with willingness to run for office as the dependent variable and follower genders, stress, and difficulty as the independent variables. This is included as the second model in Table 5. While the

results are not significant, we do see a trend that, compared to women leading two other women, women leading at least one man indicated less desire for future political leadership. This suggests that interaction with men in a leadership setting could dissuade women from leading again in the future. Interestingly, more than follower genders or difficulty of the task, stress from other causes is the thing that best predicts female leaders' distaste for future political leadership. As they rated the experience as more stressful, their willingness to run for public office decreased by 2.11 units.

Table 5: Effect of Follower Genders, Difficulty, and Stress for Female Leaders

	<i>Dependent variable:</i>	
	<i>Stress (1)</i>	<i>Willingness to Run for Public Office (2)</i>
	<i>Women</i>	<i>Men</i>
1 Woman, 1 Man	0.27 (0.16)	-0.35 (1.23)
2 Men	0.04 (0.20)	-1.62 (1.51)
Easy	-0.66*** (0.16)	-1.73 (1.43)
Stress		-2.11* (1.18)
Constant	1.04*** (0.16)	11.06*** (1.74)
Observations	45	45
R ²	0.36	0.10
Adjusted R ²	0.31	0.01
Residual Std. Error	0.47 (df = 41)	3.53 (df = 40)
F Statistic	7.59*** (df = 3; 41)	1.16 (df = 4; 40)

Note: *p<0.1; **p<0.05; ***p<0.01

Coefficients represent OLS slope coefficients. Both models use a subset of female leaders. From the follower genders variable, "2 Women" is the omitted category.

A final control variable to consider is cultural norms. We set out to analyze if they affect the stress that is dissuading women from political aspirations. Cultural norms are first included in a regression of female leaders and then analyzed on all women, followed by all men, along with all the covariates discussed so far. The results show that the stress is not caused by cultural norms because the stress variable remains significant. For female leaders, experiencing stress decreases their desire for political leadership by 2.8 units, while agreeing with the norm that men are better

leaders increases desire by 1.23 units. It is unclear what to make of the latter variable, but we see that stress still plays an important role in political aspirations. When analyzing all women, we see that again, stress is the one thing that significantly decreases likelihood to run for office, in this case decreasing likelihood by 1.06 units.

Table 6: Effect of cultural norms, follower genders, role, stress, gender, and difficulty on willingness to run for public office

	<i>Dependent variable:</i>		
	<i>Willingness to Run for Public Office</i>		
	<i>Female Leaders</i>	<i>Women</i>	<i>Men</i>
Men Better Politicians	-0.55 (0.54)	0.19 (0.35)	-0.23 (0.32)
Men Better Leaders	1.23** (0.51)	0.31 (0.31)	0.21 (0.32)
1 Woman, 1 Man	-1.48 (1.51)		
2 Men	0.33 (1.19)		
Leader		0.03 (0.64)	-1.06 (0.67)
Stress	-2.80** (1.16)	-1.06* (0.59)	-0.87 (0.64)
Easy	-2.14 (1.39)	-0.79 (0.77)	-0.36 (0.81)
Constant	9.03*** (2.61)	7.54*** (1.24)	9.88*** (1.44)
Observations	45	134	135
R ²	0.23	0.05	0.04
Adjusted R ²	0.10	0.01	0.01
Residual Std. Error	3.36 (df = 38)	3.38 (df = 128)	3.50 (df = 129)
F Statistic	1.84 (df = 6; 38)	1.25 (df = 5; 128)	1.14 (df = 5; 129)

Note: *p<0.1; **p<0.05; ***p<0.01

Coefficients represent OLS slope coefficients. The first model uses a subset of female leaders, the second a subset of women, and the third a subset of men. From the follower gender variable, "2 Women" is the omitted category.

Discussion and Conclusion

This experiment aimed to analyze if giving women leadership experience would increase their willingness to run for political office. We theorized that the puzzle leadership experience would build women's confidence in their ability to handle stress and group decision-making, and thus increase their willingness to engage in future political leadership. We further theorized that women would feel more stress than men in leadership positions. This would most likely stem from group interactions with men because of cultural beliefs that men are more suited for leadership roles than women. However, because gender schema theory suggests that socialized cultural views can be changed, and because research shows that stress can either be a motivator or a deterrent, we posited that women might use the stress of moving past cultural norms as a motivator rather than a deterrent, thus allowing the stressful leadership experience to still increase political aspirations.

Analysis found that leadership experience did not have an impact on political aspirations, but the participant's gender and stress felt during the task did. Both male and female leaders reported feeling nearly equal amounts of stress, but only in women did this stress cause a decrease in willingness to run for office. Stress remained significant regardless of the group gender composition, perceived difficulty of the task, and belief in gender biased cultural norms. Further, while stress dissuaded women from political aspirations, insignificant evidence showed that male leaders who experienced stress indicated higher willingness to run for public office.

Contrary to the theory, stress, rather than newfound confidence in leadership experience, turned out to be the key variable impacting willingness to run for office. Of the two responses to stress we outlined in the theory section, our results indicate that women had a fearful rather than motivated response to stress. Additionally, our theories about what would cause the female participants' stress proved to be wrong. Stress on its own remained a significant predictor even after the genders of group members, task difficulty, and assigned role were accounted for. There was some stress that only existed for women that did not arise from leadership, the task itself, the other group members, or breaking traditional cultural gender norms. This stress was the strongest cause for women to shy away from the potential of future leadership opportunities.

Future research should unpack what the root cause of this stress is and how it can be mitigated in order to overcome its negative impact on women. Additionally, further research should improve upon limitations present in this study. A small sample size led to difficulty seeing significant results and thus a repeated study with more participants would allow us to verify that these patterns remain. Moreover, this study operationalized leadership experience as directing a group through a short, one-time task. Perhaps longer and more significant leadership experience would have a different impact. Further, there is no pretreatment measure of interest in running for office, so we were not able to measure the change in interest from this experiment. Finally, the survey questions used to operationalize cultural beliefs about men's suitability

for leadership and politics were perhaps not as robust as they could be and further refinement of these questions may provide a better measure of these beliefs for analysis. Despite these limitations to the study, it is clear that women in Malaysia are choosing not to run for political office because of an ambiguous stress. Further investigation of this and other variables is important because of societal benefits, like issue and leadership style diversity, from women's political leadership participation. These results represent a small step in understanding why women in conservative cultures choose not to run for political offices, and as more research in this area is done, society as a whole can one day reap the benefits that come from diversified policy leadership and increased awareness for women's issues.

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Advantages and Disadvantages of the Chinese Digital Yuan

Mikayla Cheng

Introduction

While digital monetary transactions are by no means a new concept, China's rapid progress toward a completely cashless society through the release of its digital yuan marks a pivotal point in monetary history. In recent years, China has advanced significantly in promoting the digital payment systems including Alipay and WeChat Pay. As of 2021, over 87% of mobile internet users in China had adopted mobile payments, with urban areas reaching an almost 90% adoption rate (Slotta 2023a). Digital transactions in the Asia Pacific region have the fastest predicted growth rates in the world: 109% from 2020 to 2025 and 76% from 2025 to 2030 (PricewaterhouseCoopers 2021). In 2014, China took the next step in digital payment technology by proposing and implementing a fully digital, government fiat, legal tender currency known as Digital Currency Electronic Payment (DCEP), or the digital yuan (Yeung and Mullen 2021). The rollout of the digital yuan began with pilot programs in four cities: Shenzhen, Suzhou, Xiong'an and Chengdu (Li and Gao 2022), but has since expanded to more than 15 cities (Reuters 2022). China is also testing the digital yuan outside its mainland borders: from August to September 2022, the People's Bank of China (PBoC) engaged in a 40-day trial to test trade settlements with Hong Kong, Thailand, and the United Arab Emirates (Feng 2022).

Many speculate about the true motivations of China's leadership with respect to the digital yuan. Although the digital yuan currently constitutes only a small percentage of all digital transactions in the country, some believe that China is in the process of achieving a fully cashless society (Smialek 2021). While the Chinese government has not verified any of these speculative claims, nor is it incentivized to do so, former PBoC president Li Lihu reported in a livestream that "it is estimated that the digital Yuan

could replace 30%–50% of the cash in the country within two to three years” (NetEase 2022). Whether or not these expectations are realistic, it is inferred that achieving a fully cashless society is within the realm of possibility for China’s intended goals with the digital yuan. Understanding the implications of the adoption of digital yuan and a fully cashless society, especially in the context of China, is the focus of this paper.

Thesis

The research questions I intend to explore are, what are the advantages and disadvantages of the implementation of China’s digital yuan system for Chinese citizens, and is the full implementation of the digital yuan a net advantage or disadvantage for Chinese citizens? I hypothesize that the advantages of China’s digital yuan system for the people of China are reduced domestic transaction costs, internationalization of the digital yuan, and increased financial inclusion, while its disadvantage is the centralization of transaction data.

First, the digital yuan system benefits the Chinese people through eliminating domestic transaction fees for merchants and providing a smoother transaction experience through its unified infrastructure with existing Chinese government systems. I show that the full transition to digital yuan eliminates merchants’ transaction fees, saving them billions of dollars annually. The government’s advanced facial recognition system would help reduce friction for each transaction and increase convenience for both merchants and consumers through faster transaction speeds and improved accessibility for those who have difficulty entering a PIN or handling cash and cards.

Second, the digital yuan system benefits the Chinese people through the gradual internationalization of the yuan. The employment of digital yuan in cross-border transactions would improve the speed and efficiency of international payments that would benefit Chinese businesses and individuals that engage in international trade. I demonstrate the ways in which the international payment system under fully implemented digital yuan overpowers the current international payment system through a comparative cost-benefit analysis between the two systems. I also examine the feasibility and possible extent of the digital yuan’s internationalization in African countries at the domestic level, and how such internationalization would increase the value of the jobs of the Chinese people.

Third, the digital yuan benefits the Chinese people through increasing financial inclusion. I examine the innovations of the PBoC and other tech companies that promote the inclusion of currently marginalized groups, such as the elderly population and rural population. These innovations include new forms of technology like digital yuan hardware wallets, smartwatches, wristbands, and walking sticks made possible through the ability of third parties to build on top of the digital yuan.

Lastly, the digital yuan is a drawback to the Chinese people through the increased centralization of transaction data it entails. I first evaluate the extent to which the centralization of data consolidates the CCP’s power and the feasibility of the CCP upholding its promise to guarantee consumer privacy regarding the digital yuan. I

then review successful instances in which the CCP used data to promote social welfare of the people including lifting more than 800 million people out of poverty (World Bank 2022), and how digital yuan transactions would harm those who engage in illegal and unpopular behavior. In addition, I explore how the digital yuan's infringement on consumer privacy disproportionately impacts ethnic and religious minorities. Finally, I conduct a comparative case study of the CCP's response to the COVID-19 pandemic, using it as a reference point to illustrate what unprecedented access to digital yuan transaction data could entail. I find that while tracking data may have been helpful to the CCP in successfully containing the virus, the CCP's privacy violations and data manipulation throughout the pandemic bodes ill for the likelihood that consumer privacy will be fully respected regarding digital yuan transaction data.

After analyzing the effects of the full implementation of the digital yuan, I evaluate whether the digital yuan is ultimately an advantage or disadvantage for the Chinese people through a cost-benefit analysis. I find that the collection of digital yuan transaction data as an additional layer of surveillance will not make a substantial difference in the CCP's ability to monitor and punish citizens' behavior in the long run because the CCP's current surveillance measures are already capable of comprehensive monitoring even in the absence of the digital yuan's transaction data. I therefore conclude that the digital yuan's advantages of reduced transaction costs, internationalization of the yuan, and increased financial inclusion outweigh its disadvantage of centralizing digital yuan transaction data.

Historical Background

In the last decade, China has experienced a transformation of its payment systems. Until the mid-2000s, physical cash remained the most common transaction method, even with the invention of credit and debit cards. In fact, despite owning the world's most robust card network (UnionPay) that comprises 6.9 billion debit cards and 686 million credit cards, 99% of people in China regularly used cash in 2013 (Thunes 2023). At the time, only a paltry 34 million point-of-sale readers (machines used to read credit and debit cards) existed among China's population of 1.4 billion people. A report from Brookings explains this as a signal of merchants' unwillingness to pay the minimum 1% transaction fee demanded by electronic payment systems (Klein 2019). However, cash is not without its own issues: China's largest denomination of physical cash is the \$100 yuan note (roughly \$15 U.S. dollars), which may be inconvenient especially when purchasing items of high value (*ibid.*). It was not until QR codes became popular that smartphones became a viable alternative for the convenience of cash without the fees incurred by credit cards, and WeChat Pay and Alipay rose to dominate the transaction space. While these mobile payment platforms present several advantages over cash and cards, they are not without their own flaws. For example, their implementation is still founded on the traditional banking system and controlled by a few private Chinese technology companies. The Chinese government has sought to further modernize its payments system by introducing

the digital yuan, which allows individuals and businesses to conduct transactions directly through the central bank without the need for commercial banks or private payment processors.

According to an article by Weixin (WeChat), the first trials of the digital yuan were conducted in October 2020, in which 200,000 randomly selected Chinese citizens across the cities of Shenzhen, Suzhou, Xiong'an and Chengdu received 200 yuan (~\$30 USD) (John 2020). In each city, 50,000 randomly selected residents received digital yuan 'red envelopes' that contained 200 digital yuan that could be used to pay for goods and services at participating merchants. 47,573 individuals claimed the money and transacted almost \$1 billion yuan in aggregate (Weixin 2020). The trials were a step forward in proving the digital yuan's ability to deliver on its promises through convenience and absence of transaction fees.

In 2021, a collaboration between PBoC and Meituan (a Chinese shopping platform) further expanded the trials by opening digital yuan access to all residents within nine major Chinese cities, and as of January 2022, 260 million people (18.4% of China's population) used it (Liao 2022). According to a report from the World Economic Forum, one resident said, "I've always wanted to try the digital yuan and experience how different it is from Alipay and WeChat Pay, after seeing it so much on TV. It's really easy to use, whether it's paying or topping up" (Fries 2021). While China has not released official survey poll results of citizen opinion on the digital yuan, trial results have shown that millions of people have used it for online shopping, utility payments, transportation costs, and more, suggesting that its ease of use has made it a practical alternative to the dominant payment platforms (Reuters 2020). However, questions have been raised concerning the meaning of "controlled anonymity" and the extent of which government surveillance will affect the lives of digital yuan users (Lucero and Jiang 2021).

China is not alone in its development of a central bank digital currency (CBDC). As reported by the International Monetary Fund, approximately 100 countries are currently exploring CBDCs, including the Bahamas, Sweden, India, and Nigeria (Georgieva 2022). The common themes of these digital currencies include financial stability and privacy considerations, with countries taking varying approaches. It appears, however, that China's digital yuan has seen the most progress in terms of adoption and transaction volume with over one hundred million users and transactions worth billions of yuan (ibid.)

The Digital Yuan

The independent variable of my paper is the implementation of China's Central Bank Digital Currency, or digital yuan system. The implementation of the digital yuan refers to the transition from the old to new state of China's currency and, for the purpose of this paper, is measured by whether or not it is present. Measuring the implementation of digital yuan as a binary outcome is an oversimplification; one could instead measure the implementation by the percentage of physical cash

and reserves that are replaced with digital yuan. However, while the reality is that China is currently in the midst of the transition, this paper focuses on the potential final outcome of China's initiative: the replacement of all physical cash. With the full implementation of the digital yuan, a government-backed e-wallet with unrivaled compatibility would be offered alongside existing payment methods like credit cards, WeChat Pay and Alipay. The digital yuan will likely have the advantage in several areas, including reduced transaction costs and integration with existing systems.

According to the Deutsche Bank, there are several distinguishing characteristics of the digital yuan (Deutsche Bank 2021). First, the PBoC is responsible for issuing digital yuan and ensuring its security for users. Second, the digital yuan will not offer interest, which is consistent with its role as a physical cash replacement. Third, conversion between digital yuan and bank deposits can only be implemented by authorized banks rather than non-bank entities or individuals. With banks as the only intermediaries allowed, the PBoC can more effectively track and manage the flow of digital yuan.

The People's Bank of China is effectively controlled by the Chinese Communist Party (CCP) and already dominates over 90% of China's credit card industry (Horowitz 2018). With the addition of the digital yuan as a replacement for physical cash, the PBoC will be able to track data on the location, time, amounts and individuals in nearly every monetary transaction in China. The digital yuan is designed to work alongside popular Chinese payment services like WeChat Pay and Alipay, rather than in competition. Notably, the digital yuan would provide features that these services do not offer including the ability to conduct small transactions anonymously, similar to physical cash (Gill 2021). However, Mu Changchun, the research director of the PBoC, claims that while it is possible for the digital yuan to attain limited anonymity, it is impossible to attain total anonymity because of the digital yuan's requirement of retaining user identification for payment processes (Singh and Bansal 2021). Additionally, for larger transactions, like funds transferred between provincial governments and towns, digital yuan could be utilized to prevent corruption through the currency's traceability (*ibid.*). Digital yuan will not constitute 100% of transactions in China. There will still be alternatives to the digital yuan, including foreign credit cards that are not associated with China, and commodities (e.g., gold) and gifts. Existing payment methods such as Alipay and WeChat pay through bank accounts will still be available and unrestricted by the government. Considering the patterns of China's capital controls in recent years (Yeung 2021), this paper assumes that as the digital yuan becomes more fully adopted, China will see modest reductions in capital controls. Thus, the internationalization of the digital yuan will be a slow and gradual process.

There have been concerns that, after the launch of the digital yuan, Chinese citizens might move money en masse from their bank accounts to government-backed e-wallets. While digital yuan wallets were never meant to replace bank accounts, it is possible that citizens will preemptively store some amount of money in their digital wallet, similar to how U.S. citizens can add money into their Venmo accounts for easy access (Bloomenthal et al. 2023). At the scale of the population, withdrawing even a relatively small sum of money could put strain on the Chinese banking system, which

is a crucial pillar of the Chinese economy. To preempt these disruptions, the PBoC is considering implementing constraints on consumers. According to South China Morning Post, "The PBoC told the IMF that it is likely to limit e-yuan to small, retail transactions by setting maximum daily and yearly limits on payments and that it will only process large amounts by appointment. The PBoC said it may apply fees for large-sum or high-frequency transactions. It will also offer no interest on accounts" (Tudor-Ackroyd 2020). However, since the threat of bank destabilization due to withdrawals is only present during the initial phase of the digital yuan rollout (ibid.), it is predicted that these constraints will only be temporary. Between the gradual nature of the digital yuan rollout and the temporary constraints on digital yuan wallets, a mass transfer of money from banks to digital yuan wallets is unlikely. Thus, the banking industry will retain its essential status in citizens' day to day lives and has little to fear with respect to disruption by the digital yuan. Finally, it is important to note that even if the current known constraints on consumer spending may be acceptable to most Chinese citizens, this does not necessarily prevent the government from imposing future constraints. Therefore, while the digital yuan may reduce transaction costs, promote internationalization of the yuan, and increase financial inclusion, constraints on consumer spending and the lack of interest on accounts may stand as significant costs to Chinese citizens' privacy and consumer autonomy (Bloomberg Intelligence 2021).

Advantages of the Digital Yuan

In this section, I will illustrate three advantages of the digital yuan: decreased domestic transaction costs, opportunities for internationalization, and increased financial inclusion of Chinese citizens.

Domestic Transaction Costs

First, the digital yuan system reduces domestic transaction costs. Domestic transaction costs refer to the required monetary cost of processing each digital yuan domestic transaction as well as the convenience of each transaction for people who currently use digital payment systems (this does not typically include the elderly or rural populations). Domestic transaction costs are measured by the cost per transaction as a percentage of the total transaction. A broader definition of transaction costs includes barriers to using the digital yuan such as the lack of internet coverage, a cell phone, or the ability to navigate digital platforms. I demonstrate that the digital yuan reduces transaction costs for merchants and increases the seamlessness of transactions through its unified infrastructure with the Chinese government.

Transaction Fees for Merchants

What makes digital yuan appealing from the merchant's perspective is the ability to avoid the ~0.6% transaction fee incurred by WeChat Pay and Alipay (Oceanpayment 2022) while maintaining no transaction fees for consumers (Ledger Insights 2022). To evaluate the potential cost savings of migration to the digital yuan, Table 1 illustrates

a hypothetical full substitution of credit cards and mobile payments (WeChat Pay and Alipay) with digital yuan. Given that credit cards and mobile payments respectively constitute 18% and 54% of transaction volume (Best 2023), and there was an estimated total transaction volume of \$6.15 trillion USD throughout China domestically in 2021 (Republic of China 2022), I calculated the transaction fees saved by merchants assuming that they used digital yuan instead. I did this by multiplying the percentages by the total transaction volume, yielding \$1.11 T and \$3.32 T. Since WeChat Pay and Alipay have an approximate transaction fee of 0.575% (the average of 0.6% for WeChat Pay and 0.55% for Alipay), these payment methods incur \$38.8 B and \$19.1 B transaction costs, respectively. Thus, the full implementation of the digital yuan system would create a domestic transaction cost savings of \$57.9 B U.S. dollars annually, directly into the hands of the people.

It is also important to note that 100% substitution may never be reached. Therefore, it is useful to examine various stages of digital yuan rollout, which is also shown in Table 1. Figure 1 shows the decrease in transaction fees over the course of the digital yuan rollout. Figure 2 shows the progressive shrinkage of other payment types as the digital yuan gains market share during its rollout; one may consider the diminishing credit card and mobile payments sectors of Figure 2 as the portions that generate transaction fees. Overall, this analysis shows that billions of USD can theoretically be saved by merchants in aggregate through using digital yuan. The increase in savings of Chinese merchants through the digital yuan would enable them to lower the prices for goods and services because the merchant would be able to transfer the savings from lower transaction fees to consumers. Consequently, the purchasing power of Chinese consumers would increase, thus stimulating China's domestic economy.

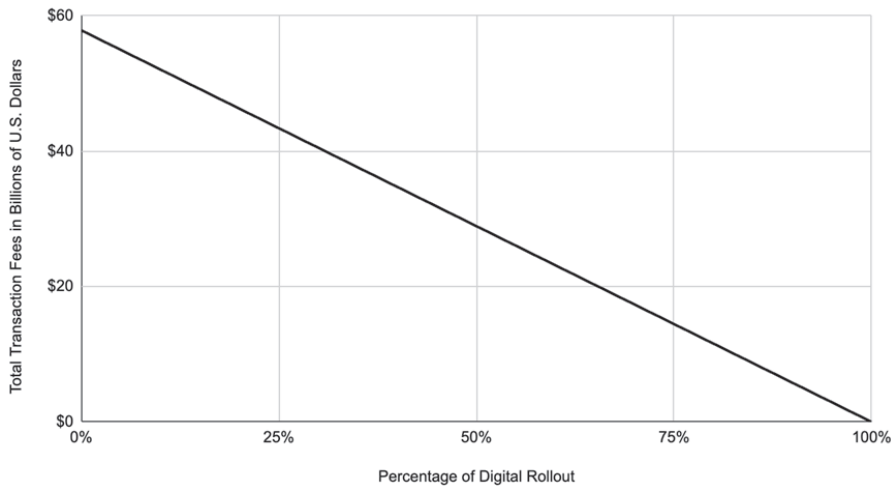
Table 1: Digital Yuan Rollout Plan (all \$ figures in trillions)

% Rollout	Cash/Debit	Credit Card	Mobile Payments	Digital Yuan	Total Fees
0%	\$1.72	\$1.11	\$3.32	\$0.00	\$0.58
20%	\$1.34	\$0.89	\$2.66	\$1.23	\$0.46
40%	\$1.03	\$0.66	\$1.99	\$2.46	\$0.35
60%	\$0.69	\$0.44	\$1.33	\$3.69	\$0.23
80%	\$0.34	\$0.22	\$0.66	\$4.92	\$0.11
100%	\$0.00	\$0.00	\$0.00	\$6.15	\$0.00

Sources: Best 2023; People's Republic of China 2022; Sampi Marketing 2022. Computed by author.

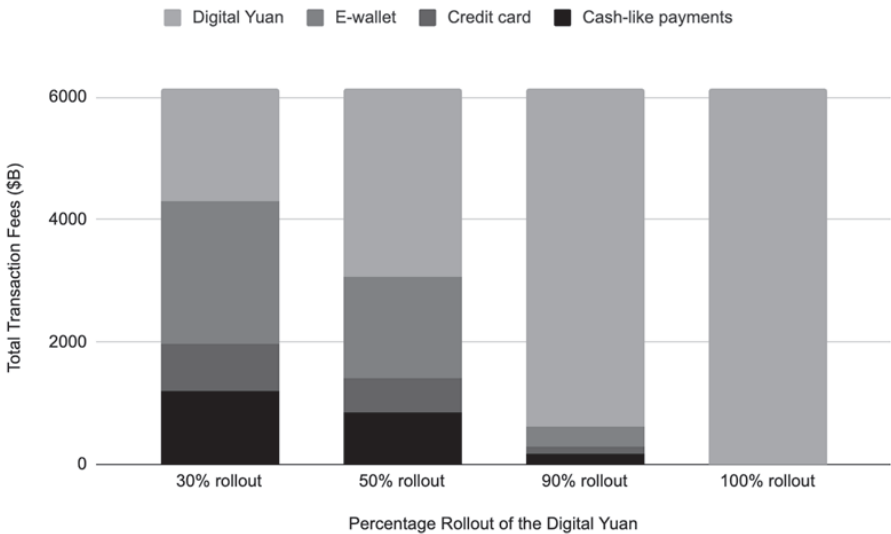
* This table is based on China's total transaction volume as \$6.15 trillion U.S. (People's Republic of China, 2022), and assumes constant transaction volume distribution across various payment sectors throughout the rollout of the digital yuan: 28% cash-like payments (debit card, cash, prepaid card), 18% credit card transactions and retailer/bank financing, and 54% of E-wallet, digital/mobile wallet (Best, 2023). E-wallet, digital/mobile wallet refers to all mobile payment types except for digital yuan. Credit card transaction fees are assumed to be 3.5%, while mobile payment transaction fees are assumed to be 0.575% (the average of the transaction fee for WeChat Pay and Alipay, which are by far the largest mobile payment platforms) (Sampi Marketing, 2022).

Figure 1: Percentage of Digital Yuan Rollout and Total Transaction Fees



Sources: Best 2023; People’s Republic of China 2022; Sampi Marketing 2022. Computed by Author.

Figure 2: Digital Yuan Rollout Distribution



Sources: Best 2023; People’s Republic of China 2022; Sampi Marketing 2022. Computed by Author.

* Transaction fees go down as the credit card and mobile payments sectors shrink over the course of the Digital Yuan’s rollout. Credit cards cause more transaction fees than mobile payments. As digital yuan is rolled out, there are less transaction costs for merchants.

Unified Infrastructure with Chinese Government

Beyond reduced transaction fees, the digital yuan also presents advantages in convenience due to its unified infrastructure with the Chinese government. For example, Alipay has long attempted to push a facial recognition feature in its payments app. However, it has yet to be fully trusted by consumers in its current form, due to concerns over its accuracy and reliability (Tang, 2022). In contrast, the Chinese government is known to have collected significant amounts of facial data from which they may train accurate facial recognition models (Qian et al. 2022). As demonstrated during the COVID-19 pandemic, China mastered 95% accuracy in facial recognition of citizens wearing masks (Yang 2020). With the digital yuan, the government would theoretically be able to introduce a facial recognition feature that far outpaces Alipay and other private companies' offerings due to the vast amount of data that the Chinese government collects. Studies show that fast facial recognition can speed up transactions in stores by up to five seconds per person, which cumulatively amounts to hours of time saved per day for both consumers and merchants (Skift Meetings 2022). Furthermore, facial recognition improves accessibility for those who have difficulty entering a PIN or handling cash and cards. Therefore, the reduction of friction for each transaction increases convenience for both merchants and consumers.

In addition, the introduction of the digital yuan will provide more opportunities for innovation and competition in the digital payment space, since any new or existing company can develop new payment solutions or services on top of the digital yuan (Klein 2022). In contrast, Alipay and WeChat Pay are proprietary payment systems controlled by private companies that can have the final say on what features can be developed on top of their systems. Although significant innovations in payment solutions on top of the digital yuan have yet to emerge, it is likely they will eventually bring new, creative conveniences to users in a similar way to how online banking paved the way for Venmo.

Internationalization

Second, the digital yuan system creates opportunities for internationalization. Internationalization refers to China's geopolitical significance based on its financial autonomy and is measured by the amount of digital yuan adopted by international businesses and other countries. The greatest limitation to the internationalization of the digital yuan is China's tight capital controls. However, this paper assumes that capital constraints will gradually be relaxed as an essential precondition for the moderate internationalization of the digital yuan to occur. Under these assumptions, Table 3 demonstrates the ways in which the international payment system under fully implemented digital yuan overpowers other international payment systems through a comparative cost-benefit analysis. Other popular payment systems include the international credit card processors VISA and Mastercard, the Unified Payments Interface (UPI) developed in India, and the dominant international financial messaging system in the world: SWIFT (Society for Worldwide Interbank Financial Telecommunications). I then assess the extent to which the internationalization of the digital

yuan will lead to increased demand for Chinese goods and services, as well as create job opportunities for Chinese citizens.

Table 3: Cost-benefit comparison of the international payment system under full implementation of the digital yuan and current international payment system.

	MasterCard	VISA	UPI	SWIFT	Digital Yuan
Used by consumers	X	X	X		X
Used by institutions				X	X
High Volume of Transactions	X	X	X		X
No Currency Conversion Fees			X		X
Internationally Used	X	X		X	X
Strict Privacy Controls				X	
No Transaction Fees			X		X
Instantaneous Transactions	X	X	X		X

Sources: Best 2022; Elad 2023; Corporate Finance Institute 2023; Mastercard 2023.
A comparison of the digital yuan with other international payment networks and processors. Overall, the digital yuan strikes a balance between versatility and efficiency, with privacy concerns being its major disadvantage.

International Transaction Costs

While China is a top trading partner in the world, its currency only constitutes roughly 2% of the world’s reserve currency (IMF 2022). However, China’s digital yuan enables China to modestly challenge the hegemony of the U.S. dollar through its reduced transaction costs and instantaneous transaction speed (Aredddy 2021). To take credit card transactions as an example, the current transaction fee for a cross-border credit card transaction ranges from 3% to 7%. With digital yuan, that cost is reduced to 0% (Kiogi 2022). Whether the digital yuan will achieve lower international transaction costs through subsidies by the government or by the efficiency of its implementation is currently unclear, but the lower fees will nonetheless galvanize adoption in the short term. The elimination of this transaction fee would incentivize other countries to engage in more trade with China, and thus bolster the Chinese economy.

Secondly, international payments typically require 1 to 4 business days for processing, while digital yuan transactions are relatively instantaneous. The speed of digital yuan would lead to an increased liquidity for yuan users due to virtually eliminating settlement time in international transactions (Kagan 2022). These key advantages of the international payment system under full implementation of the digital yuan will help Chinese businesses more easily expand beyond the domestic market. The improved convenience of the digital yuan ultimately increases demand

for Chinese goods and services, creating more job opportunities for Chinese citizens. Thus, while other logistical challenges including shipping costs, custom barriers, and trade barriers remain, the decrease of friction in international transactions enhances China's strategy to strengthen its domestic economy and the economic livelihoods of its citizens.

One clear path to internationalization of the yuan is the Belt and Road Initiative (BRI), China's initiative to promote economic development through the building of infrastructure in Asia, Europe, and Africa. If other states were to adopt the digital yuan as the primary means of international commerce, especially with regards to BRI, China could reinforce a separate international financial network, independent of Society for Worldwide Interbank Financial Telecommunications (SWIFT) that processes more than 80% of international transactions worldwide (Raymaekers 2019). As illustrated in Table 3, the weaknesses of the current international payment system under SWIFT are the exclusion of consumers, currency conversion fees, transaction fees, and no instantaneous transactions. On the other hand, the international payment system under full implementation of the digital yuan addresses each of these weaknesses: it is used by consumers, supports a high volume of transactions, incurs no currency conversion fees, incurs no transaction fees, and has instantaneous transaction speed.

The improved convenience of the Chinese yuan makes it an appealing option to Chinese privately-owned and government-owned international businesses for their cross-border transactions. Furthermore, as the yuan becomes gradually more internationalized, the demand for yuan as a reserve currency would increase, making the yuan a more enticing currency option for countries to hold and use in international transactions and investments. Consequently, this would incentivize more countries to form swap lines with China to strengthen their own economic stability. For example, as of 2021, China established a 350 billion yuan swap line with the UK that enabled it to trade pounds for Chinese yuan (Reuters, 2021), proving the yuan is a viable alternative currency for other countries. Overall, increased usage of the digital yuan would strengthen the yuan's reputation as an international currency and China's credibility as an economic partner, which would boost the overall economic welfare of Chinese citizens. Assuming the gradual relaxation of China's capital controls, the internationalization of the Chinese yuan will provide a way for China and the international community to diversify its options for cross-border transactions. The dual benefit of internationalization is that China's economy and reputation will be strengthened while Chinese citizens are simultaneously protected from the risks of relying too heavily on a U.S.-dominated financial system.

Digital Yuan in Africa

Not only would the digital yuan increase China's influence on the broad international stage, but it would also promote China's soft power within specific regions. For example, there is ample evidence that China has turned its attention toward gaining influence in Africa: Chinese investors have heavily invested in

Africa's mobile finance sector through platforms like Alipay and digital payment companies founded in Africa; in 2020, approximately 50% of all smartphones in Africa were made in China (Tremann et al. 2021). China's broad reach in Africa's cell-phone market can be attributed to its success in tailoring its products and infrastructure to African consumers, including camera improvements for portraying darker skin (ibid.). In 2020, Huawei launched the Mate 40, a smartphone with a pre-installed digital yuan wallet that utilizes China's digital yuan network. While it is improbable that the Mate 40 would attain popularity in Africa due to both its expensive cost (\$1700 USD) and the lack of access to Google apps (Olander 2020), the launch of this phone marks an important milestone in China's efforts to establish the digital yuan abroad. China's significant public investment in Africa and influence over Africa's smartphone industry places it in a favorable position to implement the digital yuan in Africa when the opportune moment arises.

The digital yuan also opens the opportunity for China to further promote its presence in Africa by reducing the high costs of sending and receiving remittances. If other countries see the success of digital yuan in Africa, they would be more enticed to adopt digital yuan. Overall, the gradual internationalization of the digital yuan would strengthen Chinese currency relative to other currencies, leading to cheaper imports and the ability to dedicate the Chinese workforce to more advanced product development. Internationalization has already enabled China's economy to shift away from basic manual labor towards the design and creation of world-class products, as demonstrated by top companies like Huawei and China's impressive strides in military technology. Thus, internationalization of the yuan through the digital yuan would further increase the value of the jobs of the Chinese people.

The employment of digital yuan in cross-border transactions would benefit Chinese businesses and individuals by improving the speed and efficiency of international trade payments. This theoretical chain of events follows a similar path to events that occurred in Singapore, which embraced low tariffs, promoted free trade, and reduced capital restrictions to become one of the most internationally embraced economies in the world (Zarrolì 2015). Although this future for China is far from certain, it is clear that achieving even a portion of this hypothetical scenario would be a significant win for Chinese citizens and businesses in foreign markets. However, the caveat is that the internationalization of the Chinese yuan would enable the Chinese government to have greater control and monitoring over capital flows, limiting Chinese citizens' ability to move their money abroad.

Financial Inclusion

One of the touted benefits of the digital yuan is increased financial inclusion for China's citizens. Financial inclusion refers to the overall accessibility to financial services and products given to individuals and businesses, especially those who have been historically marginalized from the financial system like the elderly and rural populations. Financial inclusion is measured by the percentage of people who have access to financial services (like saving accounts) that empower them to build assets,

manage finances, and improve their financial welfare. Overall, the full implementation of China's digital yuan would increase financial inclusion of Chinese citizens who have previously been excluded from the financial system, especially rural and elderly citizens.

Rural Citizens That Lack Internet Coverage

Of the 37% of China's population that lives in rural areas, many still do not have access to smartphones or a reliable internet connection (World Bank 2021). The digital yuan offers a way for those without smartphones, an internet connection, or battery power in their smartphones to pay using near field communication (NFC), a technology that utilizes radio frequencies to communicate wirelessly over short distances. While such transactions will be limited in amount and frequency, the ability to pay offline is an advantage for the significant portion of the population that lives in less developed rural areas and lacks internet coverage (ibid.).

In 2022, China's smartphone penetration rate reached 72% and is predicted to reach 82.8% by 2027 (Slota 2023b). Despite the rapid and broad reach of smartphones among China's population, these statistics indicate that there were still roughly 398 million people (28% of China's 2022 population) in 2022 that did not have access to a smartphone, and roughly 242 million people (17.2% of China's projected 2027 population) that will not have access to smartphones in 2027 (ibid.). To address this disparity, the PBoC has developed a payment device to make the digital yuan accessible to those who do not have mobile phones: the hardware wallet. Resembling a credit card or debit card in appearance, the digital yuan hardware wallet allows users to make digital yuan payments without access to a phone or internet service (Le and Ge 2021). Utilizing NFC technology, the hardware wallet can store digital yuan and enables the user to spend the digital yuan near point-of-sale terminals (ibid.). In the first trial for the digital yuan hardware wallet conducted at Tongren Hospital in Shanghai, one hardware wallet user remarks, "It's the first time to spend with digital renminbi, and it feels very convenient, and I can see the balance, so I feel at ease" (ibid.). The inclusion of China's rural population in the digital yuan system through the variety of empowering devices would contribute to building a more unified domestic economy in China. The digital yuan would not only bring increased convenience for individual rural consumers, but it would also be a stepping stone for strengthening the economy in rural China as a whole.

Elderly Citizens

Even if the capital for implementing digital yuan is provided, the transition to digital yuan will likely be difficult for certain groups within China, especially the elderly. The South China Morning Post reports that the current trend towards a cashless economy is already causing "tens of millions of older people" to be left behind, with "state media repeatedly reporting on the nightmarish experiences they face because of their difficulties navigating a smartphone" (Wang 2020). In addition, one must consider how changes over time to the digital yuan system or interface, especially if frequent, could cause confusion among the populace in general. For example,

if the constraints discussed under the transaction costs section are implemented and change frequently, it may be a source of surprise and complexity for some Chinese citizens who adopt the digital yuan system.

One population sector that is vital to consider is China's rapidly aging society that reached 264 million people (18.7% of China's population) in 2021 and is predicted to reach 38.8% by 2050 (Slotta 2022). As of December 2019, individuals above 45 years old made up 15% of smartphone users in China (Slotta 2022). The elderly Chinese population currently face a 'digital divide' as there are several inconveniences they face when using a smartphone including reading small text, typing, eye-hand coordination, and understanding complex user interfaces. To promote implementation of the digital yuan, China has focused on catering to the needs of elderly citizens.

Alongside hardware wallets, the PBoC and tech companies like Antgroup, Tencent, and Huawei are in the process of creating wearable devices like bracelets, wristbands, and smartwatches that would also incorporate the digital yuan wallet to provide additional accessibility (Bloomberg 2021b). These devices with a built-in digital yuan chip enable the immediate transfer of currency from an e-wallet without any internet connection (Shenzhen Daily 2021). To empower the elderly citizens who do not have access to a smartphone or have trouble using the digital yuan interface, the PBoC developed a walking stick with an embedded digital yuan chip that allows near-field communication (NFC) transactions without internet connection (Bloomberg 2021a). These innovations can help mitigate the difficulty of using digital yuan, but still present a learning curve to the elderly, especially those without mobile phones.

Disadvantages of the Digital Yuan

In this section, I will illustrate how the digital yuan may infringe on the privacy of consumers despite the CCP's promise to uphold individual consumer privacy. While the CCP's access to data has historically enabled it to promote social welfare in the country, including lifting hundreds of millions of people out of poverty, its access to digital yuan transaction data raises substantial consumer privacy concerns from Chinese citizens.

Centralization of Transaction Data

The transition to digital yuan entails increased centralization of transaction data, which refers to the Chinese government and CCP's ability to access monetary transaction data at both the national and individual levels. Centralization of transaction data is measured by the percentage of access the government has to all the monetary transactions that occur in China. The increase of transaction data enables the CCP to enhance current social surveillance systems including SkyNet and the Social Credit System with the added dimension of financial transaction data. On the one hand, the CCP can leverage its unprecedented access to consumer data to implement and improve effective social policies, including policies that have lifted

more than 800 million Chinese people out of poverty. On the other hand, this data access demonstrates how the digital yuan would further erode consumer privacy. Through analyzing consolidation of the government, social welfare programs, and the CCP's response to COVID-19, I examine the extent to which data can enhance the effectiveness of government and promote social welfare.

Consolidation of the Government

Currently, 96% of China's domestic electronic monetary transactions are controlled by payment providers in the private sector (Tudor-Ackroyd 2020). While China's government can already exert control over domestic electronic monetary transactions through WeChat Pay, Alipay and other payment platforms, it must partner with the private technology companies to do so. Thus, China's government has long viewed the monopoly of private technology companies over financial transactions as a potential point of weakness in China's financial system. For China's government, the digital yuan marks a transition toward direct control over transaction data, which would allow the government to monitor economic activity across the nation in real-time (Murray 2020).

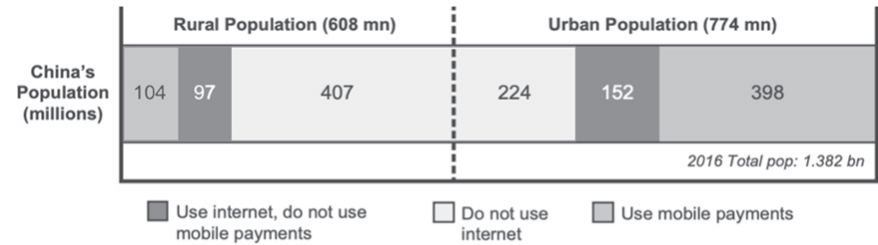
As the digital yuan fully replaces physical cash and coins, nearly every monetary transaction in China will be visible to the government. This will be a benefit to the government in upholding its authoritarian structure but may be perceived by Chinese citizens as an infringement of privacy. With the digital yuan's increased granularity and breadth of China's access to people's financial behaviors, China would become the first country to have real-time information about nearly all economic activity. For example, with digital yuan data, the CCP can track illegal behavior and use this method to identify and prevent illegal activities like criminal activities, terrorism, and gambling. The CCP's access to digital yuan data is essentially a means to reduce crime, guaranteeing greater protection and safety for the Chinese people. However, whether participating in illicit activities or not, many Chinese citizens have concerns about the lack of privacy with regards to their transaction data. Those especially concerned about their privacy may be forced into using alternative currencies like commodities or other gifts to avoid surveillance.

There exists a larger debate about whether the consolidation of the Chinese government is beneficial for the Chinese people, but in the context of the digital yuan, the debate lies in the control of financial data. Since there are no checks and balances on the power of the CCP due to China's authoritarian government structure, many fear that China will not keep its promise to uphold consumer privacy regarding the digital yuan. Historically, the CCP ideology has been that control is good for the people and keeps China united (Maizland 2022a). There are past examples of China's willingness to break promises in exchange for greater control. For example, China promised to allow Hong Kong fifty years of autonomy under the 'one country, two systems' agreement (ibid.). Despite this promise, Beijing enacted a law in 2020 that effectively bestowed power upon itself to control Hong Kong through silencing and punishing any who oppose or dissent against the CCP (ibid.). The digital yuan is yet

another way for the CCP to gain more control over its people by consolidating power through digital yuan transaction data.

Social Welfare Programs

Figure 3: Rural-Urban Internet and Mobile Payments Penetration (2016)



Note: estimates of mobile payments users comes from 2016 year-end estimate of total mobile payment users and 2015 year-end percentages of online payment users in rural areas *Source: CNNIC*

Source: CGAP 2017

The digital yuan would also allow more effective and better targeted social welfare programs. Today, those programs are dependent on scores of cadres who report on the conditions of their local areas of jurisdiction. Manual inspection through cadres is the only way to reach remote areas of China due to the lack of digital penetration as shown in Figure 3. This graph shows that in 2016, roughly 504 million people (83%) of China’s rural population did not use mobile payments (CGAP 2017). Thus, as of 2016, more than a third of China’s population lived in a rural area and did not use mobile payments. Although digital penetration has increased in rural areas since 2016, there remains a sizable segment of the rural population for which the Chinese government does not have systematic electronic transaction data. In contrast, the CCP has access to the transaction data of any individual who uses digital payments through platforms like WeChat and Alipay.

Assuming that the digital yuan became accessible to rural citizens in China, they would be able to utilize the digital yuan in everyday purchases. Moving toward an entirely cashless economy would enable the CCP to better understand and address the needs of populations that the CCP typically has no information about. Consequently, increased access to their transaction data can promote the social welfare of the rural population. When digital yuan is implemented across the nation, those reports could be autonomously collected to provide highly precise reports that update on a weekly or daily basis. Budgets for food stamp equivalents, government sponsored housing and healthcare could be checked against transaction data from the local areas to evaluate their respective programs’ efficiency. Furthermore, China's poverty elimination programs would be able to track their progress on an individual

level, empowering China's government to help the citizens who need it most based on relevant data. Implementation of the digital yuan would increase the quality and efficiency of China's social welfare programs, and thus the overall economic well-being of its citizens.

However, the granularity with which the CCP can access transaction data creates significant privacy concerns. Most people in the world live under a government that watches for illegal activities; for example, the U.S. has antiterrorism laws that allow it to track international phone calls and monitor illegal activities. In contrast, the CCP's access to transaction data would allow it to not only track illegal activity like prostitution and drug exchange, but also mundane purchases such as buying a cup of coffee.

The CCP's access to digital yuan transaction data does not only hurt those that engage in illegal behavior, it also hurts those who engage in unpopular behavior. For example, the CCP may be able to reference transactions such as citizens purchasing antidepressants to deny them a job or lower their credit score. In particular, those on the margins of society, such as powerless ethnic and religious minorities, are the most threatened by this extra layer of surveillance. For example, a Ughyur who wants to send digital yuan back to Xinjiang could be subject to surveillance by the CCP and may undergo the risk of their transaction being interpreted as terrorism support. Digital yuan transaction data would also make it difficult for individuals to contribute to what they may believe to be good causes if the government disagrees. For example, CCP access to transaction data can impinge on transactions that benefit organizations that are unpopular among the CCP, like human rights organizations, legal services for refugees, and religious donations. Ultimately, an in-depth discussion of consumer privacy in China is beyond the scope of this paper, but it is clear that providing granular transaction data to the CCP would strengthen its grip over Chinese citizens and reduce consumer privacy.

COVID-19 Case-Study

One case study that demonstrates how access to the digital yuan financial transaction data may increase social welfare is the CCP's response to COVID-19 outbreak. The CCP's advanced COVID-19 data tracking system allowed the government to better achieve its goals of containing the virus through close monitoring of health status, travel history, and exposure risk of its citizens. As of March 2023, the U.S. had 1.1 million deaths due to COVID-19 (World Health Organization 2023a), whereas China had about 120,227 deaths (World Health Organization 2023b). These statistics demonstrate that in comparison to the U.S., China has attained a purportedly remarkable record in protecting the public health of its people. The key to China's ability to tamp down the spread of the virus was extensive tracking information. Just as this information led to policy outcomes that helped prevent the spread of disease, information about citizens' spending could help the government implement more effective programs that address social issues like poverty and corruption.

However, as illustrated by the backlash of Chinese citizens in response to COVID-19 policies, the COVID-19 case study also demonstrates how increased access

to financial information may lead to poor outcomes. Citizens felt trapped in their homes and sometimes ran short on food. Since relatively few Chinese citizens were sick with COVID, there remains little herd immunity in China and only marginally effective vaccines. Furthermore, there was a shortage of hospital beds during extreme outbreaks of the virus. Intense COVID-19 data tracking also hindered the privacy of the Chinese people and decreased their trust in the CCP. COVID-19 data allowed the government to impose strict lock-down regulations in various regions of China. In response, protests swept across China and hundreds chanted “Step down, Xi Jinping” and “Step down, Communist Party” (Gan 2022). The government's response to COVID-19 demonstrates that allowing the CCP to monitor digital yuan transaction data may lead to similar privacy violations and abuses of power.

Another potential concern in the government's response was data manipulation. For example, there have been several complaints among Chinese citizens that, after purchasing over-the-counter cold remedies, their COVID-19 health code had suddenly switched from green status to amber status despite no confirmed illness (Chingman and Qiao Long 2022). A former contact tracing official explained, “Within five minutes of you buying that medicine, your local neighborhood committee will know, regardless of whether you bought it online or in a street store” (ibid.). Like COVID-19 data, digital yuan data would provide detailed tracking over every purchase. One current affairs commentator, Wang Zheng, stated that China's government has already combined their Skynet video surveillance system with other data sources to “track the population's movements, contacts and transactions across the country” (ibid.). Citizens are already mulling over the implications; one citizen stated, “they are putting digital handcuffs on us,” (Tham, 2022). Similar to citizens' protests against the CCP's response to COVID-19 data, there could also be protests in response to the CCP's response to financial data from the digital yuan, especially if the government cracks down on certain behaviors it discovers through tracking data. Manipulation of digital yuan transaction data is also a possibility given the precedent of the manipulation of COVID-19 health codes. Thus, the digital yuan would add greater strength to the “digital handcuffs” already in place for its Chinese citizens.

Evaluation

Based on my analysis of the full implementation of digital yuan, I find that the digital yuan is ultimately an advantage for the Chinese people. It has several key benefits, such as the elimination of transaction fees and the increased convenience of improved facial recognition and third-party innovations. In addition, the digital yuan presents a major benefit in terms of its opportunity to increase China's international monetary presence (conditional on China relaxing its capital controls) through low international transaction costs and significantly faster transaction speeds. Internationalization of the digital yuan may promote Chinese business abroad and the strength of the Chinese currency, which would benefit the Chinese people economically. Finally, the digital yuan benefits the Chinese people through

unprecedented financial inclusion. Even those without traditional bank accounts will be able to access digital yuan through their mobile phone numbers, and rural populations can take advantage of digital yuan features such as offline payments. Government officials have worked hand in hand with the People's Bank of China to develop solutions that ease the transition to digital yuan for the elderly, such as walking sticks and wearable devices that support transacting with the digital yuan.

To understand how the costs of the digital yuan compare to its benefits, it is important to evaluate the quantity of new information China is getting from the transaction data of the digital yuan and whether it substantially changes the ability of China to monitor and punish citizen behavior. Many Chinese citizens are concerned that the centralization of transaction data and integration with existing social surveillance systems will allow the government to constrain their behavior or use their data to find cause to arrest them. However, even without the digital yuan's transaction data, these existing systems are already capable of extensive monitoring. For example, through the Social Credit System and the Skynet Video Surveillance, the CCP can track the behavior of any human rights lawyer through social media, video surveillance, and facial recognition (Donnelly 2023). In fact, the CCP already exercises ubiquitous surveillance over the Xinjiang region: thousands of so-called 'suspicious' individuals are flagged for placement in detention centers through advanced facial-recognition cameras and artificial intelligence algorithms (Maizland 2022b). In addition, the CCP is also capable of conducting genetic surveillance through its extensive DNA database of Xinjiang citizens' biometric data (Wee 2019). Given the breadth of the CCP's existing surveillance capabilities, it is clear that it already possesses the means to enact punishments or outcomes according to its agenda without the financial data provided through digital yuan usage. Therefore, the collection of digital yuan transaction data as an additional layer of surveillance will not make a substantial difference in the CCP's ability to monitor and punish citizens' behavior in the long run. Overall, the benefits of reduced transaction costs, internationalization of the yuan, and increased financial inclusion outweigh the costs of centralizing digital yuan transaction data.

Conclusion

The digital yuan presents a significant opportunity for China to become the world leader in modern payment technology, and China's citizens stand to benefit. As the rollout continues, the world will observe how companies and individuals utilize the new currency and what new innovations are developed as a result. On one hand, the digital yuan provides a more efficient and cost-effective way to make payments. The potential benefits of the digital yuan extend beyond China's borders as well. Countries in Africa, for example, may benefit from reduced remittance fees that encourage adoption of the digital yuan and promote Chinese business abroad. On the other hand, its adoption will be a major step for the government in solidifying its grip over China's financial sector and the personal information of Chinese citizens.

Realists fear that China's government will use the data to empower their surveillance systems and ability to micromanage the daily lives of Chinese citizens. However, the increase in the CCP's ability to monitor and punish citizens' behavior is relatively marginal given the effective surveillance systems it already has in place. At this point in time, the full implementation of the digital yuan seems like an overall advantage for the Chinese people, but it will be necessary to continue reevaluating the effect of centralizing transaction data in the hands of the CCP as the digital yuan increases in adoption. Ultimately, it is China's hope that the digital yuan will benefit its citizens and gain the respect of the international community.

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The United Kingdom and Brexit: A Case Study in Affective Polarization

Tannah Carter

Introduction

Political polarization has become an increasingly hot topic in recent years as countries around the world have seen a greater divide in their national politics. In general, polarization refers to the process whereby people become increasingly sorted into separate camps that hold distinct and opposing identities and interests (McCoy, Rahman, and Somer 2018). However, this divide is not limited to ideology: countries have also seen an increase in affective polarization. Affective polarization occurs when individuals move beyond simple policy disagreements into seeing themselves as belonging to an “in-group” while those who oppose them belong to the “out-group” (Iyengar, Sood, and Lelkes 2012). This group mentality leads to increasingly positive feelings toward one’s own group, and increasingly negative feelings toward the opposing group (Iyengar, Sood, and Lelkes 2012). In simple terms, affective polarization can be measured as the difference between how much an individual prefers their own group and how much they dislike the other group (Gidron, Adams, and Horne 2020).

Researchers have previously done substantial analysis on affective polarization in the United States as it has often been seen as a hotbed for strong political divides. While polarization is evident in the United States, affective polarization is not exclusively American (Pew Research Center 2014). In fact, the United States is not excessively polarized compared to other Western states (Gidron, Adams, and Horne 2020). Polarization levels in the United States among the electorate are less than levels found in Greece, Portugal, and Spain and are similar to the levels found in Australia, Britain, France, and New Zealand (2020). Therefore, analyzing polarization in any of these

countries can provide a valuable contribution to existing scholarly literature on the causes of affective polarization.

Analyzing the circumstances surrounding “Brexit” in the United Kingdom can provide a compelling perspective on the causes of affective polarization. In June 2016, the United Kingdom held a referendum to decide whether the country would leave or remain in the European Union. The issue became so polarized that two years after the referendum, 42% of British citizens still agreed that “when people criticize the Remain/Leave side, it feels like a personal insult” (Evans and Schaffner 2019, 19).

This paper will examine three theories to determine which best explains the increase in affective polarization during the Brexit debate: social identity theory, ideological polarization, and elite behavior. This analysis will show that ideological polarization, not partisan social identity, was the driving force behind the United Kingdom’s affective response to leaving the European Union because the Labour and Conservative parties failed to consolidate their positions to one side of the debate. Process tracing will also reveal how the level of ideological polarization was enhanced by elite behavior in negative media campaigning. Uncovering the causal mechanisms behind Brexit’s polarization can assist policymakers as they work to implement possible preventative measures to minimize polarization.

Process tracing is an appropriate method to use in a case study testing polarization theories. Process tracing is a qualitative approach that answers research questions and hypotheses by focusing on examining evidence from the unfolding of a situation over time (Collier 2011). In the case found in the United Kingdom, process tracing is useful because Brexit had a clear timeline, there is an abundance of research and survey evidence to draw from, and there was an evident rise in affective polarization. This paper will proceed through process tracing by first outlining some of the key facts in the Brexit debate. It will then systematically explore each theory of polarization and the corresponding evidence from Brexit that supports or contradicts the theory. The paper will end by looking at the aftermath of the Brexit vote and drawing implications for the broader scholarly debate on the causes of affective polarization.

Background

Examining the circumstances surrounding the Brexit debate helps illustrate how affective polarization rose during the campaign. As early as 2013, Prime Minister David Cameron promised to hold a referendum on the United Kingdom’s membership in the European Union as part of the Conservative Party’s campaign manifesto (Higgins 2013). This promise was primarily made to cater to right-wing voters who might otherwise side with the United Kingdom Independent Party in the upcoming 2015 general election (Higgins 2013). When David Cameron proposed holding a referendum, he and other Conservative Leaders thought that a vote to remain would easily win (Erlanger 2016). However, a volatile campaign ensued that defied expectations and resulted in a 52% majority vote to leave the European Union and a 48% vote to stay (Erlanger 2016).

Interestingly, the United Kingdom's support for membership in the European Union had been consistently low prior to the 2016 referendum. Just two years after joining the then-called European Economic Community in 1975, the United Kingdom held a referendum over whether they should leave the organization but ultimately decided to stay (Walsh 2016). In 2009 and 2012, the United Kingdom had the lowest support for membership in the European Union: only respectively 31% and 30% of UK citizens stated that they thought membership was a good idea (Global Attitudes Project 2012). Comparatively, 65% percent of Germans and 48% of French citizens agreed with the statement. Even in terms of simply having a favorable impression of the European Union, Britain had a consistent downward trend from 2007–2012, bottoming out at a 45% favorability rating.

This general dislike of the European Union sharpened into an emotion-driven political divide in 2016. An examination of the discourse surrounding Brexit found that people on both sides of the Leave-Remain debate would frequently define their "in-group" by highlighting the differences between them and the "out-group" (Meislova 2021). This process included debasing and even demonizing the other side. James Bartholomew, a British journalist who favored the Leave campaign, wrote the following about his experience in 2016:

One Remain poster suggested that to be for Remain was to be "kind," "open," "inclusive" and "tolerant" which, of course, implies the opposite about Leave. Yet some of the Remainers I met while out campaigning were anything but tolerant. After feeling their contempt a number of times, I got to the point of thinking: "Oh God! I hope we don't have to knock on any more doors of the bloody haute bourgeoisie!"

This type of out-group characterization resulted in a very real consequence: hate crimes against minorities and Eastern Europeans in Britain increased by 42% during the two weeks surrounding the vote (Dodd 2016). Regardless of whether this surge was caused by more people reporting or an actual increase in crime, both responses show a high level of affective polarization in the immediate vicinity of the Brexit vote.

Partisan Polarization

The first potential cause of the rise in affective polarization during the Brexit campaign is partisan identity. When examining the United States, researchers found that the perception of an increase in ideological polarization was actually not due to the public gaining more extreme beliefs (Fiorina, Abrams, and Pope 2011). This polarization was instead caused by Democrats and Republicans following their respective party's policy positions more consistently. Polarization, therefore, is not caused by policies but by parties (Reiljan 2020).

The causal mechanism underlying a partisan-based approach to affective polarization is social identity theory. Social identity theory analyzes individuals' instinctive tendency to promote group interest at the expense of their opponents (Mason

2018). Foundational studies of this theory found that even without an individual reward-based incentive, research participants consistently discriminated against a perceived outgroup in order to achieve the maximum positive net difference for their group (Tajfel et al. 1971; Tajfel and Turner 1979).

Political parties can provide the type of group-based identity needed for affective polarization. For example, Hernandez, Anduiza, and Rico found that an upcoming election increased the level of polarization because it activated strong partisan identities (2021). Although political parties simplify the voting process for citizens and encourage participation, they can also transform politics into a competition of “us vs. them” (Mason 2018). This process is especially dangerous when other identities like race, religion, and cultural identifications become sorted clearly along party lines (Mason 2018). Under social identity theory, individuals do not identify with their political party solely based on ideological preferences (Iyengar, Sood, and Lelkes 2012). Instead, individuals have an innate desire to belong to a group and see that group succeed. Once an individual adopts a party identification, they are implicitly pitted against the opposing group.

In the case of Brexit, a lack of party unity indicates that partisan identity was not the cause of affective polarization. It is true that party affiliation can be used as a predictor for an individual's vote in the referendum. Six in ten Conservatives voted to leave the European Union while seven in ten Liberal Democrats and about half of the Labour supporters voted to remain (Schumacher 2019). However, internal divisions within the parties show that party loyalty could not have substantially impacted the Brexit debate. In 2016, none of the major political parties (except for UKIP, which was founded on the policy of leaving the European Union) declared a unified party consensus on whether the United Kingdom should leave or remain (Edwards 2016; Mason 2016).

Both Conservative Party elites and general party members were split over the issue of Brexit. Party leaders were almost evenly divided, with 56% of Conservative MPs favoring Remain and 44% favoring Leave (Edwards 2016). The Conservative Prime Minister, David Cameron, campaigned to stay in the European Union and frequently butted heads with primary Leave campaigners like Conservative Boris Johnson and UKIP's leader Nigel Farage (Asthana and Mason 2016). A poll conducted by NBC News the week before the referendum vote found that the majority of Conservatives were likely to side with Leave, with a margin of 59% for Leave and 38% for Remain, despite their own party leader's efforts to campaign for Remain (Cohen and Lapinski 2016).

Although the Labour Party was less divided ideologically than the Conservative Party, they were still unable to present a united front. In September 2015, Jeremy Corbyn, the leader of the Labour Party, declared that his party would campaign for the country to stay in the European Union (Wintour 2015). However, this declaration was followed by a rather lackluster effort. In May of 2016, just one month before the vote, a leaked memo from the official Remain campaign showed that “only about half of Labour voters have realized their party is in favor of staying in the European Union,

with the rest thinking it is split or believing it is a party of Brexit” (Mason 2016). The perception that Corbyn had not tried hard enough during the campaign and frustration over the result led the Labour Party MPs to hold a vote of no confidence in the aftermath of the referendum where over three-quarters of the MPs voted to remove Corbyn as the head of the Labour Party (Asthana, Syal, and Elgot 2016).

In contrast to the two major parties’ disjointed approach to the referendum, Brexit-based identities quickly became a polarizing force. An analysis of survey data conducted from 2016–2019 found that people were more likely to identify with either Leave or Remain than with a political party and that positive or negative perceptions about Leavers and Remainers were not driven by party identity but by Brexit identity (Hobolt, Leeper and Tilley 2021). Furthermore, having cross-cutting cleavages, or attitudes and identities that are not typically found within one’s political party, can mitigate the effects of partisanship (Mason 2018). In Brexit, dislike towards the Leave or Remain side cut across traditional partisan boundaries (Meislova 2021). Whether it was because of internal division among party leadership or mediocre campaign messaging, the referendum was not heavily influenced by political parties (British Social Attitudes 2017). Partisanship was not the cause of affective polarization in Brexit.

Ideological Division over Cultural Issues

Instead of partisan polarization, the Brexit debate was defined by ideological differences. Ideological polarization occurs when groups’ policy preferences move consistently farther to the left and right (Webster and Abramowitz 2017). Researchers have found that citizens feel more strongly toward candidates who support less centrist policies (Rogowski and Sutherland 2016). These enhanced emotions are caused by the perception of increased stakes in an ideologically diverged campaign (Rogowski and Sutherland 2016; Webster and Abramowitz 2017). Elite politicians’ positions are not the only thing that affects polarization; individuals who hold more extreme policy positions themselves are more affectively polarized (Reiljan 2020).

In the case of Brexit, the ideological divide was tied to specific cultural issues. Cultural issues are more likely to generate intense polarization than economic issues because they often intertwine with deeply held identities (Gidron, Adams, and Horne 2022). A survey conducted on the day of the referendum found that 82% of Leave voters attributed the most influential motivator for their vote as either “the principle that decisions about the UK should be taken in the UK” or that leaving “offered the best chance for the UK to regain control over immigration and its own borders” (Ashcroft 2016). This survey illustrates how cultural issues concerning state identity and immigration were the primary driving force behind Leave voters. This analysis is supported by a pre-election report that found that individuals who felt strongly about British identity being eroded by the UK’s membership in the European Union were more likely to want to withdraw from the union (Curtice 2016).

Concerns about immigration that had been building in the United Kingdom for many years were exposed during the referendum campaign. In the town of Boston,

the number of foreign-born residents increased by six times from 2001–2011 and continued to grow from 2011–2016 (Freytas-Tamura 2016). The rapid increase in immigration strained the availability of housing, schools, hospitals, and jobs (Freytas-Tamura 2016). The official Leave campaign adopted these cultural issues as their primary concern with their slogan “take control” (Erlanger 2016). The slogan signaled to voters that the migration of people from Europe could only be subdued by leaving the European Union (Erlanger 2016). Just three weeks before the referendum, a controversial House of Commons committee report blamed the UK’s membership in the European Union for the government’s failure to deport 13,000 foreign criminals (Travis 2016). In a study conducted after Brexit, participants were asked to rank a list of a dozen social and political concerns (Curtice 2017). The only issues significantly correlated with an individual’s vote in the referendum were related to cultural outlook and national identity (Curtice 2017).

The polarization of these issues was likely compounded by the presence of alt-right campaigners in the weeks leading up to the vote. Right-wing ideology has been found to be especially potent in creating affective polarization. Past studies have found that radical right parties are more intensely disliked by mainstream society than would be predicted based on their policy positions (Gidron, Adams, and Horne 2022). Alt-right rhetoric can inflame people on both sides of the political aisle because it often singles out scapegoats to blame for “the people’s” troubles (Gidron, Adams, and Horne 2022). This affective response to alt-right ideology has continued despite the normalization in recent years of radical parties’ presence in mainstream politics and coalition governments (Gidron, Adams, and Horne 2022). In early June 2016, the Daily Mail found that Brexit’s official Leave campaign had been infiltrated by dozens of alt-right extremists who had attached themselves to the movement (Walters, Owen, and Cahalan 2016). In response to the report, the Leave campaign stated that there was little they could do to stop extremists from buying and distributing Leave merchandise (Walters, Owen, and Cahalan 2016). Several MPs from both the Conservative and the Labour parties spoke out against the Leave campaign’s indifferent response to the presence of alt-right activists (Walters, Owen, and Cahalan 2016).

Only a week before the referendum vote, tensions between the alt-right movement and Remain supporters peaked with the brutal murder of Labour MP Jo Cox. Cox was a passionate supporter of immigration and had been campaigning for the United Kingdom to remain in the European Union (Cobain, Parveen, and Taylor 2016). On June 16th, Cox was walking to a meeting with her constituents when she was attacked by Thomas Mair. She was shot twice in the head, once in the chest, and stabbed 15 times. According to eyewitnesses, while Mair was attacking Cox he yelled, “Britain first, keep Britain independent, Britain will always come first” (Cobain, Parveen, and Taylor 2016). In the immediate aftermath of her death, both Remain and Leave campaigns suspended campaigning efforts, and most political organizations abstained from conducting surveys (Castle and Bock 2016). Politicians from both sides of the aisle spoke out about uniting against hatred and called for kinder politics (Erlanger 2016). Jo Cox’s death may have changed the political tone of the debate in

the final week before the referendum vote. However, her death also symbolizes the horrifying consequences that can come from affective polarization and illustrates the extreme divide between Leave and Remain voters.

Elite Behavior and Negative Political Campaigns

The ideological polarization found in the Brexit referendum was likely compounded by elite politicians' behavior and the presence of negative media campaigning. Some of the first research on affective polarization found that exposure to political campaigns and negative advertising strengthens partisan affect (Iyengar, Sood, and Lelkes 2012). A cross-country study found that elite polarization is significantly correlated with trends in affective polarization (Boxell, Gentzkow, and Shapiro 2021). More specifically, in recent years elite disagreement on cultural issues such as immigration or national identity has started to drive affective polarization more than disagreement over economic issues (Gidron, Adams, and Horne 2022).

The media coverage in the United Kingdom is highly polarized over ideological issues. A study conducted about the portrayal of the refugee and migrant crisis from 2014–2015 found that of the five European Union countries studied, the United Kingdom's media coverage was the most negative, the most polarized, and was "uniquely aggressively in its campaigns against refugees and migrants" (Berry, Garcia-Blanco, and Moore 2015). During the referendum campaign, two of the UK's primary newspapers, the Guardian and Daily Mail, had an ideologically polarized approach to the debate. The Guardian was primarily pro-Remain and the Daily Mail was strongly pro-Leave (Spiers 2019).

Elite rhetoric from both the Remain and Leave campaigns further inflamed the debate. Politicians from the Remain side were often accused of "scaremongering" when they cited reports from economists and the IMF about the negative economic consequences that would come from leaving the European Union (BBC 2016). Michael Gove, a Conservative MP who campaigned for Leave, stated that Prime Minister David Cameron and other Remain campaigners were guilty of "a depressing litany of projections about world war three and global Brexit recession" (Asthana and Mason 2016). Leave campaigners like Nigel Farage also spread negative messaging and misinformation. One of the most controversial choices in advertising associated with the Leave campaign was a poster of a crowd of Syrian refugees with the words "Breaking point: the EU has failed us all" (Stewart and Mason 2016). By portraying mostly non-white people in the poster, the Leave campaign played on fears that Turkey would enter the European Union and force the United Kingdom to accept a flood of Middle Eastern refugees (Stewart and Mason 2016). At another point in the campaign, Nigel Farage claimed that staying in the European Union would put British women more at risk for sexual assault because of the influx of immigrants. Farage supported this claim by referencing an instance in Germany where attackers, some of whom were asylum seekers, sexually assaulted hundreds of women at a city central station on New Year's Eve (Elgot and Mason 2016). Ultimately, elite rhetoric

and media misinformation created a situation where the United Kingdom saw “both sides accuse the other of bare-faced lies, with institutions and authorities dismissed as corrupt, [and] experts and public servants as biased” (Easton 2016).

Conclusion

Identification as a Leave or Remain supporter continues to play an important role in UK politics. Typically, affective polarization decreases as the visibility of political conflict and the urgency of political identities decline (Hernandez, Anduiza, and Rico 2021). Most voters lose interest in political competition soon after election day (Hernandez, Anduiza, and Rico 2021). However, in 2019, three years after the Brexit vote, only 8% of Britains said they were a “very strong” supporter of a political party and as many as 40% said they were either a “very strong Remainer” or a “very strong Leaver” (Curtice et al. 2019). The enduring legacy of Brexit identities is probably due in part to continued media coverage on the lengthy process of leaving the European Union, a status that the United Kingdom finally achieved in January 2020 (Hayton 2022).

However, the conflict between Brexit identities and partisan identity has declined since the referendum. Following the Brexit vote and David Cameron’s subsequent resignation, the Conservative Party was able to effectively consolidate its position into a solidly pro-Brexit stance (Hayton 2022). The Conservative elites’ willingness to move with the result of the referendum allowed them to reorient the Leave side into their party as well as maintain a hold on Conservatives who had voted for Remain (Hayton 2022). If Conservative leadership had taken this adjustment sooner during the referendum campaign, it is likely the debate would have become less polarized as Brexit identities would have no longer cut across traditional party lines (Hobolt, Leeper, and Tilley 2021).

Using process tracing, this paper confirms that affective polarization can exist outside of previously strong social identities. The Conservative and Labour parties’ failures to present a united front during the referendum campaign created a unique circumstance where partisan identity was not the preeminent force in dividing UK constituents. Instead, the affective polarization in the United Kingdom was caused primarily by an ideological divide on cultural issues. This ideological divide was deepened due to emotionally charged rhetoric from elite figures and intense media coverage. Using the polarization that occurred during the Brexit referendum as a case study advances scholarly literature as it demonstrates that ideological polarization can be a driving cause of affective polarization, especially in the absence of strong party identities.

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Is There Room for Grace in the American Dream?

Ali Critchfield

The Meritocratic (American) Dream

In the face of growing inequality in the United States, researchers have sought to understand why there is not a proportionate level of public concern over widening economic disparities (Kim 2023, 39–54). Much research in this area is grounded in the idea that America has become a meritocracy, where success is earned by merit. Despite the nation's Puritan beginnings that emphasized that God's grace, not works, are what led to salvation and success, the country has taken on a meritocratic core, one that effectively eliminates grace in the pursuit of material success. This way of thinking has compounded with the psychological tendencies of the fundamental attribution error and the heuristic of deservingness. If success, or a lack thereof, is solely due to personal effort, then those who triumph and those who fail deserve their fate. In this paper, I study how people attribute blame for failure of the American Dream and under what conditions they are willing to offer grace to someone who fails. Through experimental survey data, I find that meritocratic thinking is deeply ingrained in American thought and priming for grace is a complex task.

The ever-changing idea of the American Dream began with a group of religious zealots who sought to create a city upon a hill. When the Puritans left England, they became the first group to pursue the American Dream. Their community was characterized by individuals who lived as though they were chosen by God. Despite being known in history for their work ethic, the Puritans believed that salvation was through the gift of God's grace alone. Although just a symbol of being chosen, work was a source of apprehension for the Puritans because it proved, or disproved, their predestination in God's kingdom. This Puritan anxiety to prove one's worth lingers in modern society; however, being "chosen" is now indicated by financial success

rather than good works. A “fear of failure [has] prevailed among Americans even in the midst of abundance” (Sandel 2020, 197–227). Americans have an extensive vocabulary to describe hard work and individualism. Between pulling yourself up by your bootstraps and many people’s relentless belief in economic mobility, there should be no excuse for failure (Davidai 2018, 138–48). Jennifer Hochschild, a political scientist at Harvard, described the first tenant of the American Dream as the ability for everyone to achieve it. But, as Hochschild points out, this tenant is flawed because “until recently no more than about a third of the population was able to take seriously the first premise of the American Dream” (1996, 51:15–39). What language is available for those who try but fail? Is there room for grace, a gift of help, kindness, or aid that is freely given and not earned, in the American Dream?

Far from the Puritan’s emphasis on God’s grace, the American Dream has become about hard work and individual effort. The relationship between failure of the Dream and attributions of blame has become particularly salient as inequality has increased in the United States, along with tolerance for such inequality (Mijs et al. 2022, 131–41). My research provides insight into how these failures are judged by others, and what that means for society. Meritocratic attitudes magnify the power of individual choice and ignore experiences outside of personal control. Because people understand and treat others as a product of their choices rather than their circumstances, socioeconomic inequality can be justified because everyone gets what they deserve. A society based on merit also creates a sense of virtue, equating goodness with achievement (Hochschild 1996, 51:15–39). Author Michael Sandel worries that this conception of success has overridden the value and necessity of morals (2020, 113–53). Where there are no morals, there is no obligation to help. And without an obligation to aid one another, there is no institution of grace to buffer missteps and failures. Through an experiment, I explore if thoughts of grace can be primed, and if those thoughts can shift people out of the meritocratic mindset that is seemingly eroding the beauty of the American Dream—that everyone can achieve it if they try.

Attribution and Deservingness

Two psychological theories are foundational for this study: the fundamental attribution error and the heuristic of deservingness. The fundamental attribution error suggests that people tend to judge others’ shortcomings as a function of their internal characteristics or choices (Hooper et al. 2015, 69–72). The deservingness heuristic commonly identifies those who deserve help as people whose hardship is out of their control (Petersen et al. 2011, 24–52). When these two inclinations interact, they create a tendency to blame others for their failure and thus deem them undeserving of assistance. For example, research has shown that when people perceive an individual’s poverty as being due to internal characteristics, they are less willing to support redistributive policies. Conversely, when people perceive that poverty is due to failures of society, they are more likely to support policies that provide aid to those individuals (Applebaum 2001, 419–42). These findings demonstrate that when the reason for

another's misfortune is known, people often apply the deservingness heuristic which allows them to assess what conditions make someone worthy of help (Petersen et al. 2011, 24–52). These tendencies of attribution and deservingness can lead to the perpetuation of inequality (Hoyt et al. 2021, 203–15). When others are deemed undeserving of help, help will not be offered.

The effects of deservingness seem to be mediated through self-perception. Researchers have found that people who had survived a traumatic event were more judgmental of people who experienced a similar event, but did not handle it as well (Ruttan, McDonnell, and Nordgren 2015, 610–22). This research suggests that people's view of themselves influences their judgments of hard work. These judgments can extend into deservingness by giving them a heuristic to determine if a person should receive assistance. The perpetuation of inequality is then rooted in assuming that if someone is suffering, they brought it upon themselves and do not deserve help.

Many researchers have observed that, in addition to self-perception, understanding the perspective of another can influence people's judgments. Kalla and Brookman found that a non-judgmental exchange of experiences increased people's support for policies supporting transgender people's rights. Compared with people who did not have a non-judgmental exchange of experiences, those who did had slightly more support for the policies and these effects lasted for several months (2020, 410–25). Observational and survey research by Mo and Conn showed that extended interaction and service with less fortunate groups caused people to adjust their beliefs about the poor and about policies designed to provide aid to those in need (2018, 721–41). Waddell and others tested an intensive intervention activity that had positive effects on lessening the stigma around the poor and deservingness. The intervention required participants to put themselves in the shoes of those in poverty through a simulation. They were randomly assigned into family units and given a role within the family. They had to complete tasks within the simulation such as grocery shopping, going to work, and searching for employment. Participants were confronted with real issues that those in poverty face. The experiment was successful at changing the minds of people who participated (Waddell et al. 2023). This unique and thorough design allowed the researchers to help participants better understand the experiences of others.

The studies discussed in this section demonstrate that taking the perspective of another is an effective way to change other people's opinions. I am curious if changing self-perception can have a similar effect. If people see themselves as the recipients of grace, will they be more willing to offer that same grace to others? I theorize that the tendencies to commit the fundamental attribution error and rely on the deservingness heuristic have compounded to enforce the idea of a meritocracy; those who work hard are *worthy* of success. In contrast, those whose circumstances are seemingly due to their own actions are undeserving of success and therefore undeserving of help. Through an experimental survey, I will demonstrate whether different circumstances strengthen or weaken these psychological tendencies as well as the meritocratic ideas that permeate American thought.

Pilot Data Collection

To build off the theories of attribution and deservingness, I collected experimental pilot data to study if reflecting on grace influences attribution of blame and levels of empathy. The experiment took place through two class surveys conducted online. Both surveys included a diverse and national sample. Participants who completed the first survey were ineligible to complete the second survey to avoid any overlap in respondents. The surveys were powered by CloudResearch. Unlike MTurk, a common method for political science survey research, online panels like CloudResearch provide a more diverse sample while maintaining the accuracy of experimental treatments and effects (Chandler et al. 2019, 2022–38). Compared to other methods, like interview data collection, conducting an experiment was better suited to identify the specific impacts of reflections of grace compared to reflecting on hard work. Although a series of interviews would have provided the opportunity to study patterns and implicit attitudes of respondents, those findings would lack a causal link and would not be generalizable.

Methods

Survey respondents were presented with one of three writing prompts that acted as treatments. The first asked participants to write about a time they received undeserved help. This reflection served as the antithesis of deservingness by asking participants to recall a time that someone was willing to help them, regardless of why they needed it. The second treatment prompted participants to write about a time that they worked hard for something. This prompt was meant to prime participants to have an attitude of deservingness. The control prompt asked respondents to write about their favorite breakfast growing up. This required them to recall a memory, like the other conditions, but it did not trigger thoughts about hard work or deservingness. All respondents were required to write 100 characters before they could move on to the next question.

Following the treatments, participants were asked to read a short scenario about a person who did not achieve their goal of owning a home. Participants were randomly assigned to one of two conditions: one with a female name and one with a male name. Using both a female and male name has allowed me to examine if people attribute blame differently based on the gender of the person. The names used in both, Michelle and Marcus, are classified as ethnically neutral names (“What Baby Names Tell Us About Ethnic and Gender Trends” n.d.). This has helped in accounting for other factors that could have been present while studying attributions of blame, like race and ethnicity. Previous research has shown that names can prime racial attitudes. For example, research that studied the call-back rate for job applications showed that White-sounding names received more call backs than Black-sounding names, even though the applicants had identical qualifications (Bertrand and Mullainathan 2004,

991–1013). I attempted to control for these biases by using names that are commonly given in a variety of ethnicities.

In addition to name selection, the scenario described a profession for the hypothetical person. I chose to write about a travel agent because there is flexibility in income and career development within the profession. Working backwards, I found data from the census bureau that showed that the average income in 2022 for a person with an undergraduate degree was \$64,000 a year (United States Census Bureau 2022). I then searched for average pay among different college majors. Humanities majors make a median of about \$53,000 (Comparable Salaries, n.d.). Forbes listed travel agent as a common job for humanities majors (Herrity 2023). Upon finding the distribution of salaries for travel agents, I decided this would be a profession that would allow for a wide variety of growth potential, depending on the hard work and circumstances of the person ("Travel Agent Salary in United States" 2023). Including this information of major and job allowed survey respondents to fill in the blanks about the deservingness and blame for the hypothetical person.

The scenario also included details that could be interpreted as hard work or a lack thereof. The person was described as average to capture the potential growth promised in the American Dream. No matter who you are, you can succeed. The hypothetical person worked their way through college and received a B average. I also included phrases indicating one strength and one weakness that the online resource Indeed suggests using on performance reviews (Herrity 2023). This added detail for participants to judge, based on the treatment they previously received. Additionally, I included information about home prices to give readers a chance to attribute blame for failure to external circumstances. These details gave the reader enough information to make a judgment, but they did not explicitly connect to the prime. After reading the scenario, participants were asked two questions to measure if they attributed the lack of home ownership to internal or external circumstances and how they felt toward the person in the scenario. I chose home ownership as the measure of success because it is a well-known symbol of achievement in American culture (Goodman and Mayer 2018, 31–58).¹

This research design builds off the work of Koo, Piff, and Shariff who compared the actions of those assigned to different forms of perspective taking. Some respondents were asked to imagine themselves as having worked their way up through a company while others were asked to imagine that they were given a high position by a family member (Koo, Piff, and Shariff 2023, 333–41). They found that those in the moved-up condition were more likely to attribute another employee's lack of upward mobility to internal characteristics (i.e. less hardworking) rather than external circumstances. Based on this study, I hypothesize that the hard work treatment in my experiment will put survey respondents in a mindset that if they could work hard, others should be expected to do the same. On the contrary, those in the undeserved help treatment will have just thought about a time where their efforts were not enough. I anticipate that this reflection will cause them to judge the scenario less

¹ Complete details of the experiment can be found in the appendix.

harshly because they too have needed help. Thus, my primary hypothesis is that those in the underserved help treatment will attribute less blame to internal circumstances and report higher feelings of empathy towards the person in the scenario compared to participants in the other two conditions. I also anticipate that the effects of the treatments will vary depending on the party identification of the respondent. My hypotheses are as follows:

H1: Respondents in the help treatment will attribute less blame to internal circumstances, compared to the control.

H2: Those in the help treatment will report higher levels of empathy, compared to the control.

H3: Respondents in the work condition will attribute more blame to internal characteristics, compared to the control.

H4: Respondents who identify as Republicans and receive the help treatment will be more likely to attribute blame to internal characteristics compared to Democrats and Republicans in the control.

H5: Treatment effects will be smaller for respondents who self-identify as Democrats because in all conditions, Democrats will be more likely than Republicans to attribute blame to external circumstances.

Pilot Study Demographics

The online surveys combined yielded 1,062 respondents. 505 respondents identified as male, 554 identified as female, and three selected the “other” option. The survey was made up of respondents who described their racial/ethnic background as 84.27% White, 10.64% Black, 2.73% Hispanic, 1.6% Asian, and 2.54% with an unlisted ethnicity.

Attributions of Blame

Various tests on the data revealed that my hypotheses were not confirmed. As demonstrated in Table 1, respondents in the help condition were more likely to attribute blame to internal characteristics and respondents in the work condition were marginally less likely to do so, though they trended in the same direction. Neither of these coefficients are statistically significant. Even when the treatments were interacted with the Michelle or Marcus conditions, the results were still insignificant and are also shown in Table 1.

Table 1

Reason for failure where 1 is internal characteristics and 7 is external circumstances

<i>Variables</i>	(1) <i>Attribution Reason</i>	(2) <i>Attribution Reason</i>
Help Treatment	-0.166 (0.115)	-0.0501 (0.164)
Work Treatment	-0.0545 (0.113)	0.00365 (0.161)
Marcus Condition		-0.0486 (0.158)
Help Treatment x Marcus Condition		-0.238 (0.229)
Work Treatment x Marcus Condition		-0.127 (0.227)
Constant	5.013*** (0.0790)	5.039*** (0.115)
Observations	1,091	1,091
R-squared	0.002	0.006

For the priming treatment, the excluded category is the control condition. For the gender condition, the excluded category is the Michelle condition. Standard errors in parentheses.

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Despite these findings, including the gender of the respondent in each treatment and condition yielded statistically significant results. The first regression in Table 2 is the interaction between the scenario condition and the gender of the respondent. The second regression shows the treatment and condition effects, controlling for the gender. The first regression shows that women in the Michelle condition were slightly more likely to attribute Michelle's failure to external circumstances with a coefficient of 0.311 and a p-value below 0.05. Women moved in the opposite direction in the Marcus condition, but this was not statistically significant. Table 2 shows the interaction between the scenario condition and the gender of respondents. This interaction increased the R-squared to 0.010, meaning that the treatment, conditions, and gender of the respondent still only accounted for 1% of the variation in attribution reason

responses. Using the first regression, I found the predicted values for each interaction. Interestingly, when asked to consider Michelle, women were slightly more likely to attribute failure to internal characteristics than men, with a p-value below 0.05. When asked to consider Marcus, women were slightly more likely than men to attribute blame to external circumstances, but this was not statistically significant (0.439).²

Table 2

Reason for failure where 1 is internal characteristics and 7 is external circumstances

<i>Variables</i>	<i>(1) Attribution Reason</i>	<i>(2) Attribution Reason</i>
Help Treatment	-0.170 (0.114)	-0.170 (0.114)
Work Treatment	-0.0582 (0.113)	-0.0558 (0.113)
Marcus Condition	-0.0648 (0.135)	-0.173* (0.0934)
Female Participant	0.311** (0.132)	0.207** (0.0935)
Marcus Condition x Female Participant	-0.209 (0.187)	
Constant	4.942*** (0.114)	4.994*** (0.105)
Observations	1,091	1,091
R-squared	0.010	0.009

For the priming treatment, the excluded category is the control condition. For the gender condition, the excluded category is the Michelle condition. The male participants category is excluded. Standard errors in parentheses.

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

The self-reported party of the respondents also played an important role in how they attributed blame. Table 3 shows the predicted value for each condition depending on the party identification of the respondents.³ The help condition made everyone, regardless of party, more likely to indicate that failure was due to internal

² Predicted values estimated from regression using margins command. Results can be found in the appendix.

³ See full regression table in the appendix.

characteristics. Contrary to my fourth hypothesis, Republicans were less likely to attribute blame in the help treatment. However, my fifth hypothesis was confirmed that Democrats consistently scored higher on the one to seven scale, meaning they were more likely to blame failure on external circumstances regardless of the treatment. Table 3 also shows that Republicans in the control and work conditions scored almost identical on the one to seven scale. One reason for this might be the presence of ceiling effects. Republicans already have strong beliefs in economic mobility and “rugged individualism” (Kim 2023, 39–54). It is possible that deservingness and meritocratic thinking are so ingrained in Republican thought that reflecting on hard work did not move them.

Table 3
Predicted Values of Attribution Reason

	<i>Democrat</i>	<i>Republican</i>
<i>Control</i>	5.136	4.945
<i>Help Treatment</i>	4.897	4.744
<i>Work Treatment</i>	5.032	4.906

I also compared the predicted values for Democrats and Republicans in the Michelle and Marcus conditions, as shown in Table 4. Although none of the predicted values had statistically significant differences, the results indicate that both Democrats and Republicans were more likely to attribute blame to external circumstances if they received the Michelle condition. When men specifically were in the Michelle condition, they were more likely than men in the Marcus condition to attribute blame to external circumstances. This difference was associated with a p-value of 0.035, which is statistically significant. Interestingly, although men and women attributed more blame to external circumstances in the Michelle condition, women were more likely to assign a lower number than men. This difference was statistically significant with a p-value of 0.02. These findings indicate that the effect of the Michelle condition was stronger on men than on women, although influential for both. These conditions and gender differences are intriguing. The data suggest that men are judged more harshly than women when they fail. Perhaps people expect men to work harder than women. Or maybe they believe that, historically, it has been harder for women to rise up the economic ranks than it has been for men. Future studies could tease out the causal mechanism by previewing people’s beliefs about men and women then asking them to make judgements and attribute reasons for failure.

Table 4
Predicted Values of Attribution Reason

	<i>Democrat</i>	<i>Republican</i>	<i>Female</i>	<i>Male</i>
<i>Michelle Condition</i>	5.080	4.956	4.869	5.180
<i>Marcus Condition</i>	4.971	4.779	4.804	4.907

Feelings of Empathy

The other dependent variables I measured were levels of four emotions: compassion, sympathy, worried, and sad. Table 5 shows the results of a simple regression on the treatments and each emotion. The only significant result is shown in the first regression. Those who received the work treatment felt more compassion toward Michelle or Marcus, compared to the control. Although this effect is small and could be due to chance, when combined with the direction of the help treatment it sparks an interesting question about the effectiveness of each treatment. Contrary to my hypothesis, why did the work treatment move people to feel more compassion? Reflecting on hard work was meant to prime people with a mindset focused on deservingness and meritocracy, you get what you work for. I hypothesized that people in the work treatment would feel lower levels of empathy because they would use the deservingness heuristic to make a judgment about Michelle or Marcus. Instead, it appears that the work treatment may have had the opposite effect. Although insignificant, the help treatment moved the one to seven scale for level of emotion in a negative direction for three of the four emotions. These results are exactly contrary to what I expected. The work condition caused people to be more empathetic and the help treatment caused them to be less so.

Table 5
Extent of emotions where 1 is not at all and 7 is very much

<i>Variables</i>	<i>(1) Compassion</i>	<i>(2) Sympathy</i>	<i>(3) Worried</i>	<i>(4) Sad</i>
Help Treatment	-0.0325 (0.117)	0.0365 (0.120)	-0.0407 (0.129)	-0.000560 (0.132)
Work Treatment	0.207* (0.115)	0.162 (0.118)	0.0130 (0.128)	0.0764 (0.131)
Constant	4.743*** (0.0805)	4.628*** (0.0826)	3.636*** (0.0892)	3.634*** (0.0913)
Observations	1,090	1,090	1,090	1,090
R-squared	0.004	0.002	0.000	0.000

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Individual Responses

As I read through each individual response to the survey questions, I found interesting patterns that may help explain why the results are so contradictory to what I expected. In the help treatment nearly one-fourth of survey respondents wrote a statement indicating that they did not understand the prompt. Responses varied from “I’m not sure what you want me to write here” to “I don’t like this question.” Although perfect responsiveness is not expected in survey data, the treatment question could be rephrased to have more clarity. It is possible that the treatments were not strong enough to prime for grace or deservingness, which would explain the contradictory and statistically insignificant results.

I categorized each response into one of five categories.⁴ Table six shows the percent of responses that fell into each category. Each category is defined as follows:

- Nonsense: respondents typed random characters or copy and paste text to fill the character limit.
- Do not know: respondents wrote that they did not know or could not remember.
- Accurate: respondents wrote a meaningful response that accurately answered the question.
- Inaccurate: respondents wrote a meaningful response that did not accurately answer the question.
- Irrelevant: Respondents wrote about something cohesive (not random) but they did not attempt to answer the question.

Table 6
Percent of responses in each category

	Help Treatment	Control	Work Treatment
Nonsense	5.67	3.43	5.17
Do not know	13.13	3.43	2.30
Accurate	54.04	90.24	80.75
Inaccurate	16.12	1.58	2.01
Irrelevant	11.04	1.32	9.77
Total	100%	100%	100%

A few differences in the proportion of responses are worth noting. First, the percentage of those who typed nonsense to fill the character minimum or something irrelevant was similar between the work and help treatment. Those categories were likely smaller in the control group because the treatment prompts required more thought and effort to answer the question. There was also a large increase in “do not know” responses between the help and work condition. Additionally, 50% of respondents in the help condition and 80% in the work condition offered a meaningful response with the kind of reflection that I anticipated. That respondents could answer the work

⁴ Examples for each category can be found in the appendix.

prompt with less uncertainty and more accuracy than the help prompt suggests that it was likely much easier to think about hard work than it was to think about grace.

Another pattern that emerged in the help treatment responses was people expressing guilt for the help that they received.⁵ One respondent wrote,

“My grandfather, before he passed away . . . bought me a car after I graduated high school. I made an agreement to him not to date until after I graduated college. I broke his trust by hiding my boyfriend from him. I don’t feel like I deserved the car because I betrayed him. And I never got to apologize to him before he passed. My heart breaks every time I think about it, and if I had a second chance . . . I would’ve made him proud.”

Like this respondent, many people reflected on what they had done wrong and how that made them undeserving of the help they received. While this reaction could have primed thoughts of grace, it seems like the feeling of guilt was overpowering. Feeling guilt would not have had the same effect as reflecting on grace. In addition, it is unlikely that feeling guilt would have influenced people’s attributions of blame or levels of empathy. The scenario conditions were void of indicators of guilt and were not designed to trigger those feelings.

Other than misunderstanding and feelings of guilt, there were other general patterns throughout the responses for those who received the undeserved help condition. Some people really understood the purpose of the prompt. One respondent wrote, “I received help paying off a drug bill twice. It was the grace of God that saved me from getting hurt from owing drug dealers.” This person made the connection to grace immediately. Survey respondents who brought up God or Jesus easily made a connection to grace. For those who did not, the prompt was much more difficult to answer. There is a clear lack of vocabulary in the secular sphere to talk about grace. Despite responses that grasped the concept of an unearned gift of help, many people did not indicate that they were reflecting on grace. This was not a random selection of responses, so I cannot generalize this pattern to the entire survey. However, this distribution of responses provides further evidence that the treatment was not strong enough to prime for grace or change the way people attributed blame compared to the control group. Given that a quarter of the respondents did not understand the question, future studies should ask a stronger question that makes the purpose of the treatment clearer.

The subject matter of the meaningful responses, though varied, provides interesting insight into how a few respondents understood the treatment prompt. Some responses included deep reflection and recognition of the support they had received. One woman wrote,

“I started a job in the cities . . . at the time I was fully addicted to crack and my boss had so much patience with me he put up with me calling in and not showing up and going in late and pulling all kinds of stunts . . . because of his patience

⁵ Only 3.28% of respondents indicated feelings of guilt. See more information in the appendix.

and it's kindness I was able to straighten myself up I ended up going to Bible study at his house and he became one of my best friends and to this day I am very grateful that he had the patience and kindness and didn't fire me on the spot cuz I gave him plenty of reasons to. . . . I had twin boys and he gave me a big raise with a daycare allowance to be able to come back and I ended up managing one of their two stores for the next 2 years I didn't deserve any of that he was like a guardian angel. Plus he helped me find my way back to God."

This woman's response demonstrates that some people were willing to engage in the kind of reflection that was necessary to feel the impact of grace. Certainly, the woman worked hard to get to where she is today, but she recognized it was not without the help of others. However, this woman's response should be considered as the extreme. For someone who's life circumstances are not as volatile as hers, grace might be a harder phenomenon to engage with.

An additional pattern in the responses is worth noting, as it may inform future treatment questions. Many respondents wrote about getting a flat tire and receiving help from someone they did not know. Perhaps more people would be inclined to provide meaningful answers to the prompt if they were asked about a time they received help from a stranger. This could still trigger the experience of grace because strangers are not obligated through relationships or social ties to help. They often provide help without knowing the circumstances or deservingness of the individual. Another interesting application of this concept would be to have participants engage in a simulation where they had the opportunity to help someone they did not know. Perhaps giving grace would be a stronger prime than receiving grace.

The responses from the work treatment provided more consistent results. People readily came up with times that they had worked hard for something. Most people effortlessly fulfilled the 100-character requirement and kept going so they could finish their story. People were proud of what they were writing. One respondent wrote,

"When I was in my mid-twenties, I worked at a manufacturing plant as a warehouseman. I drove forklift and did hard manual labor. I enjoyed this job and I worked very hard to work my way up the ladder to become the lead warehouseman in the receiving part of the plant. Unloading trucks and tallying trucks taking inventory at the end of every month. Eventually I was promoted to supervisor of the entire receiving department, becoming the youngest supervisor at this plant at twenty-eight. I produced some of the best records with the crew that I ran and had some of the very best inventory records ever."

The ease with which people responded to this prompt demonstrates that meritocratic thinking is easily accessible in the minds of many people in the United States. As I mentioned earlier, many of respondents in the help treatment struggled with the word "deserve" and indicated that they thought all people were deserving of help, or at least they were. Many responses mirrored this one: "I have never received help I did not deserve. I have worked for everything I have ever gotten." Responses like

this help contextualize the empirical results. Asking about undeserved help primed people to think about deservingness and meritocracy. This effect was rather strong for a few. Another respondent wrote, "I have never received help, either undeserved or otherwise. I take pride in being responsible and self-sufficient. I was raised to believe that you have to work hard, earn what you get out of life and don't expect anyone to hand you anything."

Michael Sandel wrote, "A society that enables people to rise, and that celebrates rising, pronounces a harsh verdict on those who fail to do so" (2020, 113–47). A survey respondent perfectly captured this attitude. "I have never received any help that I did not deserve. I find it abhorrent for anyone to accept anything that they have not earned or do not deserve." This attitude likely did not translate well into the scenario and subsequent questions about blame and empathy. Statements like this frequently appeared in the help treatment, which was designed to prime feelings of grace and gratitude. Clearly, deservingness and judgment are intertwined with what it means to live in America.

Discussion

The empirical and qualitative patterns that I discussed reveal insights into the prevalence of meritocratic thinking and how it interrupts the universal ideals of the American Dream. Though the quantitative data about the effects of grace were inconclusive, future studies could build off the theory of the heuristic of deservingness and the fundamental attribution error to discuss why Americans believe in hard work and economic mobility. The implications of such research could have profound policy effects. If future studies can identify ways to make people less likely to judge the failure of others, perhaps redistributive policies could be framed in a way that inspires self-reflection prior to assessment of the position of people in need. More abstractly, an effective treatment that primes for grace could contribute to changing the meritocratic rhetoric of the American Dream. Perhaps grace could aid in reclaiming the Dream as possible for all, by the contributions of all.

This pilot study had some limitations. The surveys took place online and respondents were not monitored as they worked through the questions. The surveys were also relatively quick. Reflecting on grace might take more time for such a reflection to have a durable influence on how people evaluate others. Future studies could also increase durability and strength by conducting a study that takes place over several months. Perhaps if people were to write entries in an online journal once a week about gratitude or help they received, the effects of reflecting on grace would be more obvious and lasting. Although the experiment was not perfect, this pilot data further identified patterns in how people think and feel about deservingness, success, and blame. It also indicated interesting complexities in what moves people closer to or farther away from a meritocratic mindset.

People who reflected on receiving help not only placed more blame on the individual, but they also felt less empathy towards Michelle or Marcus. In the context

of the Ruttan, McDonnell, and Nordgren study, this dynamic is familiar. Instead of being more empathetic to people who had experienced trauma, those with similar experiences were more judgmental and felt less empathy (Ruttan, McDonnell, and Nordgren 2015, 610–22). If overcoming trauma, or achieving success, is due to individual effort, then failure to do so demonstrates a lack of personal effort (Hochschild 1996, 51:15–39). Sandel wrote, “Merit began its career as the empowering idea that we can, through work and faith, bend God’s grace in our favor. The secular version of this idea made for an exhilarating promise of individual freedom: Our fate is in our hands. We can make it if we try.” But he worried that this way of thinking frees people from the feeling of responsibility to help others (Sandel 2020, 197–227). It allows people to ignore the collective responsibility to offer care and grace to those who seek it.

While this way of thinking is troubling, it also helps to explain why researchers are finding increasing tolerance for inequality in the United States. This pilot study demonstrated that untangling the deep roots of meritocratic thinking is a difficult task; one that will take concerted, long-term effort to sort through. After detailing extensive trials throughout their life, one respondent concluded, “I did not forget the life I had struggling. . . . [I] continue to give back to my communities. Once you have lived the pain—you never forget it. And you work your life to return the help you received.” Despite pervasive meritocratic thinking, some people have grasped the principle of grace—a gift of help that is freely given and unearned. The task now is to find ways to help others understand it so they can offer it to those who fail. Perhaps the principle of grace can help to restore the first tenet of the American Dream, that everyone can achieve it, and everyone can try again (Hochschild 1996, 51:15–39).

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Appendix

Treatments

The treatment condition was phrased as follows: "Please take a moment to reflect and then write for 3 minutes about a time that you received help that you did not deserve. When you have completed writing, please move on to the next question."

The control condition was phrased as follows: "Please take a moment to reflect and then write for 3 minutes about what your favorite breakfast was as a child. Please write in as much detail as possible. When you have completed writing, please move on to the next question."

The work hard condition was phrased as follows: "Please take a moment to reflect and then write for 3 minutes about a time that you worked very hard for something that was difficult. When you have completed writing, please move on to the next question."

Scenario

The scenario was phrased as follows (replacing Michelle with Marcus and male pronouns): Michelle attended college and received her degree in humanities. She worked her way through college and got a B average in her classes. Her goal has always been to own a home. She has worked for the past 7 years at a travel agency. All of Michelle's performance reviews at work have met expectations, with some suggestions for additional professional development. Her supervisor wrote in a recent performance review that Michelle "has good attendance and does not violate the company's attendance policy." The supervisor also noted that Michelle "could benefit from thinking of creative solutions to challenges." One coworker described that the kind of work Michelle does "gets the job done." Several of Michelle's co-workers own a home. Despite Michelle's goal, she has never owned a home. Home prices in her area have increased significantly in the past 5 years and are above average for the nation.

Survey Questions

After reading the scenario, participants were asked the following questions:

1. Why do you think Michelle/Marcus has not achieved her/his goal of owning a home?
 - a. This will be measured on a scale of 1-7. One is "due to lack of own effort and abilities." Seven is "due to external circumstances."
2. "Please indicate the extent to which you feel the following emotions towards Michelle/Marcus."
 - a. This will be measured on a scale of 1-7. One is "not at all." Seven is "very much. The emotions are compassionate, sympathetic, worried, and sad."

Data Analysis

Table 3 Regression

<i>Variables</i>	<i>(1) Attribution Reason</i>
Help	-0.239 (0.176)
Work	-0.104 (0.173)
Republican	-0.191 (0.167)
Independent	-0.315 (0.276)
The effect of being Republican in the help condition	0.0375 (0.242)
The effect of being independent in the Help treatment	0.574 (0.409)
The effect of being Republican in the work treatment	0.0648 (0.241)
The effect of being Independent in the work treatment	0.173 (0.380)
Constant	5.136*** (0.121)
Observations	1,091
R-Squared	0.006
Observations	1,090
R-squared	0.004

Standard errors in parentheses
 *** p<0.01, ** p<0.05, * p<0.1

Count of Categorized Responses

	Help	Control	Work
Nonsense	19	13	18
Do not know	44	13	8
Accurate	181	342	281
Inaccurate	54	6	7
Irrelevant	37	5	34
Total	335	379	348

Percent of Categorized Responses

	Help	Control	Work
Nonsense	5.67	3.43	5.17
Do not know	13.13	3.43	2.30
Accurate	54.04	90.24	80.75
Inaccurate	16.12	1.58	2.01
Irrelevant	11.04	1.32	9.77
Total	100%	100%	100%

Help Treatment Categorized, Including Guilt

	Total Number	Percent
Nonsense	19	5.67
Do not know	44	13.13
Accurate	170	50.75
Inaccurate	54	16.12
Irrelevant	37	11.04
Guilt	11	3.28
Total	335	99.99

Response Category Examples

- **Nonsense:** “nothing xxxxxxxxxxxxxxxxxxxxxxxx . . .”
- **Do not know:**
 - “I do not remember when the last time I received help that I did not deserve but thank you for asking.”

- **Accurate Help Treatment:**
 - “Years ago, when I became unemployed, the landlord deferred the rent payments until I returned to work. Although he was repaid in full, he really didn't have to help me out.”
- **Accurate Work Treatment:**
 - “I applied for a county police officer position. I had to train and pass the physical and written exams. There was a lot of physical preparation in a short amount of time to be able to pass their minimum requirements. Upon completion of the test I achieved and passed with high outcome.”
- **Inaccurate Help Treatment:**
 - “I do not remember receiving help I did not deserve. My life scenario has been to accomplish my tasks without any help at all.”
- **Inaccurate Work Treatment:**
 - “I became a math teacher even though math was really difficult for me in high school. I found a wonderful instructor at San Diego State University. She helped me understand the patterns in math and I was finally understanding how to do equations.”
 - Note: this response and others in this category were categorized as such because the reflection may have primed feelings about receiving help instead of individual hard work.
- **Inaccurate Control:**
 - “As I was raised by a very low-income family, I remember having cornbread or biscuits with very little meats or anything that we take as the minimum today for breakfast and never felt that my family were ‘poor’, or under privileged.”
 - This response was categorized as such because it may have primed feelings about work and deservingness.
- **Irrelevant:**
 - “I asked a tenant to borrow money because I had wanted to go to a casino to play slots. She had a limited income but agreed to loan me the money (of course I didn't tell her the reason I wanted the money).”
- **Guilt:**
 - “I was given money but I really did not earn it from working for the donor. I felt bad that I took it and even thought about returning it later.”

The Effects of Racial Prejudice and Humanization on Private Aid Donations

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Phoebe Roberts, & Daniel Nielson

DO NOT CITE OR QUOTE WITHOUT PERMISSION

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Introduction

World Vision predicts that there are more than 719 million people living in poverty (Peer 2023). Charitable organizations often strive to fill gaps of government programs and alleviate poverty by offering food, clothing, and support to these millions of individuals in need. To be successful in realizing the goals of these charitable organizations, the quantity of charitable donations must be large to create change. Charitable organizations regularly attempt to obtain donations through means of advertising; however, are these methods of advertising effective in soliciting donations

to help underprivileged populations across the globe? By improving the understanding of effective donation solicitation practices, charitable organizations will be able to increase donations.

When individuals were asked to donate to either Rokia, a young girl from Mali who is desperately poor and facing starvation, or to the general millions of people who are currently suffering in poverty, the largest share of donations went to Rokia (Small, Loewenstein, and Slovic, 2007). This is an example of the identifiable victim effect—when donors give to victims portrayed in a picture or story on the basis that these victims were more personable. Other factors have also proven to influence donations, such as paternalism. Baker (2015) and Prather (2019) found that White Americans act more favorably towards Black Africans than Black Americans towards Black Africans due to paternalism. We plan to study how paternalism, the identifiable victim effect, and other factors influence private aid by asking the following questions: (1) How do certain images and information motivate increased monetary donations for private foreign aid? (2) How do those images and donation amounts correspond with racial prejudice and paternalism?

By replicating Small, Loewenstein, and Slovic's study above as a survey-based field experiment with behavioral outcomes, we plan to increase the validity of the literature for the identifiable victim effect and paternalism. Furthermore, we plan to confirm whether the results can be replicated outside of the lab and college setting of the original research. We hypothesize that 1) the advertisements with images depicting a single identifiable victim will receive higher donations, 2) when people are told about the "identifiable victim effect," they will donate less to the victim, 3) White Americans will donate more to Black Africans than Black Americans, and 4) Americans of color will donate more to the Black Americans than Black Africans.

We found that identifiable victims did receive higher donations than statistical victims, thus supporting the findings of Small, Loewenstein, and Slovic's study; however, contrary to Small's findings, we found that deliberative thought increased donations in some circumstances. We also found that non-White Americans were more likely to donate to Black American victims than to Black African victims.

Literature Review

In 2007, Small, Loewenstein, and Slovic conducted a lab experiment to examine the amount of money donated to a single identifiable victim versus statistical victims—meaning aggregate statistics about large groups of people. True to their hypothesis, they found that more money is given to identifiable victims. The researchers then attempted to increase statistical victim donations by informing subjects of the identifiable victim effect. However, this did not increase donations for statistical victims and resulted in smaller donations for identifiable victims. The researchers concluded that if subjects are made aware of the persuasive effects of giving more to identifiable victims than to statistical victims, they will reduce their donations to the identifiable victim and fail to increase their donations to statistical victims.

Researchers generally agree that individuals are more likely to sympathize with, and provide resources to identifiable victims, rather than the statistical victims; representing millions of people in poverty (Jenni and Loewenstein, 1997; Small, Loewenstein, and Slovic, 2007). The largest donations are given to identifiable victims – especially when the victim is shown alone in an image. One meta-analysis, in particular, found that an image depicting a child suffering from poverty is the most likely to induce this identifiable victim effect (Feeley and Lee, 2016). In comparison, similar studies have shown that statistical data representing an impoverished population has a significantly lower effect on individuals, both emotionally and monetarily (Kogut and Ritov, 2005).

The identifiable victim effect is supported by a body of psychological and biological evidence that illustrates humans' two modes of thought: deliberative and affective. Deliberative thought helps individuals make rational decisions, such as those based on cost-benefit analysis and efficiency. In contrast, affective thought causes humans to react quickly, emotionally, and at times irrationally (Epstein, 1994; Loewenstein & O'Donoghue, 2004). The Identifiable Victim Effect targets this emotional and reactive mode of thought. This generates both greater sympathy and larger donations, despite the fact that providing the same amount of aid to a larger group could have a more substantial effect. In contrast, the use of statistics targets the deliberative mode of thought, resulting in less sympathy and consequently smaller donations. As donations to a large population would affect more individuals, the deliberate mode of thought, in theory, should be most effective in alleviating poverty (Friedrich et al., 1999; Jenni & Loewenstein, 1997). However, this is not what our research found.

As we emphasize behavioral outcomes in our study, such as the emotions experienced when donating, we will be better able to measure the amount of distress or sympathy felt by subjects towards either identifiable victims or statistical victims. We expect to see results that show trends similar to Erlandsson, Björklund, and Bäckström (2014). They found that distress motivates giving, only when giving is perceived as helping the situation. In contrast, if one does not believe that giving will help (such as with statistical victims) then giving is less likely to occur. Sympathy, on the other hand, motivates people to give whether that aid is perceived as helpful or not, as in the identifiable victim's case.

We will also consider the consequences of the identifiable victim effect. When donors narrow their focus on saving an individual victim, they forgo the opportunity to help the group (Kelman, 2011). By doing so, donors limit the good their donations might have by helping one person, rather than potentially helping thousands of people. Similarly, we will test if creating a single identifiable victim generates a paternalistic view for intervention.

There is also a wealth of literature on the topic of White American paternalism towards Black Americans. Among them, Baker (2015) and Prather (2019) provide evidence that White Americans have favorable attitudes towards Black Africans receiving aid and are simultaneously less supportive of Black Americans receiving welfare. Baker discusses how this increased favorability towards aid is not because

Black Africans are more impoverished than Black Americans, but rather, it is a result of racial paternalism. Racial paternalism causes White Americans to see Black Africans as less capable than Whites and thus less capable to help themselves or be self-reliant. Freeman (2009) and Jones (2007) agree with Baker by acknowledging that paternalism affects donations given to specific races and ethnicities that are often viewed by Whites as incompetent. Freeman (2009) further notes the role of race in donations by exploring White Social Dominance Orientation, or the widely held belief that the White race is dominant. This leads to greater donations from Whites to Black-oriented charities.

Furthermore, the White Savior ideal—employed in circumstances where White individuals see themselves as the rescuers for people of color—further motivates an increase in aid for foreign charities (Baker 2015; Aronson 2017). All groups perceived as less capable, whether racial or otherwise, receive additional donations as a result of paternalism (Baker 2015; Dietrich, Hyde, and Winter 2019; Jacobsson, Johannesson, and Borgquist 2007; Jones 2007). Studies show that donations are also instigated by White Saviorism, international ties, and moral arguments (Hurst, Tidwell, Hawkins 2017; Prather 2020; Baker 2015; Aronson 2017). It follows that people are more likely to donate to a person of dissimilar race, in fulfillment of White Saviorism.

Helping others can have the same effect as fulfilling one's individual desires (Gutman et. al., 2002). As such, when faced with identifiable victims, individuals are far more likely to make personal sacrifices to ease the burden of the victim as they know specifically how their donation might alleviate that victim's burdens (Jenni and Lowenstien 1997). This self-gratification coupled with White Saviorism helps to illustrate the effect of identifiable victims on potential donations. Paternalism and the White Savior ideal lead to increased donations from White populations to non-White foreign victims.

We conclude from the existing literature on identifiable victims and paternalism that prior documented effects of these ideas on giving validate further study on the nuanced extents of those effects. We are unaware of an attempt to combine both of these effects in one study, which would better illuminate the motivations and trends behind foreign aid donations. We propose conducting further research to combine both identifiable victims and paternalism in a randomized control trial to try and discover how these two phenomena work together to affect private aid donations. We will test the isolated effects of paternalism and the isolated effects of the identifiable victim, then compare that to the combined effects of both. Our study will provide unique data in this well-researched field. This data and knowledge are critical for development organizations to be aware of for messaging and fundraising. It is especially valuable for organizations who are working in African countries and raising money from White westerners, as it is likely they will encounter or profit from paternalism.

Theoretical Approach

The identifiable-victim effect has found that people are more likely to give aid money to a single victim who is suffering rather than to a group of people statistically described as suffering (Feeley and Lee, 2016). This is because the identifiable victim effect targets the emotional and reactive modes of thought. Individual victims generate both greater sympathy and larger donations than statistical victims (Friedrich et al., 1999; Jenni & Loewenstein, 1997). When a person feels more personally responsible to aid the victim, the identifiable victim effect is in action, resulting in an increased willingness to donate money (Jenni and Loewenstein, 1997; Small, Loewenstein, and Slovic, 2007). As a result, we hypothesize that images that depict a single identifiable victim will receive higher donation amounts than statistical facts about a population in need.

We will also incorporate a treatment that informs the participant about the identifiable victim effect to learn if knowledge of the effect changes donation amounts. Giving the participants information about the effect of the identifiable victim will influence them to think more rationally about their donation (Epstein, 1994; Loewenstein & O'Donoghue, 2004). The switch from emotional to deliberative decision making requires rational calculation, which is expected to mitigate the emotional response. We expect participants to decrease the funds given to the identifiable victim when they become aware of the identifiable victim effect because their emotional arousal will diminish.

The second variable we are testing is paternalism. Some White Americans hold a belief—consciously or subconsciously—that the White race is morally superior to other races, especially the Black race (Freeman, 2009). Additionally, White people may believe that Black people are less capable than White people (Freeman, 2009; Jones, 2007). This perceived superiority in morals and capabilities leads White people to feel a moral obligation to help “inferior” Black people (Baker 2015; Aronson 2017). This suggests that White people on average may display racial paternalism toward Black victims (Freeman, 2009; Jones, 2007). Hence, we hypothesize that images that depict a victim who is Black will receive more donations if the donor is White. Additionally, since some White Americans view Black victims abroad as less capable and Black Americans as lazy, racial paternalism should be stronger toward victims abroad (Baker, 2015; Prather, 2019). As such, we hypothesize that if the donor is White, images depicting a Black victim abroad will receive more donations than a Black American victim.

Finally, we include emotional questions in the survey to understand which emotions lead to greater donations. These questions are the same across all of the treatments. It is predicted that stronger feelings, whether negative or positive will inspire larger donations.

Methodology

We administered a Qualtrics survey via Amazon Mechanical Turk, a virtual marketplace for survey takers. Participants were compensated \$0.30–\$0.35 for completing the survey. We limited our population to adults (age 18 or older) residing in the United States. Our survey was available to participants during the months of March and April 2021. Each participant answered several demographic questions and was then block randomized by race into one of eight treatment groups. The demographic questions control for gender, age, state, race, religion, marital status, place of residence (i.e. mobile home, one-family home, etc.), employment status, annual income, education, political affiliation, and close family or friends living outside of the United States. The first treatment showed an identifiable image of a White victim in the United States named Cali. The second treatment showed an identifiable image of a Black victim in the United States named Trinity. The third treatment showed an identifiable image of a Black victim in Africa named Edlawit. The fourth treatment showed an identifiable image of a White victim in Africa named Sama. The pictures and information presented about each identifiable victim were approximately equivalent, except the race and country of origin, and we use different images to avoid deception. The victims are all real children listed on the Save the Children website. The fifth treatment group received statistical information about children's malnutrition, lack of education, and access to medical care not specific to a country. Treatments six through nine were shown the same treatments as one through four but with a disclaimer about identifiable victim effect, testing deliberative thought. The tenth treatment received both the statistical information and the deliberative thought information. Finally, the eleventh group was the control group. This group was presented with a paragraph about technology that was unrelated to children and not designed to induce any of the emotions measured below. Full treatments and surveys can be found in the Appendix.

After receiving the treatment, participants were asked how much money they would be willing to donate to Save the Children if they were to win a \$100 drawing. The participants were then asked a set of follow-up questions focused on emotions to help us identify other correlations behind donation patterns. Ultimately, one of the participants did receive the \$100 and the money they allotted to donations was donated. Creating a drawing strengthened external significance as participants would donate real money.

Results

There were around 2,136 respondents with ten different treatment groups and a control. The control was randomized to take half of the respondents, so it had just over 1,000 responses. This enabled better statistical significance because it secured the control group which was used to compare each treatment group. All of the other

treatments received just over 100 responses. The average donation overall was \$44.16, and the average for the control was \$41.44.

The general regressions (see Appendix) show that most treatment groups are not statistically significant. However, treatment 4 (White African treatment) was significant at the 99% level showing an \$8.74 increase from the control. This is larger than any of the first five treatments (treatments without deliberative thought). Treatment 7 (Deliberative Black American Treatment) received \$9.12 more money than the control. Additionally, Treatment 9 (Deliberative White African Treatment) received \$7.77 more than the control. These are the only treatments that were statistically significant.

Next, a t-test compares the treatment groups with the control groups. (seen in Figure 2). We then placed these into a graph (Figure 3), which shows that the White African Victim treatment, the Deliberative Black American treatment, and the Deliberative White African treatment were significant statistically. This matches our previous results but does not support our hypothesis.

Figure 2: The figure tests run the treatments against the control group which is 41.43896. The p-values are italicized.

Treatment 1 White American Victim	43.77778 <i>0.3904</i>
Treatment 2 Black American Victim	46.49074 <i>0.1192</i>
Treatment 3 Black African Victim	41.85849 <i>0.8947</i>
Treatment 4 White African Victim	51.37736 <i>0.0028</i>
Treatment 5 Statistic	49.66038 <i>0.0055</i>
Treatment 6 Del White American Victim	45.29126 <i>0.2528</i>
Treatment 7 Del Black American Victim	51.53271 <i>0.0010</i>
Treatment 8 Del Black African Victim	44.8972 <i>0.3057</i>
Treatment 9 Del White African Victim	47.14151 <i>0.0649</i>
Treatment 10 Del Statistical	45.87912 <i>0.1956</i>

Figure 3: The figure below is a box plot visualizing the statistical significance of each treatment group against the control.

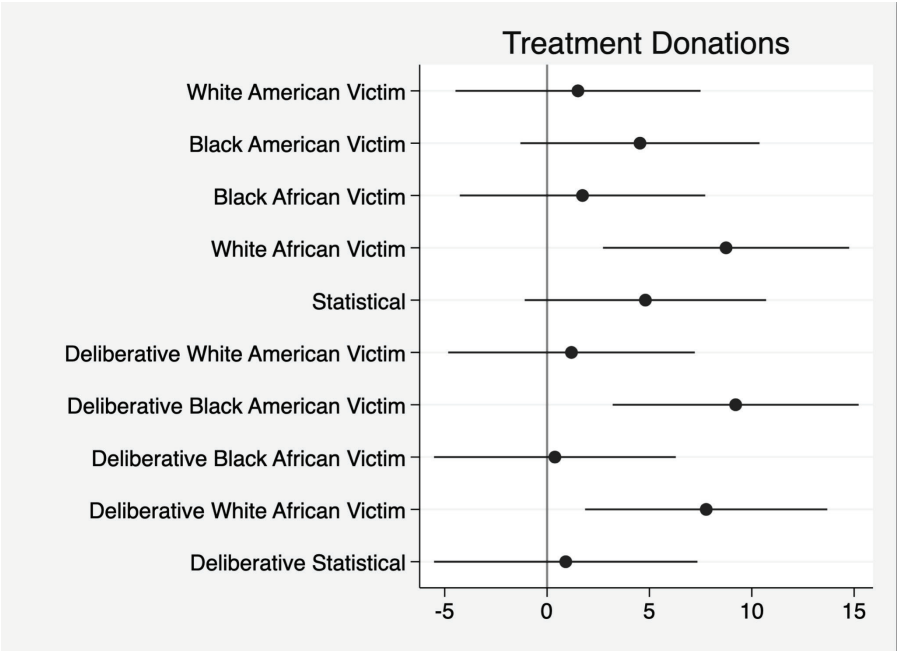


Figure 4 shows the difference between deliberative and non-deliberative victims. Deliberative treatments have an increase in donation, but this was not statistically significant. Figure 5 shows the difference between the African and American victims. The American victims got more donations by \$0.24, but again, this was not significant. Figure 6 shows a set of tests that evaluated the Black and White treatment groups, discovering that Black victims received more donations. This is significant at an 85% level, so it falls short of conventional statistical standards.

Figure 4: The below figure shows the t-test between the deliberative treatments and the non-deliberative treatments.

Deliberative	Not deliberative	Difference	p-value
47.47945	46.15801	1.321439	0.5400

Figure 5: This illustrates the t-test between African and American treatments.

African	American	Difference	p-value
46.59091	46.84023	0.2493165	0.9039

Figure 6: The figure below shows the t-test between Black victims and White victims.

Black	White	Difference	p-value
47.64626	44.615	3.031255	0.1331

Figure 7 (Appendix) shows the relationship of donations compared to the race of the participants. Because only 14% of the participants were Black (140 in control and 14 in treatments), there were not many observations, and hence, it was difficult to get statistically significant information. All of the treatments were divided with block randomization, ensuring equal division of race between all survey treatments. Black American victims received about \$16.53 more from Black participants compared to White participants, which is significant at the 99% level. The Black participants were also more likely to donate \$10.16 more. No other treatment group was statistically significant.

Figure 8: This figure shows the regression results of Morality and Feelings. The standard errors are shown in parentheses.

VARIABLES	donation	Sad	0.0486
Moral Responsibility	5.239***		(0.652)
	(0.251)	Excited	2.867***
Compassion	-0.433		(0.643)
	(0.662)	Worried	2.457***
Angry	3.564***		(0.639)
	(0.581)	Constant	-19.05***
Happy	2.659***		(2.628)
	(0.690)	Observations	2,029
		R-squared	0.370

*** p<0.01, ** p<0.05, * p<0.1

Figure 8 was the result of some emotional questions we asked people regarding the paragraph and story they were assigned to read. We wanted to see if the more positive or negative feelings someone felt the more or less they donated in order to control for wording or emotional connection to the victims. We found that the more morally responsible someone felt on a ten-point scale, they were more likely to donate \$5.24. We also saw that overall negative feelings (angry, worried, and sad) led to higher overall donations than happy feelings (excited, compassion, and happy). It is interesting to note that anger was the most influential emotion leading to people who felt one point of anger more on a five-point scale to donating \$3.57 more. These results may be of interest to those formatting advertisements for donations as helping patrons feel certain emotions will make them donate more money.

Discussion & Conclusion

Without deliberative thought treatments, 1, 2, and 3 all had lower average donation amounts than the statistical information (treatment 5). This does not support the hypothesis because it shows that the identifiable victims have lower donations compared to the statistical data. Treatments 6 and 8 were lower than the statistical information but not nearly as strong as hypothesized. This contradicts the findings from Small and Lowenstein. The hypothesis predicted that more people would donate to identifiable victims but with the deliberative thought treatments, the difference between identifiable and statistical victims went away from either people giving more to the statistical group or less to the identifiable victim group. The data shows that deliberative and non-deliberative treatments have a small difference between them. It shows that donations, despite deliberative thought, remain about the same amount, but donations shift for the race and ethnicity of the victims that are being donated to. This shows that neither hypotheses 1 and 2 are supported by our data.

Hypothesis three states that White Americans will donate more to Black Africans than Black Americans. However, the average donation for White participants to Black Americans was \$45.26, and the average donation to Black Africans was \$43.45. This difference in donations is relatively small, but donations made to those abroad are less than domestic donations, unlike the prediction of our hypothesis. Additionally, under deliberative thought, White participants donated \$51.51 to Black Americans and \$45 to Black Africans. This is an even larger difference than before. Because of our data, our hypothesis cannot be supported.

Hypothesis four was non-White Americans will donate (we use non-White here instead of Black to increase the participant count) more to Black Americans than Black Africans. The data shows that Black participants donated \$61.78 to Black Americans and \$53.2 to Black Africans. This pattern continues for deliberative treatments. Black participants donated \$52.43 to deliberative Black Americans and \$43.3 to deliberative Black Africans. This supports our hypothesis.

One of the largest limitations of our study was the uneven representation of the Black and White respondents. There were 303 total Black respondents. These were split into 11 groups (the 10 treatments and control). In contrast, there were 1,664 White respondents. This showed that for each treatment there were about 80 White respondents and 15 Black respondents. With five times the number of respondents, our estimates of the beliefs and reported behavior of White participants are more reliable and precise estimates. The lack of Black respondents gives more power to outliers to sway the data.

Another restriction of the study was participants saying that they would donate more if they had more money available to them. The money they were spending was money that would have been gifted to them. We predict that people are less willing to spend their own money. We may have experienced some survey bias because some people are more willing to donate this money than their own. Running this survey on Facebook or another medium could strengthen external validity.

However, despite both of these limitations, our results still have enough statistical power behind them to suggest that the results and treatments have strong effects. This is vital information as it illustrates the reality of foreign aid donations. Donations have the potential to make a significant impact on the lives of people all around the world. As research continues to spread surrounding these issues, we hope that impact will be more fully experienced by people like Rokia.

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Appendix

Figure 1: Full Coefficient Plot Control Variables

Midwest	0.554	Samoan	47.73	Something Else (Religion)	1.960
	(5.974)		(35.43)		(5.550)
South	2.045	Other (Nationality)	13.14	Married	10.47***
	(5.098)		(15.05)		(3.995)
West	2.449	Roman Catholic	3.949	Widowed	28.58*
	(5.569)		(4.849)		(16.87)
African American or Black	15.54	Latter-day Saint	-25.45	Divorced	6.920
	(13.26)		(16.04)		(6.780)
American Indian or Alaska Native	0.204	Orthodox	-5.442	Separated	-4.440
	(19.66)		(16.71)		(12.74)
Asian Indian	28.70	Jewish	11.62	One-family house Disconnected	-11.84
	(19.70)		(9.865)		(7.206)
Chinese	18.81	Muslim	-7.515	One-family house Connected	-1.289
	(17.31)		(13.31)		(7.982)
Filipino	-12.27	Buddhist	8.289	Building with 2 apt	-0.813
	(26.37)		(10.79)		(9.504)
Japanese	-19.21	Hindu	-3.786	Building with 3-4 apts	-11.74
	(26.66)		(17.73)		(9.203)
Korean	-13.04	Atheist	-10.65	Building with 5-9 apts	-0.387
	(26.44)		(6.912)		(10.28)
Vietnamese	0.956	Agnostic	-0.532	Building with 10-19 apts	-9.532
	(26.81)		(5.968)		(10.82)
Building with 20-49 apts.	-18.54	Part time student	23.15	Other (Political Leaning)	44.74**
	(11.31)		(23.38)		(19.37)
Building with 50+ apts.	-10.71	Retired	-4.368	White	13.58
	(10.24)		(11.26)		(12.16)
Boat RV etc.	-7.956	Unable to Work	-10.97	Female	0.822
	(18.49)		(15.79)		(3.482)

Full-time Employment	0.469 (4.790)		Mod Rep	2.446 (6.007)		Income	1.044** (0.496)
Self-Employed	-0.179 (6.944)		Lean Rep	-5.660 (6.817)		Years of Educ	-0.987** (0.423)
Out of work and looking	-5.168 (8.027)		Ind	6.798 (6.702)		Conservative	1.624** (0.821)
Out of work and not looking	-6.121 (15.40)		Lean Dem	9.643 (7.277)		Foreign Fam	-
Homemaker	-18.38* (9.482)		Mod Dem	6.214 (6.568)		Constant	21.35 (18.70)
Full time student	9.029 (10.97)		Strong Dem	14.51** (6.564)		Observations	430
						R-squared	0.211

Notes: Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1
Dummy variables: Northeast-region, White-race, Protestant-religion, Single-marital status, Mobile-home, Part-time job-employment, Strong Rep-party ID

Figure 3: Treatment and Control Regression

Treatment 1	10.22* (6.141)		American Indian or Alaska Native	0.870 (19.81)		Orthodox	-5.117 (16.87)
Treatment 2	7.457 (6.326)		Asian Indian	29.82 (19.91)		Jewish	13.13 (9.909)
Treatment 3	13.15** (6.560)		Chinese	21.52 (17.41)		Muslim	-7.529 (13.32)
Treatment 4	4.286 (6.587)		Filipino	-17.82 (26.67)		Buddhist	7.768 (10.89)
Treatment 5	13.29** (6.457)		Japanese	-25.20 (27.10)		Hindu	-7.621 (17.92)
Treatment 6	10.07 (6.265)		Korean	-11.53 (26.48)		Atheist	-10.40 (6.967)
Treatment 7	2.548 (6.386)		Vietnamese	3.533 (27.10)		Agnostic	-0.722 (6.004)
Midwest	2.315 (6.042)		Samoan	50.02 (35.85)		Something Else	2.125 (5.572)

South	2.461	Other (Country)	9.793	Married	10.66***
	(5.114)		(15.26)		(4.015)
West	3.399	Roman Catholic	4.184	Widowed	31.16*
	(5.632)		(4.876)		(17.03)
African American or Black	16.10	Latter-day Saint	-23.81	Divorced	7.048
	(13.35)		(16.14)		(6.808)
Separated	-4.350	Self- Employed	0.291	Lean Dem	11.20
	(12.82)		(6.965)		(7.328)
One-family house Disconnected	-15.12**	Out of work and looking	-3.803	Moderate Democrat	7.058
	(7.294)		(8.091)		(6.620)
One-family house Connected	-4.863	Out of work and not looking	-3.428	Strong Democrat	15.63**
	(8.118)		(15.62)		(6.630)
Building with 2 apts	-2.613	Homemaker	-17.76*	Other	46.78**
	(9.545)		(9.547)		(19.58)
Building with 3-4 apts	-14.44	Full time student	9.218	White	13.34
	(9.267)		(11.16)		(12.26)
Building with 5-9 apts	-2.818	Part time student	18.59	Female	1.925
	(10.38)		(23.53)		(3.541)
Building with 10-19 apts	-13.84	Retired	-2.236	Income	0.977*
	(10.98)		(11.44)		(0.501)
Building with 20-49 apts	-21.24*	Unable to Work	-14.27	Years of Educ	-0.968**
	(11.35)		(16.02)		(0.426)
Building with 50+ apts	-14.18	Moderate Republican	3.902	Conservative	1.563*
	(10.34)		(6.132)		(0.834)
Boat RV etc.	-14.78	Lean Republican	-4.312	Foreign Fam	-
	(18.70)		(6.861)		
Full-time Employment	1.220	Independent	8.639	Constant	14.17
	(4.851)		(6.814)		(19.10)
Notes: Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1 Dummy variables: Northeast-region, White-race, Protestant-religion, Single-marital status, Mobile-home, Part-time job-employment, Strong Rep-party ID				Observations	430
				R-squared	0.228

Figure 9: Full Difference of Means and Variance on Donations of Treatments vs Control

Difference of Means and Variance on Donations of Treatments vs Control			
	Total Participants	Black Participants	White Participants
Treatment 1 (mean in \$) White	41.765	40.35714	42.16
means	1.41315	2.75369	1.20651
p-value	0.7434	0.7671	0.8073
Observations (n)	64	14	50
Treatment 2 Black American	39.875	48.35714	37.5
	-0.47748	10.75369	-3.45349
	0.9142	0.3444	0.4710
	64	14	50
Treatment 3 Black Africa	43.62295	35.57143	46.02128
	3.27047	-2.03202	5.06779
	0.4365	0.8277	0.2847
	61	14	47
Treatment 4 STATS	41.53968	39.66667	42.125
	1.1872	2.06322	1.17151
	0.7854	0.8274	0.8141
	63	15	48
Treatment 5 White Thought	43.96721	46.92857	43.08511
	3.61473	9.32512	2.13162
	0.4173	0.3449	0.6747
	61	14	47
Treatment 6 Black America Thought	44.15873	24.13333**	50.41667**
	3.80625	-13.47012	9.46318
	0.3500	0.0373	0.0473
	63	15	48
Treatment 7 Black Africa Thought	33.69355	38	32.31915*
	-6.65893	0.39655	-8.63434
	0.1084	0.9644	0.0699
	62	15	47
Treatment 8	40.35248	37.60345	40.95349

Survey

Consent:

IRB ID#: IRB2020-484

This research study is being conducted by the following undergraduate students at Brigham Young University: Mary Harris, Ashlynn Hokanson, Zeke Peters, Phoebe Roberts, and Scott Braithwaite under the direction of Professor Daniel Nielson from the Department of Political Science. You are invited to participate in this study. Participation in this study is optional.

If you agree to participate in this research the following will occur:

- You will be provided with information regarding a foreign aid organization.
- You will be asked to answer a few survey questions.
- The survey will last approximately 5–10 minutes.

You can skip questions that you do not want to answer or stop the survey at any time. The survey is anonymous, and no one will be able to link your answers back to you. Please do not include your name or other information that could be used to identify you in the survey responses. After completing the survey, you will have a chance to enter a \$100 drawing (odds of winning are 0.05%).

Questions? Please contact Daniel L. Nielson, via email at dan.nielson.byu@gmail.com. If you have questions or concerns about your rights as a research participant, you can call the BYU Institutional Review Board at 801-422-1461 or email irb@byu.edu.

Advancing the survey by selecting "yes" below will be interpreted as an indication of your understanding of this information, your informed consent to participate, and that you affirm that you are at least 18 years of age.

Demographic Questions:

What is your gender?

- Male
- Female
- Other
- Prefer not to respond

How old are you?

- Drop down menu with 17 or under, and then ages up to 80 with the option 80 or above

In which state do you currently reside?

- Drop down menu of the 50 states, US territories, or none of the available

What is your race?

- White
- Black or African American
- Hispanic/Latinx
- American Indian or Alaska Native
- Asian Indian
- Chinese
- Filipino
- Japanese
- Korean
- Vietnamese
- Native Hawaiian
- Samoan
- Other

What is your present religion, if any?

- Protestant
- Roman Catholic
- Latter-day Saint
- Orthodox such as Greek or Russian Orthodox
- Jewish
- Muslim
- Buddhist
- Hindu
- Atheist
- Agnostic
- Other

What is your marital status?

- Single, never married
- Married or domestic partnership
- Widowed
- Divorced
- Separated

What best describes your home?

- A mobile home
- A one-family house disconnected from any other house
- A one-family house connected to one or more houses
- A building with two apartments

- A building with three or four apartments
- A building with five to nine apartments
- A building with ten to nineteen apartments
- A building with twenty to forty-nine apartments
- A building with fifty or more apartments
- Boat, RV, van, etc.

What is your current employment status?

- Employed part-time
- Employed full-time
- Self-employed
- Out of work and looking for work
- Out of work, but not currently looking for work
- A homemaker
- Full-time student
- Part-time student
- Military
- Retired
- Unable to work
- Other

What is your annual individual income (not combined with any other member of your households)?

- Less than \$10,000
- \$10,000–\$19,999
- \$20,000–\$29,999
- \$30,000–\$39,999
- \$40,000–\$49,999
- \$50,000–\$59,999
- \$60,000–\$69,999
- \$70,000–\$79,999
- \$80,000–\$89,999
- \$90,000–\$99,999
- \$100,000–\$109,999
- \$110,000–\$119,999
- \$120,000–\$129,999
- \$130,000–\$139,999
- \$140,000–\$149,999
- \$150,000–\$149,999
- More than \$150,000

How many years of formal education do you have? (For example, most people who finished their education after graduating high school have had 12 years of formal education, college graduates 16 years, master's degree recipients 18 years, etc.)

- Years 1–25 and more available in a drop down menu

In politics people sometimes talk about liberal and conservative. Where would you place YOURSELF on a scale from 0 to 10 where 0 means very liberal and 10 means very conservative?

- Scale 0 to 10

Which political party do you most identify?

- Strong Republican
- Moderate Republican
- Independent, lean Republican
- Independent
- Independent, lean Democrat
- Moderate Democrat
- Strong Democrat
- Other

Do you have any family members or close friends living outside the United States?

- Yes
- No

On which of the following continents do they live on? Check all that apply.

- North America
- Central/South America
- Europe
- Asia
- Africa
- Australia
- Not applicable

What is your ethnicity?

- White
- Black or African American
- Other

Treatments (the participant would only receive one of these):*Treatment 1: (an identifiable image of a white victim in the US)*

The following information is from the non-profit organization, Save the Children. Save the Children works to ensure that all children grow up healthy, educated, and safe.

Any money that you donate will go to Cali, a seven year-old girl living in the United States. Cali dreams of becoming a doctor. She is desperately poor, and faces a threat of severe hunger. Her life will be changed for the better as a result of your financial gift. With your support, and the support of other caring sponsors, Save the Children will work with Cali's family and other members of the community to help feed her, provide her with education, as well as basic medical care and hygiene education. Your financial gift will change her life for the better.

Treatment 2: (an identifiable image of a Black person in the US)

The following information is from the non-profit organization, Save the Children. Save the Children works to ensure that all children grow up healthy, educated, and safe.

Any money that you donate will go to Trinity, a seven year-old girl living in the United States. Trinity dreams of becoming a doctor. She is desperately poor, and faces a threat of severe hunger. Her life will be changed for the better as a result of your financial gift. With your support, and the support of other caring sponsors, Save the Children will work with Trinity's family and other members of the community to help feed her, provide her with education, as well as basic medical care and hygiene education. Your financial gift will change her life for the better.

Treatment 3: (an identifiable image of a Black person from Africa)

The following information is from the non-profit organization, Save the Children. Save the Children works to ensure that all children grow up healthy, educated, and safe.

Any money that you donate will go to Edlawit, a nine year-old girl from Africa. Edlawit dreams of becoming a doctor. She is desperately poor, and faces a threat of severe hunger. Her life will be changed for the better as a result of your financial gift. With your support, and the support of other caring sponsors, Save the Children will work with Edlawit's family and other members of the community to help feed her, provide her with education, as well as basic medical care and hygiene education. Your financial gift will change her life for the better.

Treatment 4: (an identifiable image of a white person in Africa)

The following information is from the non-profit organization, Save the Children. Save the Children works to ensure that all children grow up healthy, educated, and safe.

Any money that you donate will go to Sama, a eight year-old girl from Africa. Sama dreams of becoming a doctor. She is desperately poor, and faces a threat of severe hunger. Her life will be changed for the better as a result of your financial gift. With your support, and the support of other caring sponsors, Save the Children will work with Sama's family and other members of the community to help feed her, provide her with education, as well as basic medical care and hygiene education. Your financial gift will change her life for the better.

Treatment 5: (statistical information on a charity)

The following information pertains to the non-profit organization, Save the Children. Save the Children works to ensure that all children grow up healthy, educated, and safe.

Children from every country in the world are affected by malnutrition. In 2016, an estimated 155 million children suffered from stunted growth. Additionally, about 45% of deaths among children under 5 years of age were linked to undernutrition. Globally, 1 out of every 5 children live in extreme poverty (living on less than \$1.90 USD a day). In 2018, 59 million children eligible for primary school were not enrolled. Of those who did attend, 60% left primary school without achieving minimum proficiency in reading and mathematics. Any money you donate to Save the Children will help children who are suffering from these issues.

Treatment 6: (Deliberative thought with an identifiable image of a white person in the US)

Please read the following information carefully:

Recent research shows that people typically react more strongly to photos of individuals in need than to statistics about individuals in need. For example, when "Baby Jessica" fell into a well in 1989, people sent over \$700,000 for her rescue effort. Statistics — e.g., the thousands of children who will almost surely die in automobile accidents this coming year — seldom evoke such strong reactions.

The following information is from the non-profit organization, Save the Children. Save the Children works to ensure that all children grow up healthy, educated, and safe.

Any money that you donate will go to Cali, a seven year-old girl living in the United States. Cali dreams of becoming a doctor. She is desperately poor, and faces a threat of severe hunger. Her life will be changed for the better as a result of your financial gift. With your support, and the support of other caring sponsors, Save the Children will work with Cali's family and other members of the community to help feed her, provide her with education, as well as basic medical care and hygiene education. Your financial gift will change her life for the better.

Treatment 7: (deliberative thought with an identifiable Black victim in the US)

Please read the following information carefully:

Recent research shows that people typically react more strongly to photos of individuals in need than to statistics about individuals in need. For example, when "Baby Jessica" fell into a well in 1989, people sent over \$700,000 for her rescue effort.

Statistics—e.g., the thousands of children who will almost surely die in automobile accidents this coming year—seldom evoke such strong reactions.

The following information is from the non-profit organization, Save the Children. Save the Children works to ensure that all children grow up healthy, educated, and safe.

Any money that you donate will go to Trinity, a seven year-old girl living in the United States. Trinity dreams of becoming a doctor. She is desperately poor, and faces a threat of severe hunger. Her life will be changed for the better as a result of your financial gift. With your support, and the support of other caring sponsors, Save the Children will work with Trinity's family and other members of the community to help feed her, provide her with education, as well as basic medical care and hygiene education. Your financial gift will change her life for the better.

Treatment 8: (deliberative thought with a Black victim in Africa)

Please read the following information carefully:

Recent research shows that people typically react more strongly to photos of individuals in need than to statistics about individuals in need. For example, when "Baby Jessica" fell into a well in 1989, people sent over \$700,000 for her rescue effort. Statistics—e.g., the thousands of children who will almost surely die in automobile accidents this coming year—seldom evoke such strong reactions.

The following information is from the non-profit organization, Save the Children. Save the Children works to ensure that all children grow up healthy, educated, and safe.

Any money that you donate will go to Edlawit, a nine year-old girl from Africa. Edlawit dreams of becoming a doctor. She is desperately poor, and faces a threat of severe hunger. Her life will be changed for the better as a result of your financial gift. With your support, and the support of other caring sponsors, Save the Children will work with Edlawit's family and other members of the community to help feed her, provide her with education, as well as basic medical care and hygiene education. Your financial gift will change her life for the better.

Treatment 9: (deliberative thought with a white victim in Africa)

Please read the following information carefully:

Recent research shows that people typically react more strongly to photos of individuals in need than to statistics about individuals in need. For example, when "Baby Jessica" fell into a well in 1989, people sent over \$700,000 for her rescue effort. Statistics—e.g., the thousands of children who will almost surely die in automobile accidents this coming year—seldom evoke such strong reactions.

The following information is from the non-profit organization, Save the Children. Save the Children works to ensure that all children grow up healthy, educated, and safe.

Any money that you donate will go to Sama, a eight year-old girl from Africa. Sama dreams of becoming a doctor. She is desperately poor, and faces a threat of severe hunger. Her life will be changed for the better as a result of your financial gift.

With your support, and the support of other caring sponsors, Save the Children will work with Sama's family and other members of the community to help feed her, provide her with education, as well as basic medical care and hygiene education. Your financial gift will change her life for the better.

Treatment 10:(deliberative thought with statistical information)

Please read the following information carefully:

Recent research shows that people typically react more strongly to photos of individuals in need than to statistics about individuals in need. For example, when "Baby Jessica" fell into a well in 1989, people sent over \$700,000 for her rescue effort. Statistics—e.g., the thousands of children who will almost surely die in automobile accidents this coming year—seldom evoke such strong reactions.

The following information pertains to the non-profit organization, Save the Children. Save the Children works to ensure that all children grow up healthy, educated, and safe.

Children from every country in the world are affected by malnutrition. In 2016, an estimated 155 million children suffered from stunted growth. Additionally, about 45% of deaths among children under 5 years of age were linked to undernutrition. Globally, 1 out of every 5 children live in extreme poverty (living on less than \$1.90 USD a day). In 2018, 59 million children eligible for primary school were not enrolled. Of those who did attend, 60% left primary school without achieving minimum proficiency in reading and mathematics. Any money you donate to Save the Children will help children who are suffering from these issues.

Treatment 11: (control group)

The following information is from the online encyclopedia, Britannica. Please read it carefully:

"The term technology, a combination of the Greek technē, 'art, craft,' with logos, 'word, speech,' meant in Greece a discourse on the arts, both fine and applied. When it first appeared in English in the 17th century, it was used to mean a discussion of the applied arts only, and gradually these 'arts' themselves came to be the object of the designation. By the early 20th century, the term embraced a growing range of means, processes, and ideas in addition to tools and machines. By mid-century, technology was defined by such phrases as 'the means or activity by which man seeks to change or manipulate his environment.' Even such broad definitions have been criticized by observers who point out the increasing difficulty of distinguishing between scientific inquiry and technological activity."

Qualitative Questions:

At the end of this survey you will have the option to enter in a raffle for \$100. If you win the drawing and receive this money, how much are you willing to donate to the organization Save the Children? We will donate it on your behalf.

- 1–100 scale

After reading the information provided, how much do you agree with the following statements:

- I felt compassion (scale from strongly disagree to strongly agree)
- I felt angry (scale from strongly disagree to strongly agree)
- I felt happy (scale from strongly disagree to strongly agree)
- I felt sad (scale from strongly disagree to strongly agree)
- I felt excited (scale from strongly disagree to strongly agree)
- I felt worried (scale from strongly disagree to strongly agree)

On a scale of 1–10, what do you feel is your moral responsibility to be part of the solution to the aforementioned cause (1 being I feel no moral responsibility and 10 being this is entirely your moral responsibility)?

- Scale for 1 to 10

What would have led you to donate more money to this cause?

- Fill in the blank

Thank you for your time in taking this survey. What suggestions do you have on how we could improve this survey and process?

- Fill in the blank

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