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Yuqi Wang April 11, 2021

The relationship between the availability heuristic and trust in the lens of the Black Lives Matter movement

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Abstract

The relationship between the availability heuristic and trust in the lens of the Black Lives Matter movement

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The purpose of this study is to understand the impact of the availability heuristic on trust levels between different ethnic groups in the context of the Black Lives Matter movement. 78 students of different ethnicities participated in two treatments of the trust game, during which one treatment group was reminded of the BLM movement through a questionnaire before playing. The amount of endowment sent and returned during the game is used to understand the extent to which trust and trustworthiness levels between ethnic groups change, if at all, when participants recall the BLM movement at different levels of ease. Results show that trust levels are higher when an individual can recall the BLM movement with greater ease. Trust and trustworthiness are higher between individuals of different ethnicities.

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1 Introduction

The Black Lives Matter ("BLM") anti-racism movement was founded in 2013 by three black women - Alicia Garza, Patrisse Cullors, and Opal Tometi (Herstory, 2019). The movement and its social media hashtag, #BlackLivesMatter, were created in response to the acquittal of an American man who fatally shot an unarmed black teenager named Trayvon Martin in 2012. Eight years later, this movement drew massive public attention and momentum in 2020 following the death of 46-year-old black man George Floyd. The incident is seen as another case of police brutality and racial bias and has ignited incandescent waves of protests, marches, and digital activism across the United States against systemic racism towards the black population. A poll conducted by Civis Analytics (2020) indicated that about 15 million to 26 million people in the United States have participated in demonstrations related to the BLM movement, making it one of the largest movements in the country's history. The movement also drew engagement across ethnic groups with more than 60% Hispanic, Asian, and white adults supporting the BLM movement, according to a survey by Pew Research Center (Parker, Horowitz & Anderson, 2020).

While it is still early to quantify the social impact of the BLM movement, it is not surprising that the unprecedented level of engagement – from both the black and non-black communities – would introduce changes in racial attitudes in a multi-racial society. Surveys have shown that public opinion about race and policing change with racialized social movements (Riley & Peterson, 2020). Compared to before the first wave of BLM in 2013, more white Americans today recognize that discrimination against the black population is widespread and that the white population has a privilege in getting ahead

compared to the black population (Tesler, 2020). Following the series of protests in 2020, acknowledgment of discrimination against black Americans and unfavorable perceptions of the police rose dramatically (Morin, 2020).

However, despite increased support for the BLM movement across all races (Tesler, 2020), research has also shown that people with high levels of racial resentment have developed negative attitudes towards the BLM movement. In particular, white Americans have the highest level of resentment towards the black population and hold a more negative attitude towards the BLM movement as compared to others (Riley & Peterson, 2020). Therefore, it is possible that social movements related to racial justice could evoke different attitudes towards the target race depending on the levels of racial resentment.

Among the varying and changing racial attitudes, it is important to understand the BLM movement's effect on the trust behavior of individuals from different races. Trust is "a psychological state comprising the intention to accept vulnerability based upon positive expectations of the intentions or behavior of another" (Rousseau et al., 1998). High levels of interpersonal trust are the foundation of a successful functioning modern society (Mendolia et al., 2016) because trust encourages cooperation and leads to greater economic development (Fink & Kessler, 2009). As Economist and Mathematician Kenneth Arrow stated, "virtually every commercial transaction has within itself an element of trust, certainly any transaction conducted over a period of time. It can be plausibly argued that much of the economic backwardness in the world can be explained by the lack of mutual confidence" (Arrow, 1972). As trust has been proven to increase growth rates (Knack & Keefer, 1997), raise per-capita income (Algan & Cahuc, 2010), and encourage financial investments (Bourdieu et al., 1990), it is crucial for economists to

understand how trust behavior of individuals from different races have changed due to racialized social movements.

Research has shown that low trust levels are strongly associated with a recent history of traumatic experiences and belonging to a group that historically faces discrimination (Alesina & Ferrara, 2002; Ashraf, Bohnet, & Piankov, 2006). This suggests that the BLM movement would likely have influenced the trust levels of black people as it was sparked by unfortunate instances of police brutality towards black individuals. Given the varying attitudes towards racial justice movements among different ethnic groups and the connection between trust and various factors essential to the society, it is essential to explore the shifts in trust behavior of ethnic groups due to the BLM movement.

To examine the influence of the BLM movement on trust, this research paper interacts racial trust with the concept of the availability heuristic. Availability heuristic occurs when people judge the frequency or probability of events by the ease with which relevant instances come to mind (Tversky & Kahneman, 1973). It is a mental shortcut that people use when estimating the likelihood of something happening based on how easily they can recall and imagine the event. Due to the absence of comparable data on trust behavior before the BLM movement occurred, this study introduces the ease of recall of the BLM movement as an independent variable in the trust game (Berg et al., 1995). The trust game is an economic experiment designed to quantitatively measure a person's trust or trustworthiness by examining the amount of an initial endowment a sender transfers and the amount a recipient returns to the sender respectively. The experimental game was conducted online due to COVID-related restrictions with 78 students recruited from Emory University.

Through the experiment, I found that easier recall of the BLM movement is correlated with higher trust but not trustworthiness. People are more trusting and trustworthy if their partners are of different ethnicities. This study contributes to the limited literature regarding the impact of the availability heuristic on the level of trust between ethnic groups in the United States.

2 Background

2.1 Trust and Measurements of Trust

The level of trust an individual has for another is contingent on various factors, including the availability of information on historical behavior (Charness et al., 2010), gender (Buchan et al., 2008; Rodrigo-Gonzalez et al., 2019), age (Garbarino & Slonim, 2009; Li & Fung, 2012; Greiner & Zednik, 2019), and even the birth order of siblings (Courtiol et al., 2009).

A review of literature in the field shows that ethnoracial differences exist in trust. In terms of generalized trust, studies show that black people are less likely to trust others than white people (Alesina & Ferrara, 2002; Uslaner, 2011), but they tend to be more trustworthy (Simpson et al., 2007). One reason is that low trust is associated with belonging to a group that has long felt discriminated against as minorities in the past (Alesina & Ferrara, 2002). In terms of categorical trust, scholars found that trust and trustworthiness are greater within ethnic groups than across ethnic groups (Simpson et al., 2007; Glaeser et al., 2000). The low cross-ethnic confidence is enhanced when there is a strong attachment to ingroup norms and negative stereotypes of outgroups

(Bouckaert & Dhaene, 2004). Studies have also found that residents from more ethnically heterogeneous communities are less trusting towards their neighbors (Leigh, 2006), even of their own race (Putnam, 2007).

Ethnoracial differences in trust could be attributed to experiences of discrimination and conflict (Alesina & Ferrara, 2002). Since "conflict is either caused by, or brings about, drastic changes in the underlying social relationships between members of a community involved in the conflict" (Aghajanian, 2012), it is not surprising if trust levels vary with conflict. Previous work illustrates that conflict, specifically violence, reduces trust levels. Coletta and Cullen (2000) found that as individuals become more aware of violent incidents, they grow to be more wary of each other and less cooperative. Booth and Meng (2019) showed that in-group conflict caused the descendants of those who were involved in the conflict to be less trusting and trustworthy. A study examining the effect of the Ugandan armed conflict revealed that self-reported levels of trust fell during battle events, but recovered rapidly post-violence (Luca & Verpoorten, 2011). Thus, I expect the BLM movement, which involves conflicts between various communities, to have an impact on trust levels and seek to expand on existing literature that links trust and conflict.

Trust has been widely measured by two methods, namely survey questions and the trust game. Common types of survey questions include attitudinal trust questions and questions examining past trusting behaviors. An attitudinal trust question directly asks the person their attitude on trusting others. An example would be the standard trust question, "Generally speaking, would you say that most people can be trusted or that you can't be too careful in dealing with people," which has been employed in various studies including the American National Election Studies, the World Values Survey institute, and

the General Social Survey. On the other hand, a past trusting behavior question understands trust levels based on how people entrusted others in the past. While survey questions are easy to implement and allow researchers to collect additional information such as subjective feelings and demographics, they face shortcomings including uncontrolled settings and possible variations in the wording and scale to measure trust, which could introduce unintended measurement error and noise. The conflicting views of researchers on what is the best version of the trust question in surveys (Lundmark et al., 2016; Uslaner, n.d.) raise concerns on the predictive power of the standard attitudinal questions on trust. Moreover, some argue that the questions predict trustworthiness rather than trusting behavior (Glaeser et al., 2000b).

A substitute to survey questions used by experimental economists to examine trust is the trust game, also known as the investment game. First introduced by Berg, Dickhaut, and McCabe (1995), the trust game measures both trust and trustworthiness of participants by looking at the amount of initial endowment they send to a recipient or send back to an initial sender respectively. The experiment framework has since been adopted in many studies to understand the role of attractiveness (Wilson & Eckel, 2006), gender (Buchan et al., 2008), age (Garbarino & Slonim, 2009), and other factors in trust. The wide adoption of the trust game suggests that it is a useful method to quantify and measure trust and trustworthy levels.

2.2 Availability Heuristic

The concept of the availability heuristic was first introduced by Kahneman and Tversky in 1973. They demonstrated through an experiment that people's perceived probability

and frequency of events are affected by the ease with which relevant examples of the events could be recalled. During the experiment, participants were asked to review recorded lists of male and female names and subsequently to either recall as many names as possible from the list or judge whether the list consisted of more names of men or women. One version of the list contained an equal number of names of famous women and names of less famous men, while another version contained names of famous men and names of less famous women. Results showed that famous names were easier to recall regardless of gender, and led to higher frequency estimates (Tversky & Kahneman, 1973). This demonstrated that how easily one can recall information can introduce biases in judgments.

The availability heuristic has been examined in the context of everyday decision-making where it is particularly prevalent. For example, it affects a consumer's perceived probability of product failure (Folkes, 1988). In an experiment, researchers found that given the same rate of product failure, consumers would rate the probability of product failure higher when the brand name is more distinctive and easier to recall. In the field of finance, researchers found that after introducing a bad debt shock, creditors took a longer time to recover their willingness to accept risks (Burakov, 2018). Ever since its introduction in 1973, the availability heuristic has been widely studied by scholars.

However, there is limited research to my knowledge on the relationship between the availability heuristic and trust. While past studies shed light on the relationship between trust and ethnicity, few examined the intersection of the three – how ethnoracial differences in trust levels are influenced by how easily one can recall an event. I seek to fill in the gap by understanding how the ease of recall of the BLM movement affects trust

and trustworthiness between ethnic groups using the trust game. In other words, assuming that people easily recall to mind incidents of racial discrimination and conflict when they are reminded of the BLM movement, they may overestimate the probability of such incidents and have lower faith in others. Based on previous literature, **I hypothesize that levels of trust (Hypothesis 1a) and trustworthiness (Hypothesis 1b) are lower when an individual can better recall the BLM movement, and that levels of trust (Hypothesis 2a) and trustworthiness (Hypothesis 2b) are lower between individuals of different ethnicities.**

3 Experimental Design

3.1 Setting and Recruitment

This study included Emory University undergraduate students (n = 78[1]; 46 Asian subjects, 25 White subjects, 2 Black or African American subjects, 3 multi-ethnic subjects, 2 from other ethnicities; 43 females, 34 males, 1 non-binary) at least 18 years of age. There were no participation criteria regarding ethnicity, major, gender, or nationality.

Subjects were recruited via convenience sampling through various online platforms like Zoom class announcements, emails, and social media posts[2] to avoid in-person contact during the pandemic. To ensure the diversity of the subject pool, students of different majors were made aware of the opportunity through recruitment announcements

[1] A total of 106 students agreed to participate in the study. Subjects were withdrawn from the research when their responses were recorded after the completion deadline. Additionally, they were also withdrawn if they answered the quiz that tests their understanding of the study wrongly. This is to ensure a full understanding of the procedure and the accuracy of responses. Subjects were able to withdraw from the experiment at any point in the experiment.

[2] Advertisements were published on approved Emory Facebook pages and social media platforms.

disseminated by academic departmental offices. Subjects were rewarded in the form of extra credit for their classes and/or gift cards. The different types of incentives serve as a method to attract multiple subsets of the Emory population and diversify the subject pool.

3.2. Sign-up

Students who wished to participate in the study on "economic decision-making" were directed to complete a sign-up questionnaire online (see Appendix A). The questionnaire collected contact [3] and demographic information (e.g., gender, ethnicity, nationality, major, etc.). A valid Emory email address and the date of birth were required to ensure eligibility.

The questionnaire also contained questions on personal preferences with limited responses. These personal preference questions are based on the information treatment in a study conducted by Eckel (2002). I asked:

- "Which of the following colors do you like best?"
- "Do you like dogs?"
- "Do you like to watch movies?"
- "Do you prefer tea or coffee?"

Upon completion of the form, a unique and random identification number was generated and sent to the subject. Subjects were required to use their identification number throughout the experiment to remain anonymous.

[3] Contact information was not linked to experiment responses to ensure confidentiality.

3.3 Pre-Experiment

The experiment was conducted remotely and over the online survey tool Qualtrics about one week after subjects filled out the sign-up survey. On the day of the experiment, subjects were given links to the questionnaires via the email address they provided upon sign up.

Upon entering the Zoom meeting, subjects were briefed on the questionnaires that they would be completing and the Zoom meeting rules to follow. This included muting their microphones to ensure that other subjects would not be distracted during the session by background noise. Subjects were then instructed to fill out a consent form. The consent form highlighted all possible risks, reminded subjects that they could withdraw from the study at any time with no consequences, and required an electronic signature (see Appendix A).

Subsequently, subjects were given the trust game instructions. In the experimental instructions, the trust game was communicated to the subjects as "Game A." The sender and recipient in the game were referred to as "Player 1" and "Player 2" respectively. In this paper, I will use the terms "trust game," "sender," and "recipient" for easy understanding. Subjects were told that they would be randomly paired with another Emory student and randomly assigned the role of the sender or recipient. The procedure of the trust game is as follows:

1. The sender is endowed with $10.

2. The sender transfers a portion of their $10 to the recipient. The sender can transfer any amount between 0 and $10, such as $9, $4, or nothing. The amount transferred will be referred to as "amount sent" subsequently.
3. The amount transferred is tripled before it is passed on to the recipient. For example, if the amount sent is $3, the recipient receives $9. The tripled amount received by the recipient will be referred to as "amount received" subsequently.
4. The recipient returns all, some, or none of the amount received to the sender. The amount returned will be referred to as "amount returned" subsequently.
5. Then, the game is over. The sender keeps the amount returned and the portion of the initial endowment that he/she did not choose to transfer to the recipient. The recipient keeps the amount received minus the amount returned. For example, if the amount sent is $3 and the amount returned is $5, the sender keeps $10 - $3 + $5 = $12. The recipient keeps $3 * 3 - $5 = $4.

To ensure that subjects understood the instructions correctly, a quiz was given at the end of the instructions sheet[4]. Subjects were asked to determine the amount the sender gets to keep in the scenario above, which was $12.

The instructions also explained how the game would be carried out in a virtual setting. In an offline setting, the trust game is typically carried out using the direct-response method. The sender would write down the amount sent on a record sheet, which would be collected and distributed to their partner by the researcher. Upon seeing the sender's

[4] 10 responses with incorrect answers to the quiz or partners with incorrect answers were excluded from the study.

decision, the recipient would write down the amount returned on a record sheet (Glaeser et al., 2000a). In this game, both the sender and the recipient will make decisions simultaneously and remotely through an online questionnaire via Qualtrics. The recipient will respond using the strategy method (Garbarino & Slonim, 2009). This means, instead of deciding after knowing the value of the amount received, the recipient decides on how much they will reciprocate for all possible amounts received. The strategy method overcomes the logistical difficulty of having subjects, especially those in different locations and time zones, interact in real-time. Although past studies yield mixed results on whether the strategy method leads to different behavior as compared to the direct-response method (Brandts & Charness, 2000; Güth, Huck, & Müller, 2001; Oxoby & McLeish, 2004), Brandts and Charness found preponderant evidence examining existing literature that the two methods induce similar results (Brandts & Charness, 2011).

3.4 The Trust Game

Subjects then filled out a pre-experiment questionnaire before proceeding with the trust game. The pre-experiment questionnaire differentiates the control treatment group and experimental treatment group by introducing two different sets of true or false ("T/F") questions (see Appendix A).

For the control treatment, subjects answered 25 T/F questions that contained statements on topics including climate change, tourism, and current affairs. Examples are "The Justice Department filed an antitrust lawsuit against Google in 2019" and "Individuals have a role to play in protecting the environment."

For the experimental group, subjects also answered 25 T/F questions. Five of the questions were on the topic of the BLM movement as follows:

- "BLM stands for Black Lives Matter."
- "The Black Lives Matter movement was founded in 2013 after the acquittal of a black man's murderer."
- "The Black Lives Matter movement was founded to combat police brutality."
- "Celebrities have shared posts on social media to support the Black Lives Matter movement."
- "There were more than 7,750 Black Lives Matter demonstrations across the United States in 2020."

These questions served to remind subjects of the BLM movement and facilitate easier recall of memory on the topic. The remaining 20 questions were randomly selected from the list of 25 questions for the control group. A wide range of topics and a mixed number of statements on each topic were selected to act as filler items. All questions were displayed in a random sequence to each subject using a Qualtrics function. The randomization helps to eliminate any biases that could be introduced by the topics and sequence of the questions.

Immediately after completing the pre-experiment questionnaire, subjects proceeded with the trust game. All subjects were randomly pre-assigned a partner using their unique identification number. Subjects were given limited information on their partner, including their gender, ethnicity, birth year, and their answers to the pre-filled personal preference questions. All subjects remained anonymous.

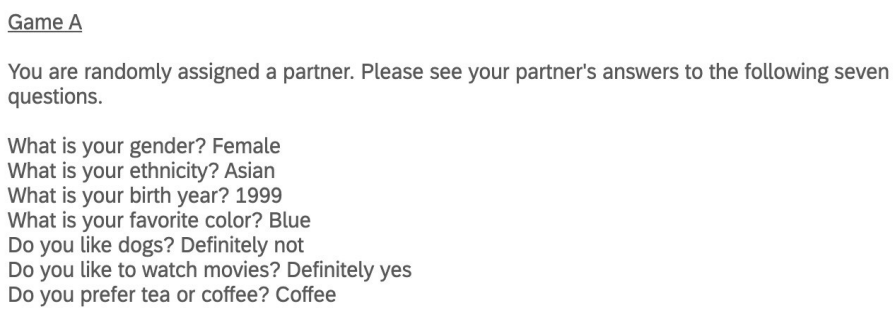

Figure 1: Partner information displayed in trust game

Subjects were also informed of their randomly-assigned role in the trust game. They proceeded with the game as either the sender or the recipient and were reminded of the game instructions. The senders indicated the dollar amount they would transfer to their partners as shown below.

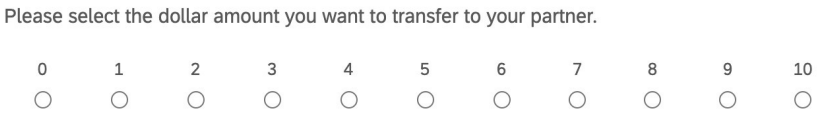

Figure 2: Example of trust game questionnaire for senders

The recipients indicated the amounts they would want to return to their partners for each of the possible amounts received.

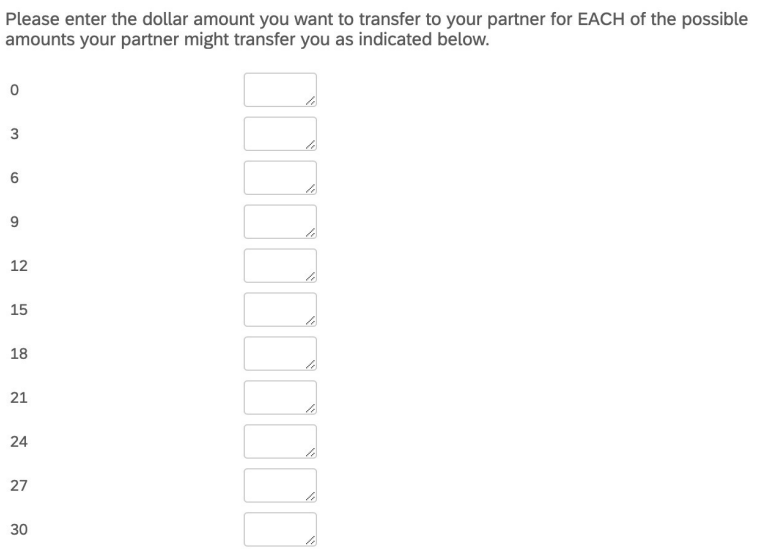

Figure 3: Example of trust game questionnaire for recipients

Each pair's responses were matched manually after the experiment to determine the final payoff. Subjects were not aware of the final payoff as it was a one-shot game and the results were determined after the Zoom sessions.

The amount sent is used to measure trust. The return ratio is used to measure trustworthiness and is calculated by dividing the amount returned by the amount received.

$$\textit{return ratio} = \textit{amount returned} / \textit{amount received}$$

The return ratio is used instead of the amount returned to scale the data for easy comparison as each recipient would be able to send back different dollar amounts depending on how much was received.

3.5 Post-Experiment

After the trust game, subjects were asked to fill out a post-experiment questionnaire. The questionnaire consisted of additional demographic questions covering potentially sensitive topics such as household income and parental education. These questions were designed to be included in the post-experiment questionnaire rather than the sign-up questionnaire because responses to the sign-up questionnaire were not anonymous. The anonymity of the post-experiment questionnaire is expected to encourage more disclosure of sensitive information (Murdoch et al., 2014). The questionnaire also included questions regarding subjects' involvement with the BLM movement to understand how familiar they are with the movement. Subjects were asked about the ethnic composition of their friend groups to understand their frequency of interaction with people from different ethnic groups. Finally, subjects were asked a series of questions on past trusting behaviors and trusting attitudes.

Three of the trust questions[5] collect information on past trusting behaviors. Research has shown that past trusting behavior predicts experimental choices in a trust game (Glaeser et al., 2000a). The questions were as follows:

- "How often do you lend money to your friends?"
- "How often do you lend personal possessions to your friends (e.g., clothes, earphones, bicycle, etc.)?"
- "How often do you intentionally leave your rooming group's hallway door unlocked (when nobody is home)?"

5 These questions were adapted from a survey designed by Glaeser, Laibson, Scheinkman, and Soutter in "Measuring Trust" (2000).

While past studies have shown mixed results, attitudinal questions on trust are generally correlated with trusting (Alesina & Ferrara, 2002; Capra et al., 2008; Holm & Danielson, 2005) and trustworthy behavior (Glaeser et al., 2000a). In addition to the widely used General Social Survey trust question "Generally speaking, would you say that most people can be trusted or that you can't be too careful in dealing with people," I also included two questions on attitude towards trusting strangers. These questions' specificity in context allows them to have greater predictive value than general trust questions (Glaeser et al., 2000a). The questions were as follows:

- "You can't trust strangers anymore."
- "When dealing with strangers, one is better off using caution before trusting them."

4 Results

In total, 78 subjects successfully completed the experiment. Out of which, 42 subjects took part in the control treatment and 36 subjects participated in the experimental treatment. Of the 39 pairings, 20 pairs were of the same ethnicity and 19 pairs were of different ethnicities.

Two independent t-tests were conducted to compare the averages of the amount sent and the fraction returned in the experimental and control treatments. Table 1 shows that the 18 senders in the experimental treatment group transferred significantly more than the 21 senders in the control group ($t = 2.14$, $p = .039$) at the five percent significance level. This result is inconsistent with my hypothesis which predicted the amount sent to be lower in the experimental condition (Hypothesis 1a).

On the other hand, the average return ratio is lower in the experimental group than that of the control group (t = -0.257, p = .799). Between the two treatment groups, recipients in the experimental group returned less to their partners than their counterparts in the control group.

Treatment	Average Amount Sent	Average Return Ratio
Experimental	M = 6.67(*), SD = 3.31	M = 0.392, SD = 0.279
Control	M = 4.38(*), SD = 3.34	M= 0.414, SD = 0.210

Table 1: Average amount sent and return ratio by treatment group

Two independent t-tests were conducted to compare the averages of the amount sent and the amount returned as a fraction of the tripled amount received across different ethnic groups[6]. As shown in Table 2, white senders transfer significantly greater amounts than non-white senders (t = -3.07, p = .008). Asian senders transfer significantly smaller amounts than non-Asian senders (t = 2.61, p = .015). Return ratios do not vary significantly with sender ethnicity at the five percent significance level. Note that factors such as partner ethnicity are not controlled for in the t-tests and the relatively large standard deviations suggest that there is substantial variation within the collected data. Variation in data will be further investigated in subsequent sections through regression models.

[6] Black, multi-ethnic, and other ethnicities were not included due to the lack of samples.

Ethnicity	Average Amount Sent	Average Return Ratio
White	M = 8.11(*), SD = 2.89	M = 0.412, SD = 0.268
Asian	M = 4.50(*), SD = 3.33	M = 0.393, SD = 0.237

Table 2: Average amount sent and return ratio by ethnic group

As reflected in Table 3, the difference in ethnicity of the pair does not introduce significantly large differences in the amount sent (t = -1.09, p = .284) and the return ratio (t = -1.02, p = .315). This pattern is also shown in Figures 4 and 5 as the box plots overlap greatly. The effect of ethnic difference in pairs will be investigated further in subsequent sections by employing regression models with additional control factors.

Pair Ethnicity	Average Amount Sent	Average Return Ratio
Same	M = 4.85, SD = 3.75	M = 0.361, SD = 0.211
Different	M = 6.05, SD = 3.15	M = 0.444, SD = 0.268

Table 3: Average amount sent and return ratio by pair ethnicity

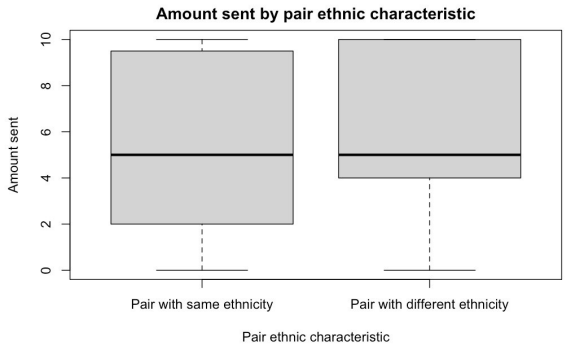

Figure 4: Amount sent by pair ethnicity

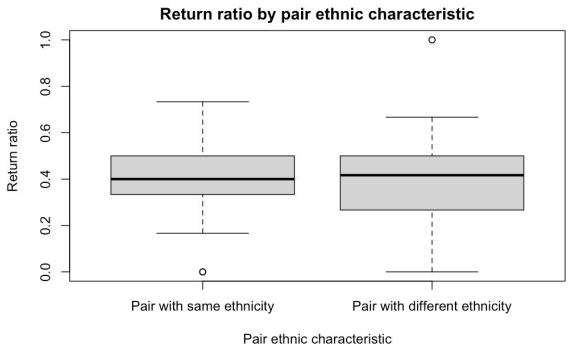

Figure 5: Return ratio by pair ethnicity

4.1 Determinants of Trust

Regression models are employed to better understand what is driving the variation in the sample. As shown in Table 4, I regressed the amount sent by senders in the trust game as a function of their treatment group and the characteristics of the sender and the pair. The regression models control for demographic variables, treatment group, preference question responses, familiarity with the BLM movement, and familiarity with other ethnic groups.

Model 1 takes into consideration the effects of demographic characteristics on the amount transferred by the sender. Generally, these variables are insignificant. The amount sent decreases insignificantly when the sender is White or Asian[7], and increases insignificantly when the pair are of different ethnicities. A negative coefficient demonstrates that senders in the control group, who were not reminded of the BLM movement before the trust game, sent less over than their counterparts in the

[7] Black or African American is dropped as a control factor in the regression model as no black subjects participated as a sender. Multi-ethnic and other ethnicities are not included as there were too few cases.

experimental group. This difference is marginally significant at the 10 percent level. However, note that the standard errors are quite large, and more variables should be added to increase precision.

Table 4: Regression results on trust behavior

	Amount sent as function of sender and pair characteristics				
	(1)	(2)	(3)	(4)	(5)
Control group	−2.174* (1.215)	−2.467* (1.196)	−2.772** (1.112)	−2.921*** (0.939)	−2.678* (1.344)
Male sender	0.612 (1.173)	1.120 (1.150)	1.111 (1.110)	−0.519 (1.026)	−0.514 (1.459)
Male partner	0.498 (1.202)	0.923 (1.440)	−0.367 (1.468)	0.392 (1.297)	−0.035 (2.468)
Different gender	−0.107 (1.147)	0.146 (1.140)	0.343 (1.048)	1.021 (0.952)	1.180 (1.383)
White	−2.201 (2.765)	0.099 (2.939)	1.185 (2.778)	−1.134 (2.456)	−1.019 (4.084)
Asian	−2.888 (2.435)	−1.966 (2.458)	−0.325 (2.425)	−1.916 (2.333)	−1.695 (4.625)
Different ethnicity	1.519 (1.071)	1.957 (1.247)	1.997 (1.153)	1.455 (1.037)	1.454 (1.282)
Only child	−2.139 (1.664)	−1.694 (1.790)	−1.358 (1.653)	−3.540** (1.536)	−2.822 (2.820)
Household income					
Low income	1.712 (2.055)	0.619 (2.166)	−0.179 (2.026)	−0.473 (1.679)	−0.224 (2.311)
Middle income	0.166 (1.430)	0.012 (1.796)	1.493 (1.917)	0.437 (1.602)	1.146 (2.269)
High income	3.372* (1.627)	2.819 (2.202)	4.106 (2.379)	4.933** (2.049)	5.301* (2.617)
Preference questions					
Different Color		0.908 (1.308)	2.140 (1.290)	2.049 (1.239)	2.193 (1.539)
Different Dog		1.323 (1.659)	2.419 (1.735)	0.995 (1.570)	1.081 (1.951)
Different Movie		−2.149 (1.352)	−1.556 (1.464)	−0.917 (1.185)	−1.019 (1.555)
Different Drink		−1.935* (1.085)	−1.475 (1.012)	−1.735* (0.804)	−1.652 (1.056)
BLM familiarity					
Very familiar with BLM			−0.775 (1.763)	−0.371 (1.543)	−0.317 (2.192)
Moderately familiar with BLM			−1.367 (1.645)	−1.207 (1.328)	−1.200 (1.752)
Slightly familiar with BLM			2.571 (1.868)	3.867** (1.690)	4.591* (2.305)
Friend group composition					
Most friends are White				0.886 (2.064)	0.499 (3.133)
Most friends are Asian				2.012 (1.983)	1.488 (3.436)
Interaction frequency					
Interact with White daily					−0.295 (1.861)
Interact with Asian daily					0.091 (2.757)
Interact with Black daily					−1.031 (2.246)
Constant	6.802** (2.694)	5.944* (3.148)	2.695 (3.856)	4.108 (3.295)	3.937 (4.369)
Observations	33	33	33	32	31
Adjusted R^2	0.389	0.456	0.550	0.730	0.616
Residual Std. Error	2.802 (df = 21)	2.642 (df = 17)	2.404 (df = 14)	1.891 (df = 11)	2.280 (df = 7)

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

Model 2 included additional dummy variables related to the personal preference questions subjects answered when they signed up for the study. The variables give value one if the pair gave different answers to the preference questions. For example, if a subject chose “Blue” as their favorite color but their partner chose “Green,” the dummy variable “Different color” would produce a value of one. If both subjects chose “Blue,” the variable would be zero. The variables were included to control for increases in trust levels due to a perceived similarity between the senders and their partners (Lacewell, 2015).

This means that having similar preferences might lead the subjects to have higher trust for their partners. Generally, these variables have no statistically significant covariation with the amount sent. Having a different preference in drinks led to significantly lower amounts transferred at the 10 percent level. Considering the effect of treatments on the amount sent, model 2 parallels model 1 in showing that the experimental treatment increases amounts sent significantly. Senders also transfer insignificantly more when the recipient is of different ethnicity.

The senders' degree of familiarity with the BLM movement is included in model 3 as an additional control factor. Although being slightly familiar with the BLM movement insignificantly increases the amount transferred, this factor becomes statistically significant in models 4 and 5 when the degree of familiarity with different ethnic groups is taken into account. This model demonstrates that senders in the control group transfer $2.77 less to their partners compared to those in the experimental treatment at a five percent significance level. This is further confirmed in model 4, where the amount sent decreases by $2.92 at a one percent significance level. Model 4 and 5 include dummy variables on the composition of friend groups[8] and the interaction frequency with individuals of different ethnicities. In addition to the experimental treatment significantly increasing the amount sent, model 4 also shows that being an only child and coming from a high-income household significantly reduces and increases the amount transferred respectively at the five percent level. This study does not examine the effects of siblings and income, but they would be interesting to investigate in future studies.

[8] Only the variables for the majority of friends being White or Asian were included due to the lack of samples in the other ethnic groups.

To further understand the impact of the BLM movement, two additional regression models are used to compare the explanatory power of variables across treatments. As demonstrated in Table 5, senders transfer insignificantly greater amounts to their partners if the pairs have different ethnic affiliations. However, this increase in the amount sent is greater in the control treatment than in the experimental treatment.

Table 5: Regression results on trust behavior by treatment

	Amount sent as function of sender and pair characteristics	
	(Experimental)	(Control)
Male sender	2.959 (2.651)	−1.126 (2.525)
Male partner	−3.466 (1.945)	2.285 (2.027)
White	0.562 (3.444)	−0.057 (4.902)
Asian	1.438 (3.444)	0.891 (3.928)
Only child	5.644 (3.616)	−2.043 (3.884)
Household income		
Low income	7.164 (5.616)	1.478 (6.160)
Middle income	1.342 (3.918)	−0.859 (1.716)
High income	3.753 (4.027)	4.224* (2.099)
Different ethnicity	1.644 (2.278)	2.317 (1.520)
BLM familiarity		
Very familiar with BLM	−0.808 (3.806)	−0.022 (3.005)
Moderately familiar with BLM	−6.973 (3.448)	−0.350 (2.639)
Slightly familiar with BLM	−1.260 (3.132)	1.904 (3.084)
Constant	4.863 (5.002)	0.822 (4.301)
Observations	14	19
Adjusted R^2	0.683	0.477
Residual Std. Error	1.986 (df = 1)	2.293 (df = 6)
Note: Significance levels		*p<0.1; **p<0.05; ***p<0.01

Overall, the regression models show that senders who had greater ease recalling the BLM movement transferred more to their partners, reflecting higher trust levels regardless of treatment group. Additionally, greater amounts were transferred when the sender and the recipient were of different ethnic groups for both treatment. This pattern is more apparent in the control treatment than the experimental treatment. The results are inconsistent with Hypotheses 1a and 2a. However, note that results on Hypothesis 2a are statistically insignificant and imprecise with relatively large standard errors.

4.2 Determinants of Trustworthiness

In Table 6, the return ratio is regressed on the characteristics of the recipient and the pair. Model 1 shows the return ratio regressed on demographic variables including gender, ethnicity, and parents' education. These variables have an insignificant impact on the reciprocity of recipients. Recipients return insignificantly more when they are White or Asian, or when their partner belongs to a different ethnic group. The control group yields lower fractions of amounts returned, but this difference is close to zero.

Table 6: Regression results on trustworthy behavior

	Return ratio as function of recipient and pair characteristics			
	(1)	(2)	(3)	(4)
Control group	−0.002 (0.114)	0.009 (0.105)	−0.015 (0.076)	−0.101 (0.110)
Male recipient	−0.107 (0.108)	−0.115 (0.105)	0.064 (0.121)	0.071 (0.121)
Male partner	0.116 (0.100)	0.108 (0.091)	0.029 (0.091)	0.138 (0.125)
Different gender	−0.125 (0.107)	−0.178 (0.105)	−0.148* (0.078)	−0.131 (0.077)
White	0.259 (0.291)	0.332 (0.276)	0.413 (0.319)	0.763 (0.437)
Asian	0.386 (0.292)	0.267 (0.269)	0.416 (0.285)	0.515 (0.311)
Different ethnicity	0.032 (0.104)	0.061 (0.091)	0.102 (0.070)	0.061 (0.073)
Only child	−0.101 (0.191)	−0.056 (0.174)	0.126 (0.129)	0.063 (0.137)
Household income				
Low income	0.598 (0.420)	0.526 (0.428)	0.736** (0.301)	0.331 (0.439)
Middle income	0.067 (0.213)	0.188 (0.205)	0.273 (0.158)	0.114 (0.221)
High income	0.147 (0.177)	0.120 (0.163)	0.177 (0.129)	0.104 (0.154)
Parents' education				
Father with at least college degree	−0.219 (0.342)	−0.622* (0.344)	−0.621** (0.257)	−0.565* (0.252)
Mother with at least college degree	0.304 (0.311)	0.501 (0.299)	0.667** (0.217)	0.280 (0.357)
Preference questions				
Different Color		−0.339** (0.113)	−0.241** (0.086)	−0.271** (0.104)
Different Dog		0.151 (0.119)	−0.056 (0.122)	−0.068 (0.120)
Different Movie		−0.141 (0.110)	−0.129 (0.079)	−0.100 (0.102)
Different Drink		0.044 (0.100)	0.043 (0.072)	0.144 (0.129)
BLM Familiarity				
Very familiar with BLM			0.149 (0.199)	0.095 (0.225)
Moderately familiar with BLM			−0.205 (0.229)	−0.324 (0.277)
Slightly familiar with BLM			−0.230 (0.312)	−0.256 (0.308)
Friend group composition				
Most friends are White				−0.186 (0.117)
Constant	−0.064 (0.482)	0.324 (0.450)	−0.036 (0.332)	0.295 (0.415)
Observations	30	30	30	29
Adjusted R^2	0.053	0.289	0.671	0.698
Residual Std. Error	0.230 (df = 16)	0.200 (df = 12)	0.136 (df = 9)	0.132 (df = 7)

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

Model 2 controls for the perceived similarity between the recipients and their partners. Among the four preference questions, having different preferred colors reduced the fraction of amount returned significantly at the five percent level. Parents' education

levels play a role as having a father with a college or higher degree reduces the return ratio at the 10 percent level and having a mother with a college or higher degree increases the return ratio at the five percent level. This pattern is also observed in models 3 and 4.

Models 3 and 4 yield similar results after controlling for recipients' familiarity with the BLM movement and friend group composition.

The treatments did not significantly influence the return ratio as the coefficients in all four models are indistinguishable from zero. White and Asian recipients returned greater portions of the amount received to their partners. A greater fraction is returned when the pair are from different ethnic groups. This pattern is more apparent in the control group than the treatment group, as seen in Table 7 where the return ratio is analyzed by treatment groups

Table 7: Regression results on trustworthy behavior by treatment

	Return ratio as a function of recipient and pair characteristics	
	(Experimental)	(Control)
Male recipient	0.327 (0.275)	0.293 (0.184)
Male partner	0.173 (0.168)	−0.193 (0.177)
White	0.162 (0.439)	−0.775 (0.462)
Asian	0.247 (0.456)	—
Different ethnicity	0.217 (0.169)	0.312 (0.270)
Only child	−0.006 (0.247)	0.033 (0.284)
Household income		
Low income	0.267 (0.288)	1.356** (0.415)
Middle income	0.010 (0.287)	−0.071 (0.250)
High income	0.165 (0.255)	0.626 (0.298)
BLM familiarity		
Very familiar with BLM	0.623 (0.406)	0.593 (0.293)
Moderately familiar with BLM	0.104 (0.314)	0.719 (0.399)
Constant	−0.477 (0.437)	−0.293 (0.247)
Observations	16	15
Adjusted R^2	0.065	0.473
Residual Std. Error (df = 4)	0.259	0.165
Note: Significance levels		*p<0.1; **p<0.05; ***p<0.01

5 Discussion

The study investigates the relationship between the availability heuristic and trust through the lens of the BLM movement. The results support the theory that the availability heuristic influences trusting behavior. Inconsistent with the hypothesis, subjects who could better recall the BLM movement in the experimental treatment trusted their partners more and transferred more regardless of partner ethnicity. The influence of the availability heuristic is not observed in trustworthy behavior as changes in the return ratio across treatments were not robust. Having a partner of different ethnic affiliations appears to insignificantly increase trusting and trustworthy behavior instead of the hypothesized decrease in trust and trustworthiness. This increase is amplified in the control treatment when subjects were not reminded of the BLM movement.

The results are inconsistent with some past studies and the predictions for this study. The following sections highlight the limitations of the study, provide alternative explanations for the inconsistency in results, elaborate on future research directions, and conclude with the significance and implications of the study findings.

5.1 Sample Size

The small sample size introduces potential limitations to this study. Although the number of subjects in each treatment group was equal or above 30, the sample sizes when subjects were divided into subcategories by role in the trust game and ethnicity were relatively small. This could cause problems such as low statistical power and large variations, undermining the results' validity.

In particular, the small number of black subjects in my study limited the ability to analyze the BLM movement's influence on their trust and trustworthy behavior. A study conducted by Lewicki and Brinsfield (2011) found that a person's relevant knowledge of the matter and its personal relevance to the person influence the person's reliance on availability heuristic when making trust decisions. When the matter is more personally relevant and significant, a person relies less on the ease of recall to make judgments on trust. As such, I speculate that black people would be influenced by the experimental treatment to a smaller extent in the trust game. Based on a recent report which suggests that young black people are more likely than other young people to believe in the division over ethnicity (Vandermaas-Peeler et al., 2018), I expect black people to be more affected by partner ethnicity in the trust game. However, these speculations could not be verified in this study due to the lack of black people representation in the subject pool and could be investigated in future studies with a greater and more representative subject pool.

5.2 Sample Characteristics

Additionally, even though additional efforts were put in to improve subject pool diversity[9], the recruited Emory population has questionable generalizability which could introduce unintended biases in the study.

[9] As discussed in experimental design, students of different majors were made aware of the opportunity through recruitment announcements disseminated by academic departmental offices to ensure the diversity of the subject pool. Different types of incentives were used to attract multiple subsets of the Emory population and diversify the subject pool.

5.2.1 Education

All subjects are highly-educated undergraduate students pursuing a college degree. They are more aware of discrimination against minorities and less likely to be influenced by negative stereotypes (Wodtke, 2012). The experimental treatment could have reminded subjects of the existence of racial discrimination and stereotypes, which caused them to transfer more in an attempt to correct for possible inherent biases. This could also explain why trust and trustworthiness generally increased when the partner is of different ethnicity, and why the increases are statistically insignificant.

5.2.2 Age

Subjects' age ranged from 18 to 23, which is a relatively small subset of the general public. This age group has inherent preferences and characteristics that could have introduced biases in the study. For example, young people in the US have divided views on protests and demonstrations, with young black people seeing protests as "inspiring" while young white people having mostly negative feelings associated (Vandermaas-Peeler et al., 2018). This division could introduce unintended variations in the results that could be eliminated if the experiment was conducted with subjects across various age groups. From the perspective of trust, younger generations are generally less trusting and trustworthy than older people (Greiner & Zednik, 2019; Li & Fung, 2012). As such, it would be interesting to conduct the study with subjects across all ages in the future to better understand the effect of racial justice movements on trust and trustworthiness.

5.2.3 Diversity on Campus

Moreover, Emory has a relatively diverse campus in terms of ethnicity and nationality. It has a good representation of White, Asian, Black or African American, Hispanic or Latino students as shown in Figure B1 in the Appendix (*Undergraduate Ethnic Diversity at Emory University*, 2020). 13% of the admitted Class of 2024 are international, and the Emory College student population represent 85 nations around the world (*Admitted Students: Class of 2024: Emory University: Atlanta GA*, 2020). This diversity in the Emory student population suggests that students have ample opportunity to interact with out-group members and build diverse social networks. This is supported by subjects' self-reported frequency of interaction with other ethnic groups: more than 53.8% of the subjects interact with at least three ethnic groups four to six times or more per week. Frequent interaction and close ties with individuals from different ethnic backgrounds reduce prejudice and build trust amid diversity (Uslaner, 2011). Lewicki and Brinsfield (2011) also found that those who have developed high levels of trust for someone due to repeated interactions have more positive trusting behavior to recall from, greater ease of recall, and greater confidence in their perceived trustworthiness due to greater experiences with the person. Emory students' frequent interaction with out-group members could have played a role in diminishing or reversing the effect of ethnicity differences.

5.2.4 Familiarity with the BLM Movement

Subjects are highly familiar with the BLM movement as shown in Figure B2 in the Appendix. Over 80% of the subjects are at least moderately familiar with the BLM movement and almost half are very familiar or extremely familiar. In line with the effect

of education, subjects' high awareness of racial divisions and discriminatory practices could have caused them to transfer more in an attempt to correct for inherent biases. I also speculate that the BLM movement introduced opportunities to learn about the black population and other ethnic groups, which in turn reduced attachment to negative stereotypes of outgroups and increased cross-ethnic confidence (Bouckaert & Dhaene, 2004).

To investigate if the subjects' high familiarity with the BLM movement could introduce biases, I regressed their degree of familiarity with the BLM movement on subject characteristics to test for the potential problem of endogeneity. As shown in Table 8, although male subjects and Asian subjects are significantly more familiar with the BLM movement, subjects who interact with Asians on a daily basis are significantly less familiar. The results suggest that there could be correlations between the explanatory variables included in previous regression models, though the validity could be influenced by the sample size. Since the highlighted variables did not influence behavior in the trust game significantly as shown in Tables 4 to 7, I do not expect the possible correlations to have introduced significant biases in the data. This study does not attempt to define and understand shared characteristics of individuals who are familiar with the BLM movement, but I encourage future studies to address possible endogeneity by identifying and replacing endogenous regressors with suitable instrumental variables and developing survey questions that better understand the reasoning behind decision-making.

Table 8: Regression results of familiarity with BLM movement and subject characteristics

	Familiarity with BLM movement as function of subject characteristics
Male	0.566** (0.250)
White	0.950 (0.569)
Asian	1.084* (0.601)
US citizen	−0.322 (0.274)
Economics major	0.153 (0.232)
Only child	0.121 (0.373)
Household income	
Low income	−0.656 (0.522)
Middle income	−0.186 (0.394)
High income	−0.376 (0.344)
Parents' education	
Father with at least college degree	−0.644 (0.431)
Mother with at least college degree	−0.079 (0.408)
Interaction frequency	
Interact with White daily	0.014 (0.352)
Interact with Black daily	0.378 (0.354)
Interact with Asian daily	−0.917** (0.341)
Friend group composition	
Most friends are White	0.591 (0.559)
Most friends are Asian	0.615 (0.650)
Constant	2.223** (0.861)
Observations	61
Adjusted R^2	0.118
Residual Std. Error	0.815 (df = 44)

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

In addition, the understanding of subjects' familiarity with the BLM movement could be limited because it was self-reported and gauged based on one survey question. Even though subjects used randomly-generated identification numbers throughout the study to ensure anonymity, I recognize that this might not completely eliminate the limitations of self-reported data. Subjects might have been pressured to make more socially acceptable answers or might not have been able to accurately assess themselves. Moreover, reference bias might exist when subjects determine their level of familiarity based on different standards.

This study also did not investigate the specific knowledge subjects know about the BLM movement. Subjects could have recalled different aspects of the movement in the

experimental treatment that led to variations in behavior. For example, subjects who vividly remember violent protests could have behaved differently from subjects who recalled instances of workplace discrimination. Hypothesis 1 assumed that recalling the BLM movement would lead to recalling instances of racial discrimination and conflict. However, this assumption was not verified during the experiment and could be false depending on the subjects' specific knowledge of the BLM movement. As such, a more comprehensive set of questions should be developed in future studies to understand variations in the degree of familiarity with the BLM movement and what subjects were reminded of during the experiment.

5.3 Experimental Design

Even though the study's experimental design was carefully curated based on past work to replicate that of an offline version, it is important to acknowledge that the subjects' experience in a virtual setting due to COVID-19 restrictions could deviate from that in an offline setting. Although subjects were reminded constantly to clarify questions with the experimenter, being physically separated could have possibly enhanced the barriers to effective communication and the perceived accessibility of the experimenter.

Moreover, subjects might have less standardized experiences while participating due to their different physical locations and time zones. Subjects were encouraged and reminded multiple times to participate in a quiet and private setting with their cell phones turned off to avoid distractions. However, it would still be difficult logistically to control for a standard experience for all. As such, future studies should conduct the

experiment in-person when permitted or control for the differences between online and offline experiments to avoid biases due to experimental design.

5.4. Implications

Overall, this study contributes to a clearer understanding of the relationship between the availability heuristic and trust in the context of the BLM movement. At present, research on the impacts of the BLM movement is still in its infancy due to the recency of the topic. This study contributes to the area by quantifying the effect the BLM movement has on trust and trustworthiness and comparing if racial difference plays a different role in trust levels after the BLM movement was introduced. Although scholars have long studied the various factors that influence trust and trustworthiness, few to my knowledge have integrated the three concepts - trust (and trustworthiness), the availability heuristic, the BLM movement - into one study. Moreover, this study develops a framework that could be easily replicated in future studies on other racial justice movements. The novelty and replicability of this study contribute to its significance in the field of experimental economics.

The findings of this study have important implications and relevance to today's society. This study suggests that people have more trust for others as they are reminded of the BLM movement. Even though results were statistically insignificant, this study also suggests that cross-ethnic confidence is positively correlated with the ease of recall. The findings highlight the potential benefits racial justice movements bring in addition to drawing massive attention to the issue of systematic inequality and racial disparities. As trust plays a pervasive role in society, racial justice movements could bring about

additional social and economic benefits associated with higher trust levels (Algan & Cahuc, 2010; Arrow, 1972; Bourdieu et al., 1990; Fink & Kessler, 2009; Knack & Keefer, 1997; Mendolia et al., 2016).

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Appendix A

Survey Questionnaires

Sign Up Form

Q1 Thank you for your interest in participating in this research project on economic decision-making! Your participation is entirely voluntary. You are able to withdraw from the study at any point with no penalty.

As a token of appreciation, five participants will be randomly selected to receive a $10 Amazon eGift Card. Please enter your Emory email using this link if you are interested: https://tinyurl.com/499amazongiftcard

Kindly be assured that all information collected in the online surveys will be kept confidential and will only be used for the purpose of this study.

If you have any questions or concerns, please feel free to contact the researcher Vicky Wang at vicky.wang@emory.edu.

Q1 Please provide the following information.

First name _____

Last name _____

Emory email _____

Birth date (Note: You must be 18 or above to participate in this experiment.)

_____

Q2 What is your gender?

Male

Female

Non-binary / third gender

Prefer not to say

Q3 What is your ethnicity?

White

Black or African American

American Indian or Alaska Native

Asian

Native Hawaiian or Pacific Islander

From multiple races (please specify)

Other (please specify)

Q4 Please specify your ethnicity.

_____

_____

_____

_____

_____

Q5 What is your nationality?

_____

Q6 What is your class standing?

First year

Sophomore

Junior

Senior

Q7 What is your major?

_____

Q8 How many Economics course have you taken?

0

1-5

6-10

More than 10

Q9 What is the highest level of school you have completed or the highest degree you have received?

Less than high school degree

High school degree or equivalent (e.g., GED)

Some college but no degree

Associate degree

Bachelor degree

Graduate degree

Q10 Which of these colors do you like best?

Blue

Red

Green

Yellow

Q11 Do you like dogs?

Definitely yes

Probably yes

Might or might not

Probably not

Definitely not

Q12 Do you like to watch movies?

Definitely yes

Probably yes

Might or might not

Probably not

Definitely not

Q13 Do you prefer tea or coffee?

Tea

Coffee

Q14 Please sign up for one of the following time slots. All sessions are conducted online over Zoom.

Q15 Which courses are you currently enrolled in? Tick all that apply.

Q16 You agree to share your name with the faculty member(s) of the course(s) ticked above to inform the faculty member(s) of your research participation.

I agree.

I do not agree.

Thank you for signing up for the research experiment. A unique and random identification number will be generated and sent to your email shortly. Please save this ID number for future use. Thank you!

Instructions

Welcome! Please make yourself comfortable. Though not required, we highly recommend that you participate in this experiment in a quiet and private environment and turn off your cell phone. Please note that this game may take about 15 to 20 minutes to complete.

Before we proceed any further, we would like to stress something that is very important. You could be invited here without understanding very much about what we are planning to do today. If at any time you find that this is something that you do not wish to participate in for any reason, you are of course free to leave whether you have started the game or not.

Should you have any questions or concerns, please contact the researcher Yuqi (Vicky) Wang at Vicky.Wang@emory.edu.

Please enter your 4-digit participant ID number.

_____

Game A This game is played by pairs of individuals. Each pair is made up of a Player 1 and a Player 2. You will be randomly assigned a role and paired with another Emory student. However, none of you will know exactly with whom you are playing. Only the researcher knows who is to play with whom and the researcher will never tell anyone else.

Player 1 will be endowed with $10 at the beginning of the game. Player 1 then has the opportunity to transfer a portion of their $10 to Player 2. They could give any amount between 0 and $10, such as $9, $4, or nothing. The amount transferred by Player 1 will be $x. Whatever amount Player 1 decides to give to Player 2 will be tripled before it is passed on to Player 2. Player 2 will receive $3x. Player 2 then has the option of returning any portion of this tripled amount to Player 1. Then, the game is over.

Since this game is conducted remotely, Player 2 will respond using the strategy method. This means, instead of making the decision after knowing the value of $3x, Player 2 will decide on a contingent action for every possible amount sent by Player 1.

Example: To ensure that you understood the instructions clearly, please go through the following example and answer the question.
Imagine that Player 1 gives $3 to Player 2. So, Player 2 gets $9 (3 times $3 equals $9). At this point, Player 1 has $7 and Player 2 has $9. Suppose Player 2 decides to return $5 to Player 1. At the end of the game Player 1 will have how much?

_____

Pre-Experiment Questionnaire

1. You usually take up the leadership role in a team. T/F
2. Generally speaking, you would call yourself an emotional person. T/F
3. Answer T for this question. T/F
4. Alaska is the biggest American state in square miles. T/F
5. The five rings on the Olympic flag are interlocking. T/F
6. Mount Everest is the highest mountain in the world. T/F
7. A group of swans is known as a bevy. T/F
8. Sydney is the capital of Australia. T/F
9. Nepal is the only country in the world which does not have a rectangular flag. T/F
10. Only one film has ever won all five of the main Oscars (film, director, actor, actress and screenplay). T/F
11. Switzerland shares land borders with four other countries. T/F
12. The Great Wall of China is longer than the distance between London and Beijing. T/F
13. 'A' is the most common letter used in the English language. T/F
14. A woman has walked on the moon. T/F
15. Carbon dioxide is a greenhouse gas. T/F
16. More extreme weathers like droughts and hurricanes are consequences associated with climate change. T/F

17. Donald Trump formally pulled the United States out of the World Health Organization in 2020. T/F
18. All information on social media are accurate. T/F
19. The Justice Department filed an antitrust lawsuit against Google in 2019. T/F
20. In 2017, travel and tourism directly supported 3.8% of total employment around the world. T/F
21. Individuals have a role to play in protecting the environment. T/F
22. Protecting the environment is personally important to me. T/F
23. Buying 'green'/'sustainable' products would fulfill the individual responsibility to protect the environment. T/F
24. Consumers are responsible for the careful use and proper disposal of products. T/F
25. I am willing to pay a higher price for 'green'/'sustainable' products. T/F

(BLM-specific questions for experimental treatment)

26. BLM stands for Black Lives Matter. T/F
27. The Black Lives Matter movement was founded in 2013 after the acquittal of a black man’s murderer. T/F
28. The Black Lives Matter movement was founded to combat police brutality. T/F
29. Celebrities have shared posts on social media to support the Black Lives Matter movement. T/F
30. There were more than 7,750 Black Lives Matter demonstrations across the United States in 2020. T/F

Trust Game (Player 1)

Q1 Please enter your 4-digit participant ID number.

_____

Game A

You are randomly assigned a partner. Please see your partner's answers to the following seven questions.

What is your gender?

What is your ethnicity?

What is your birth year?

What is your favorite color?

Do you like dogs?

Do you like to watch movies?

Do you prefer tea or coffee?

Between your partner and you, you have been randomly assigned the role of Player 1. You are endowed with $10. You have a choice to give a portion of your $10 to your partner. You can give any amount between 0 and $10, such as $9, $4, or nothing. The amount transferred to your partner will be tripled before it is passed on to your partner. Your partner then has the option of returning any portion of this tripled amount to you. Then, the game is over.

Q2 Please select the dollar amount you want to transfer to your partner.

0

1

2

3

4

5

6

7

8

9

10

Trust Game (Player 2)

Q1 Please enter your 4-digit participant ID number.

_____

Game A

You are randomly assigned a partner. Please see your partner's answers to the following seven questions.

What is your gender?

What is your ethnicity?

What is your birth year?

What is your favorite color?

Do you like dogs?

Do you like to watch movies?

Do you prefer tea or coffee?

Between your partner and you, you have been randomly assigned the role of Player 2. Your partner is endowed with $10. Your partner has a choice to give a portion of their $10 to you. They can give any amount between 0 and $10, such as $9, $4, or nothing. The amount sent will be tripled before it is transferred to you. You then have the option of returning any portion of this tripled amount to your partner. Then, the game is over.

Q2 Please enter the dollar amount you want to transfer to your partner for EACH of the possible amounts your partner might transfer you as indicated below.

0 _____

3 _____

6 _____

9 _____

12 _____

15 _____

18 _____

21 _____

24 _____

27 _____

30 _____

Post-Experiment Questionnaire

Q1 Please enter your 4-digit participant ID number.

_____

Q2 How often do you interact with people who are of the following races?

Q3 If you have interacted with someone from other race(s), please specify the race(s). Otherwise, please select "N/A" in the previous question.

_____

Q4 Describe the racial composition of your friend group. Rank the race that you have the most number of friends from as first and the race that you have the least number of friends from as the last.

_____ White

_____ Black or African American

_____ American Indian or Alaska Native

_____ Asian

_____ Native Hawaiian or Pacific Islander

_____ From multiple races

_____ Other races (please specify)

Q5 If you have friends from other races, please specify which races your friends are from. Otherwise, skip this question.

_____

Q6 How would you classify your level of familiarity with the Black Lives Matter movement?

Extremely familiar

Very familiar

Moderately familiar

Slightly familiar

Not familiar at all

Wish not to answer

Q7 How many siblings do you have?

_____

Q8 What is your annual household income?

Less than $20,000

$20,000 - $34,999

$35,000 - $49,999

$50,000 - $74,999

$75,000 - $99,999

$100,000 - $149,999

$150,000 - $199,999

More than $200,000

Prefer not to say

I don't know

Q9 What is the highest level of school your father has completed or the highest degree your father has received? (Check all that apply)

Less than high school degree

High school degree or equivalent (e.g., GED)

Some college but no degree

Associate degree

Bachelor degree

Graduate degree

Not applicable

Q10 What is the highest level of school your mother has completed or the highest degree your mother has received? (Check all that apply)

Less than high school degree

High school degree or equivalent (e.g., GED)

Some college but no degree

Associate degree

Bachelor degree

Graduate degree

Not applicable

Q11 How often do you lend money to your friends?

More than once a week

About once a week

About once a month

Once a year or less

Q12 How often do you lend personal possessions to your friends (e.g., clothes, earphones, bicycle, etc.)?

More than once a week

About once a week

About once a month

Once a year or less

Q13 How often do you intentionally leave your rooming group's hallway door unlocked (when nobody is home)?

More than once a week

About once a week

About once a month

Once a year or less

Q14 Do you think most people would try to take advantage of you if they got a chance or would they try to be fair?

Would take advantage

Would try to be fair

Q15 Would you say that most of the time people try to be helpful, or that they are mostly just looking out for themselves?

Try to be helpful

Just look out for themselves

Q16 Generally speaking, would you say that most people can be trusted or that you can't be too careful in dealing with people?

Most people can be trusted

Can't be too careful

Q17 You can't trust strangers anymore.

True

False

Q18 When dealing with strangers, one is better off using caution before trusting them.

True

False

Q19 Is there anything you wish to communicate to the research team?

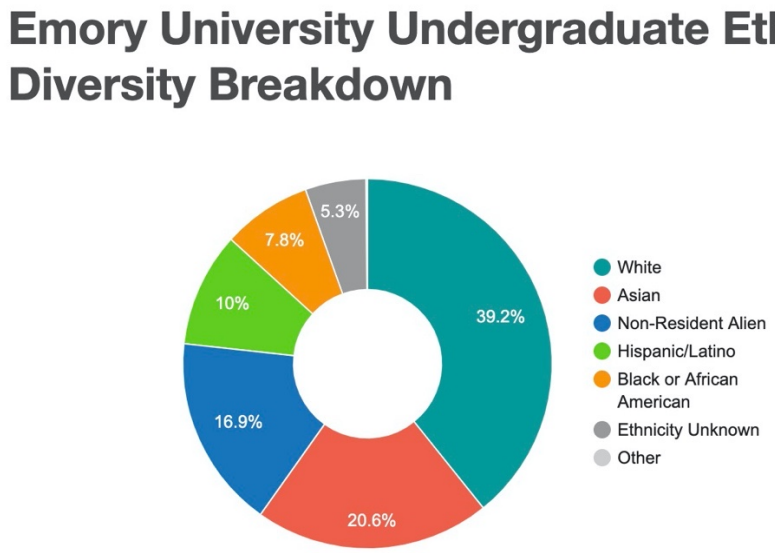
_____

_____

Appendix B

Figures

Figure B1. Emory University undergraduate ethnic diversity breakdown



Source: Undergraduate Ethnic Diversity at Emory University. (2020, December 25). Retrieved from https://www.collegefactual.com/colleges/emory-university/student-life/diversity/chart-ethnic-diversity.html

Figure B2. Subject familiarity with the Black Lives Matter movement

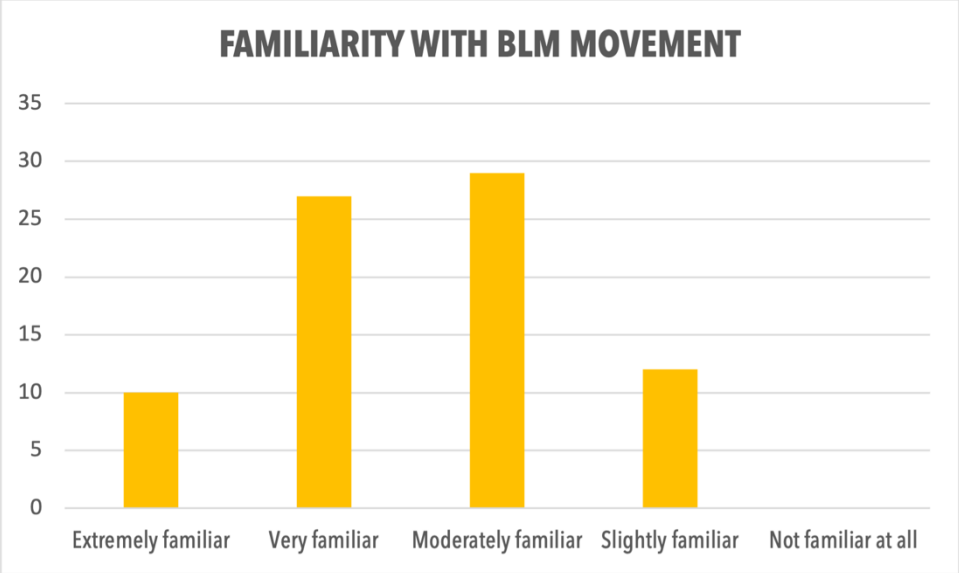


Figure B3. Subject ethnicity breakdown

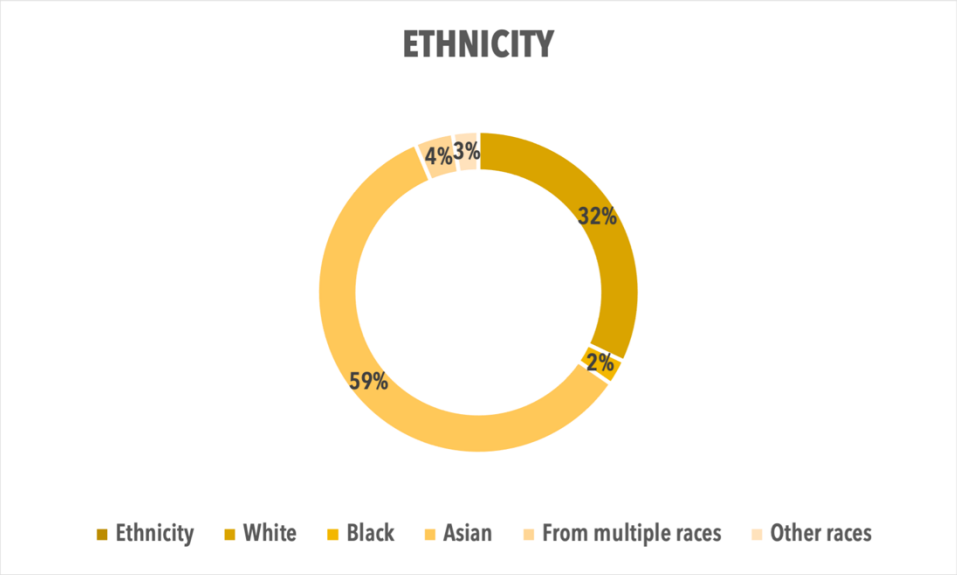


Figure B4. Subject gender breakdown

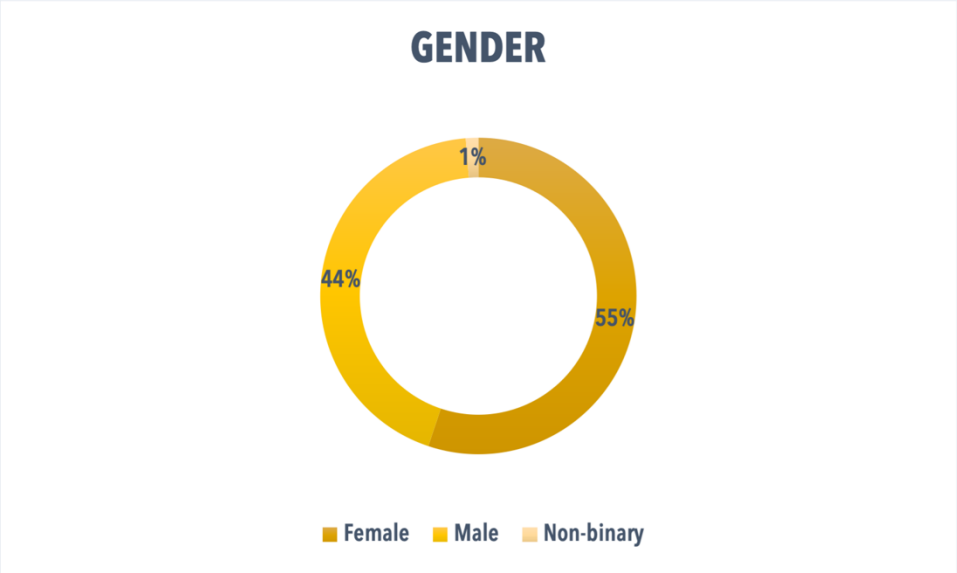


Figure B5. Subject response to *GSS Trust* question

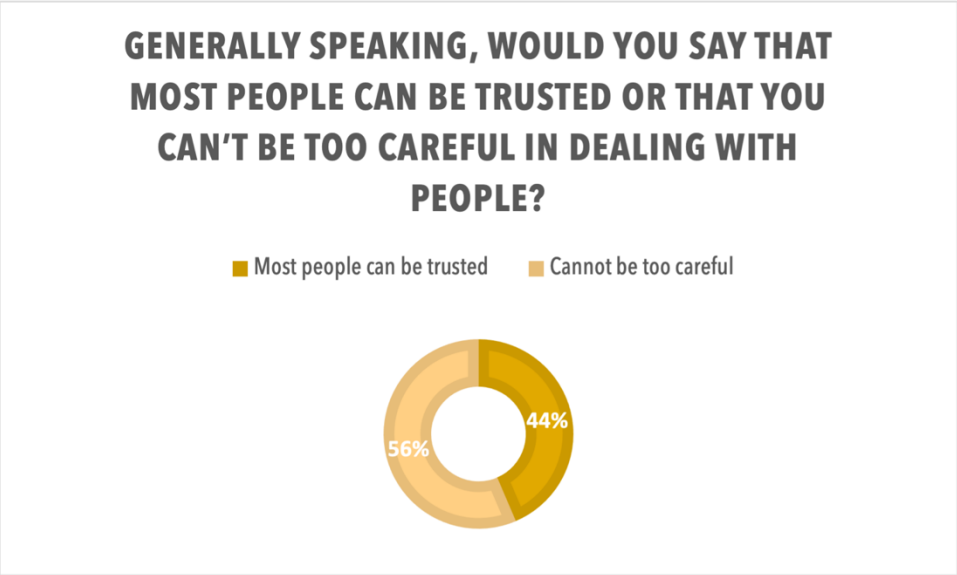


Figure B6. Subject response to *Helpful* question

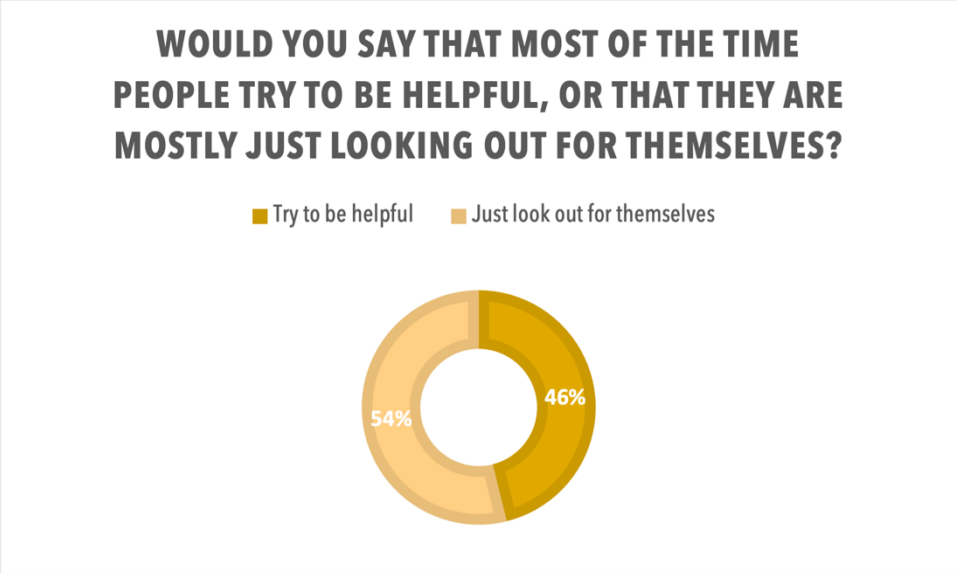


Figure B7. Subject response to *Fair* question

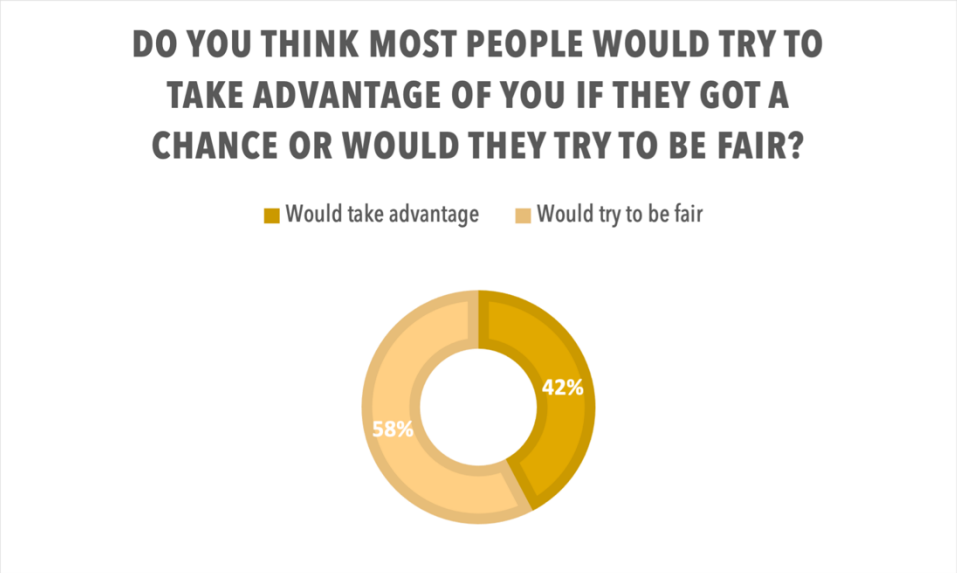


Figure B8. Subject self-reported past trusting behavior