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Runtian Zhang April.16th, 2014

The Effects of Media on Gender Equalities in the Ultimatum Game

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Abstract

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This research aims to determine how entitlement mediates gender differences in ultimatum game decisions and how the gender difference could be affected by exposure to different videos. Ninety-five Emory students participated in this experiment. Participants completed survey questions and watched either an animal migration video or a video intended to empower women. Then they were divided into groups based on gender and played the ultimatum game with a random person in a designated group. Video treatment is successful in elevating subjects' entitlement level and their proposed offer to selves. However, gender difference is not significant in scores on Psychological Entitlement Scale or proposed offer to self; it is only significant in the way that responders' gender will affect how much they received as an offer. No significant gender and treatment interaction effect is found in this study. Results suggest a further examination of the mediation role of entitlement on relationship between gender and decisions in the ultimatum game.

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I. Introduction

One critique to game theory is that it rules out the possibility for cooperation and fairness. However, experimentation with game theory has shown that desires for fairness influence human decision making, especially in the ultimatum game. In the ultimatum game, two players divide a certain amount of money. The first player, i.e., the proposer, proposes an offer and if the second player accepts the offer they split the money according to the proposed offer. If the second player, i.e., responder, refuses to accept the offer, then neither player receives anything. Guth *et al.* (1982) found that in ultimatum games subjects reject offers even if they would have higher payoffs by accepting them. This result clearly contradicts game theoretical prediction and the finding initiated a wave of studies about decision making and fairness with the use of economic experiments.

Among many aspects of fairness, gender inequality has constantly attracted attention from not only economists, but also sociologists, psychologists and policy makers. Gender inequality is not merely a moral or social issue. It is an economic issue because gender inequality leads to females having limited education or employment opportunities and lower income levels relative to their male counterparts. Although explicit sexism is very rare these days, implicit discrimination against women in education and the workplace is still present. Based on a report from the United Nations Population Fund in 2005, the world average adult literacy rate for females is only 77% but that for males is 87%. From the "Equal Pay" sub-page of the website of Whitehouse.gov, women earned only 59 cents for every dollar that men earned in 1963; and even

today women earn an average of only 77 cents for every dollar earned by men. Unfair treatment toward women is likely to undermine their motivation to work and thus is counterproductive to a country's growth. Klasen (2000 & 2009) supported this argument that gender inequality slows economic growth. Recently, promoting gender equality has been a key objective for many organizations such as the European Union, the United Nations Children's Fund and the World Bank. How to promote gender equality is attracting increasingly more scholarly attention.

Many studies have successfully demonstrated a significant gender difference in proposed offer and rejection behavior in the ultimatum game since Guth *et al.* (1982). Solnick (2001) found that male responders attract higher offers and responders have higher minimum acceptable offers for female proposers. Some studies hypothesized that this gender difference is due to differences in risk preference. Although risk-related effects co-exist with gender difference in the ultimatum game, it cannot fully explain such gender difference (García-Gallego, Georgantzís & Jaramillo-Gutiérrez, 2012). Besides risk attitudes, entitlement could also be a factor influencing offers. Psychological entitlement refers to a general belief that one is entitled to more resources. It differs from deservingness because entitlement suggests a reward as a result of a social contract (Campbell et al., 2004). When players are entitled to make an offer, meaning proposers are not randomly assigned but are chosen because of their better performance on a pretest before the game, they keep a larger portion of the tokens to themselves (Hoffman, McCabe & Smith, 1996). In an experiment in 1984 where both sexes were asked to do a fixed amount of work females paid themselves less than males did, Major, McFarlin and Gagnon concluded that

females exhibited lower psychological entitlement level than males did. Graham, Cron, Gilly and Slocum (2007) also found that female lawyers charge a lower price than their male counterparts for professional services. Considering that males generally exhibit higher levels of entitlement than females (Ciani, Summers & Easter, 2008) and that entitlement level affects how much people pay themselves in the ultimatum game and a hypothetical workplace setting, it is reasonable to hypothesize that the gender difference in ultimatum games could be explained by gender difference in psychological entitlement level.

Besides biological sex, perception of gender role as wells as other factors that contribute to the gender role attitudes could impact peoples' perception of entitlement and/or fairness. Kindergarten girls with employed mothers exhibit less traditional gender role stereotypes (Miller, 1975) and college graduates who work full time are most supportive of nontraditional gender roles (Cassidy & Warren, 1996). Considering the maternal influence on children's development, a mother's employment status in the past may influence one's gender role attitudes as well as his/her perception of psychological entitlement. Laura Sanchez (1994) found that male housework efforts are powerful determinants of both women's and men's perception of fairness while women's employment hours only increase women's perception of unfairness only in couples. This finding suggests that household chores allocation, in addition to mother's employment status, could be a determinant of perception of fairness in schools, in the workplace or in the market.

Gender difference in the ultimatum game implies gender inequality in various real-world bargaining settings, such as wage negotiation, negotiations for promotions, or even bargaining for a fair car price. Consequently studies on how to reduce gender inequality in ultimatum games can provide insights on how to promote gender equality in various real world settings. A large body of literature has demonstrated the effectiveness of media in shaping behaviors: public service announcements have been effective in promoting smoking cessation (Pierce *et al*., 1992) and reducing adolescents' marijuana use (Palmgreen, Donohew, Lorch, Hoyle, & Stephenson, 2002), while aggressive media exposure increases the incidence of dating violence among adolescents (Friedlander, Connolly, Pepler & Craig, 2013). This study seeks to evaluate the effect of media on promoting gender equality in the setting of the ultimatum game in order to suggest that media, such as public service announcements, with positive messages could be a feasible and generalizable method to promote gender equality.

The study makes two important contributions to existing literature: first, it studies the nature of gender difference in the ultimatum game and specifically whether this difference is due to the gender difference in entitlement; second, it examines whether or not media have an effect in changing people's perception of entitlement and thus in reducing gender inequality. The findings from this study can influence the validity of governments' and non-government organizations' use of public service announcements as a way to reduce gender inequality.

II. Hypotheses

I hypothesize that perception of entitlement is a mediating factor in the relationship between gender and offer. The gender differences in ultimatum games cannot be explained by gender only, but can be explained by the underlying differences in entitlement across genders. Based on Solnick (2001), male participants give lower amounts of tokens to other players and receive higher amounts of tokens. In addition, based on Ciani et al. (2008), male participants should also report higher level of psychological entitlement, which is measured by Psychological Entitlement Scale (PES; Campbell et. al, 2004). Furthermore, based on the success of previous media campaigns, I assume that media will change subjects' perception of entitlements. The treatment video used in this study is supposed to boost female subjects' perception of psychological entitlement. Therefore, gender difference in both psychological entitlement and behaviors in the ultimatum game should decrease in the treatment group. Of course other factors may also influence participants' entitlement level and decisions in the ultimatum game. For example, participants whose mother had a full-time job when they were young should have less traditional gender role attitudes and they should exhibit less gender differences in the ultimatum game. Other factors such as parents' division of household chores and race could also be a mediating factor between gender and decisions in the ultimatum game; however current literature does not specify the effect of these factors.

Hypothesis I: Gender difference exists in behaviors in the ultimatum game and is mediated by gender difference in psychological entitlement.

Gender difference is present in three ways. First, compared to male proposers, female proposers keep fewer tokens for themselves, i.e., they give more to responders. Second, female responders attract lower offers than male responders. Third, male responders are more likely to reject an offer.

In addition to gender difference in behaviors in the ultimatum game, gender difference also exists in psychological entitlement level. Male participants report a higher level of psychological entitlement than female participants. Moreover, gender difference in behaviors in the ultimatum game is mediated by gender difference in psychological entitlement.

Hypothesis II: Treatment video reduces gender difference in behaviors in the ultimatum game and this reduction is due to a reduction in gender difference in psychological entitlement.

Gender differences in the amount proposer keep for themselves, in responders' received offer and in the rate of acceptance to an offer are all smaller for subjects in the treatment group than those in the control group.

I also hypothesize that the reduction in gender difference in behaviors in the ultimatum game is through reduction in the gender difference in psychological entitlement, i.e., the treatment video elevates psychological entitlement more for female participants than for male participants and thus reduces the gender effect on behaviors in the ultimatum game.

III. Methodology

Measures

Key measures in this study include behavioral measures for the ultimatum game and self-reported psychological entitlement. Behavioral measures include how many of the tokens a proposer wishes to keep for him/herself (amount for self), how many tokens a responder attracts from a proposer (amount received) and whether a responder accepts or rejects the offer (decision). "Amount for self" and "amount received" can range from 0 to 10, representing the offers made in the ultimatum game. Decisions are a binary variable, with 1 meaning acceptance and 0 meaning rejection.

Psychological Entitlement Scale (PES; Campbell et al., 2004) is used to measure participants' psychological entitlement. Cronbach's alpha for PES is 0.87, which indicates the reliability of PES; the correlation between PES and entitlement sub-scale of the Narcissistic Personality Inventory is $r=0.33$ and $p<0.001$, indicating that PES is a valid measure of entitlement (Campbell et. al, 2004). Campbell *et. al* (2004) also found that the psychological entitlement scale is linked to interpersonal decision making in commons dilemma; therefore PES should accurately reflect participants' psychological entitlement level and is a predictor of decisions made in the ultimatum game. PES includes nine questions and each question asks to which degree the participant agrees with a statement. Each PES question is coded to 1-7 scale with 7 meaning most entitled and 1 meaning least entitled. The average score of nine questions is used as an indicator of subjects' psychological entitlement level. A series of non-related questions, such as opinions about high school courses and environment, are included in the questionnaire in order to obscure participants' focus from entitlement.

The treatment used in this study is a short video clip. Subjects in the control group watch a video clip about animal migration[1], which is assumed to have no effect on either subjects' entitlement level or their behaviors in the ultimatum game. Subjects in the treatment group watch a video clip where female students talk about how they receive funding for their research projects so that they can realize their dreams[2]. This video is supposed to elevate subjects' psychological entitlement level, especially for female subjects. Subjects are required to complete an alternative measure of psychological entitlement, the Me versus Other Scale (Campbell et. al, 2004). In this measure of psychological entitlement, participants underline a set of circles out of seven sets that best represent their image of themselves as compared to others. Immediately after watching the video, subjects answer a rephrased version of the Me versus Other Scale, i.e., they are asked to what degree they agree with the statement that they are more important than other people. The answers to these two questions (MeOther and ImportanceScale) are coded on a 1 to 7 scale, with 1 meaning that they feel themselves least important compared to others and 7 meaning that they feel themselves most important compared to others.

Procedures

The experiment takes place in the economic laboratory at Emory University. Upon entering the room, subjects are assigned a seat. They are provided with the consent forms and are

[1] The video can be retrieved from http://www.youtube.com/watch?v=ql9xEB_cub4

[2] The video can be retrieved from https://www.youtube.com/watch?v=F9spDwMJroE

told the general procedure and potential risks (e.g., breach of confidentiality) of the study.

At the beginning of each session, subjects are assigned an identification number which is used throughout the study. Subjects' names are not recorded on any answer sheet. Subjects in both treatments complete a basic demographic survey that includes questions about gender, age, race, class standing and major. Subjects also complete the "Me versus Other" scale (Campbell et al., 2004.

Then, participants watch either the research project video or the animal migration video depending on if they are in the treatment group or not. Immediately after watching the video, participants answer the rephrased version of the "Me versus Other" scale.

After watching the video and completing the validity-check question, participants play both the proposer and responder roles in the ultimatum game[3]. Participants are told that they are endowed with 10 chocolate bars representing 10 dollars. They are then divided into zones according to gender and are randomly paired to a person in another zone. The gender of the person to whom each subject is paired is common knowledge; however his/her identity remains unknown[4]. In stage 1: all participants play the proposer role and make an offer to split 10 chocolate bars, which represents 10 dollars. They write their offer on the game-sheets. In stage 2: all participants play the responder role and decide whether to accept or reject an offer they

[3] To my knowledge, no study has found that playing both roles in ultimatum game will affect participants' response.

[4] This method randomizes the pairing between subjects and minimizes1 the effect of the responders' attractiveness on proposed split (Solnick & Schweitzer, 2002).

receive from the person with whom they have been paired. If the participant accepts the offer, the 10 chocolate bars are divided according to the proposal; if a participant rejects the offer, neither he/she nor the person who proposed this offer receives anything.

Immediately after the game, participants complete the PES and a series of questions regarding their past experience with powerful and influential women, including questions about their mother's employment history, parents' division of household chores, parents' relative power in making important home-relevant decisions and number of older sisters. By collecting the background information about subjects' past experience with influential females, we can potentially have more insight about how the correlation between participants' gender and PES score and proposed offer to self is influenced by other factors. We can also control for the effect of past experience with women in an effort to better estimate the correlation between entitlement, gender and offer.

Monetary compensation to subjects is in lottery form due to limited funds.[5] At the end of each session, one "game-sheet" is randomly chosen. If the offer on the chosen sheet is accepted, the two subjects receive cash earnings instead of chocolates corresponding to the offer; if the offer is rejected, subjects receive nothing. Besides the randomly chosen offer, all other offers are paid in chocolates. At the end of session, participant claims rewards by picking up an envelope

[5] The random lottery incentive system is a valid method to motivate subjects since its effect is not significantly different from the effect of a direct payment incentive system and should motivate subjects as much as the direct payment incentive system does (Cubitt, Starmer & Sugden, 1998).

of chocolate or cash with his/her identification number on the envelope.

IV. Results

Participants

All participants are undergraduate students at Emory University. The sample consists of 60 females and 35 males. Age of the sample ranges from 18-25 (M=20.03, SD=1.22). The sample is comprised of 27.4% Caucasian, 3.2% African American, 4.2% Hispanic/Latino, and 62.1% Asian. Approximately 2% of subjects chose not to disclose their ethnicity. Students were invited to participate in the study through announcements in their classrooms during regularly scheduled class time. Fifty participants are in the control group: 22 of them are female subjects who propose to female responders; 11 of them are female participants who propose to male responders; 11 of them are male participants who propose to female responders; 6 of them are male participants who propose to male responders. Forty-five participants are in the treatment group: 13 of them are female subjects who propose to female responders; 14 of them are female participants who propose to male responders; 14 of them are male participants who propose to female responders; 4 of them are male participants who propose to male responders.

Treatment

I use an independent-sample t test to check the validity of the treatment. As Table.1 shows, the mean score on the "Me versus Other" scale (MeOther) is 4.70. The mean score on "Importance Scale" is 3.51, and the mean PES score is 3.53. All three scores reflecting psychological entitlements are higher in treatment group than in control group. A t-test shows

that participants in the treatment group do not report higher score on "Me versus Other" scale before the video (t=-.875, p=.384), i.e., participants in treatment group do not have higher level of psychological entitlement before the treatment). However, a t test also shows that participants in the treatment group do not report a higher score on "Importance Scale" (t=-.396, p=.693) or PES (t=-.352, p=.725). Thus, my treatment video does not elevate my participants' psychological entitlement level.

Another approach for testing the effectiveness of the treatment video is using regression to determine it the treatment video alters the correlation between the PES score (or Importance Scale) and the score on the "Me versus Other" scale.. The model is

$$Average\ PES\ (Important\ Scale) = \beta_0 + \beta_1 MeOther + \beta_2 Treatment$$

$$+\beta_3 MeOther * Teatment + u$$

I include the interaction term because it is very likely that the treatment has a larger effect on those who score lower on "Me versus Other" scale. Regression results presented in Table.3 show that both the score on "Importance Scale" and the average score on PES are positively correlated with the pre-treatment measure, score on "Me versus Other" scale. This finding implies that, regardless of whether participants are in treatment group or not, if they have a higher level of psychological entitlement before watching the video, they also report higher level of psychological entitlement after the video. The coefficient of treatment in the regression is 3.15 (SD=1.43, p=.03) for score on Importance Scale and 1.48 (SD=.90, p=.103) for average PES score. Other things being equal, being in the treatment group will increase Importance Scale

score by 3.15 and increase average PES score by 1.48. Coefficient of the interaction term is -0.66 (SD=.30, p=.028) for score on Importance scale and -.31 (SD=.19, p=.102) for average PES score. Since regression coefficients of treatment are significant for Importance scale and close to significant for average PES scale, we conclude that the treatment video is at least successful in making participants feel that they are more important than others; however, whether the video actually increases their perceived psychological entitlement level is unclear.

Proposed Amount for Self/Received offer

Participants propose to keep an average of 5.75 (SD=1.17) out of ten chocolate bars for themselves. Average amount for self is 5.70 (SD=0.91) for female subjects and 5.82 (SD=1.55) for male subjects. A t-test shows that the amount that subjects wish to keep for themselves does not differ across genders (t=-.426, p=.672). Given that a responder is female, the mean amount a proposer plans to keep for his/her self is 5.90 (SD=1.20); given responder gender is male, mean amount for self is 5.47 (SD=1.08). A t-test shows that the difference due to responder's gender is significant (t=1.724, p=.088).

I use a regression to test whether gender differences are mediated by psychological entitlement. The model of proposed amount for self is the following:

$$Amount\ for\ self = \beta_0 + \beta_1 Proposer\ Gender + \beta_2 Responder\ Gender$$

$$+\beta_3 Treatment + \beta_4 Average\ PES + \sum \beta_i Interaction + +u$$

Male participants proposing an offer with a higher amount for self suggests that the coefficient before proposer gender is positive. Participants being more generous when facing male

responders implies that the coefficient before responder gender is negative. Average PES score should have a positive coefficient because my hypothesis predicts it to be positively correlated with proposed offer to self. And according to my hypothesis, PES is a mediating factor of gender difference; therefore the interaction between proposer gender and PES is significant. Treatment is also hypothesized to have an effect on gender difference; therefore the coefficient before treatment and the one before the interaction term of treatment and proposer gender should be significant.

Regression analyses confirm results from t-tests. As shown in regression model (2) in Table.6, participants' proposed amount for self does not differ across proposer gender even though regression model (4) in Table 6 also suggests that average PES score is about 1.623 higher for males than females. The coefficient before average PES score in regression models (2) and (3) are not significant either, which implies that a gender difference in psychological entitlement level does not explain how proposers decide to split the token. Therefore psychological entitlement is not a mediating factor for gender difference in proposed offers. Responder gender does, however, have an effect on how much subjects wish to keep for themselves. Participants keep about .462 more when the responder is female.

More specifically, when interaction terms are included in the regression model, only the interaction term between proposer gender and responder gender is significant. Thus, I regress the amount that proposers wish to keep for themselves on specific gender combinations: female proposer to male responder, female proposer to female responder, male proposer to male

responder and male proposer to female responder. Table 7 shows that the male proposer to male responder variation yields the most generous offers while the male proposer to female responder variation yields least generous offers. However, only the male proposer to male responder variation has a significant effect on proposed amount for self. Other gender interaction terms are not significant.

The effect of the treatment video is significant. Regression model (2) in Table 6 also shows that exposure to the treatment video will make participants keep an average of .435 more. Transfer differences due to responder gender are not reduced by treatment, as the coefficient before the interaction between responder and treatment is insignificant in regression model (3) in Table 6. Thus, the treatment changes participants' proposed offers but does not reduce the gender difference in the proposed offer. Results do not support the hypothesis that treatment reduces gender differences in proposed offers.

Decisions

Whether acceptance rates differ in treatment group and control group can be evaluated by using a linear probability model in which the dependent variable is binary.

$$Acceptance\ Decision = \beta_0 + \beta_1 Treatment + \beta_2 Gender + \theta_3 receivedoffer$$

$$+\beta_4 offertoself + \beta_5 Average\ PES + (\sum \theta_i Interaction) + u$$

Existing literature indicates that coefficients of gender should be negative, which means that being male decreases the acceptance rate with other things being equal. Treatment and proposed offer to self should also have negative influence on acceptance based on my hypothesis,

implying that people are less likely to accept the offer if they are in the treatment group or they keep a higher portion of tokens to themselves. Coefficients before received offer should be positive, indicating that people are more likely to accept the offer if the offer is more generous.

Regression results do not support the hypothesis that gender difference exists in the rate of acceptance to an offer. In all regression models in Table 8, the coefficient before gender is not significant. Although there is no gender difference in subjects' decision to accept the offer as predicted in the hypotheses, average PES score is still a determinant of whether subjects decide to take the offer or not. Results from regression models (4) and (5) in Table 8 suggest that if participants score one point higher in the average PES, they are 5.8% less likely to accept an offer.

Besides psychological entitlement that has an effect on participant's decision to accept the offer, treatment is a significant determinant for decision to accept the offer as well. Regression model (1) in Table 8 suggests that participants who watch the treatment video are 14.2% less likely to accept an offer compared to participants who watch the animal migration video. More specifically, when decision is regressed on received offer, treatment and interaction term, all of these are significant determinants for decisions. To investigate the interaction between treatment and received offer, I regress decision on treatment for different received offers. Simple regression can be used based on linear probability model. Table 9 shows that if the participants receive a proposal offering them 4 dollars, the treatment video does not have an effect on the likelihood to accept the offer ($p=.719$). However, when participants receive a

proposal offering them 3 dollars, participants who watch the treatment video are 45.7% less likely to accept the offer (p=.065). The treatment does not interact with gender, which might be due to the lack of main effect of gender on decisions to accept. Therefore, there is no evidence to support the hypothesis that treatment will reduce gender difference in participants' decision to accept an offer.

V. Discussion

In one way, this study finds gender differences in the ultimatum game that concur with previous literature: compared to female subjects, male subjects attract a higher offer from the proposer. However, unlike previous researchers, I do not find a gender difference in proposers' role. Nor do subjects show gender difference in their decisions to accept the offer.

There could be several explanations for this lack of gender difference. It may be that I do not have enough participants to generate significant results. Indeed, if the effect size of this gender difference is very small, with roughly 10 data points for each gender treatment combination, it is very likely that gender difference will be insignificant.

Another explanation for this lack of significant results might be that gender difference does not exist in this particular sample. Since all participants are Emory students, they probably all come from relatively affluent families and they all view themselves as smart and capable. In this particular sample of Emory students, female students are more empowered than females in the general public so that gender difference cannot be detected in this study. But this raises the question why only responder gender, but not own gender, is a significant determinant in how the

subject proposed the offer. It could be accounted by the difference in perception of self and other: people view themselves as that they should not be constrained to gender and are as good as anyone else but they still judge others based on the gender. If this is the case, it could be an interesting topic for future research on gender differences.

The treatment video in this study elevates subjects' level of psychological entitlement and proposed portion of token to selves in the ultimatum game. These results are in accordance with the hypothesis and serve as empirical evidence for practical use of media to elevate underpaid workers' entitlement level thereby increasing their perceived fair payment amount and encouraging them to strive for their rights. However, this study also finds that exposure to the treatment video also increases the likelihood to reject a proposed offer. This implies that using a public service announcement that aims to raise peoples' psychological entitlement level comes with the risk that these people may also be more likely to feel that they are treated unfairly and are more likely to be involved in protest activities such as a strike. This conflicting result will be a dilemma for policy makers who wish to use media and public service announcements to improve the living standard for underpaid workers or unfairly treated groups. Thus policy makers should also advertise patience in job seeking and encourage job seekers to wait for better offers instead of immediately taking an unfair offer. In all, before such public service announcements could be effectively used to promote wages and higher living standards for under-treated people, more research is required on how to avoid the increased likelihood of ending up in a lose-lose condition like the case of rejection in ultimatum games.

Besides key independent variables such as gender and treatment, some interesting relationships between entitlement and proposed offer to selves are found in this study. Race is significantly correlated with psychological entitlement level, as shown in model (4) in Table 2. The regression considers only Asians and Whites because there are not enough data to conclude anything about Hispanics or Blacks. The regression result is surprising because the coefficient for race implies that being an Asian student will increase PES by 0.5. This increased PES score contradicts with the idea that Asians are brought up in a collectivistic culture and they should be more inclined to share than entitled to own the resources. But, again, this could be caused by the fact that the sample is all Emory students. It may be that elite Asian students are less traditional and perhaps feel more entitled to resources than white students or it could be that the education they receive at Emory alters their traditional cultural value and as a result they feel more entitled to resources.

Mother's employment history also yields many interesting results. In regression models (3) and (4) in Table 2, whether a subject's mother was employed when he/she was 10 is significantly related to a subject's entitlement level. Both regression results show that if the mother was employed when a subject was 10 years old, keeping other things equal, subjects report a PES score that is approximately 0.8 higher than those whose mother was not employed when the subject was 10. This result provides evidence of how a mother's employment status could have an effect on peoples' perception. More specifically, in regression model (3) in Table 2, we see an interaction effect between gender and mother's employment history. If participants are male,

then this will decrease the effect of mother employment history on PES (which is 0.814 in this regression model) by 0.74. In this sense, a mother's employment has more influence on girls than on boys. One implication of this result is that if females are currently discriminated against and are unable to find a job, there is a large chance that their daughters will also suffer from low entitlement and possibly end up unemployed or in under-paid jobs. This finding suggests potentially fruitful future research regarding the effect of maternal employment on a child's development and entitlement perceptions. Moreover, this result may provide some insight on how current policies aimed at female employment can affect the next generation.

In conclusion, this study confirms some gender difference findings in previous literature, and it supports the hypothesis that an empowering video is capable of elevating peoples' entitlement levels. Yet not all proposed hypotheses are supported by the data. Gender is not correlated with either PES or proposed offer to self and therefore mediation role of entitlement cannot be tested. In all, this study calls for future research on gender difference in the ultimatum game in order to understand the nature of this gender difference and how this gender difference has changed over time.

VI. Tables

Table.1

Summary of MeOther score, ImportanceScale score and Average PES

Treatment		Me versus Other	Average PES	Importance Scale
Control	Mean	4.600	3.4933	3.440
	N	50	50	50
	Std. Deviation	1.0690	1.09493	1.5407
Treatment	Mean	4.800	3.5679	3.578
	N	45	45	45
	Std. Deviation	1.1599	.95176	1.8524
Total	Mean	4.695	3.5287	3.505
	N	95	95	95
	Std. Deviation	1.1116	1.02487	1.6877

Table.2

T Test result for score on MeOther, Importance Scale

	t-test for Equality of Means				
	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
Score on “Me versus Other”	-.875	93	.384	-.2000	.2287
Average PES	-.352	93	.725	-.07457	.21158
Importance Scale	-.396	93	.693	-.1378	.3484

Table.3

Results for regression of Average PES score and Importance Scale score on Treatment

VARIABLES	(1) PesAv	(2) Importanceaftervideo
"Me versus Other" score	0.363***	0.800***
	(0.134)	(0.213)
Treatment	1.482	3.153**
	(0.900)	(1.431)
Treatment*MeOther	-0.308	-0.661**
	(0.186)	(0.297)
Constant	1.825***	-0.240
	(0.631)	(1.003)
Observations	95	95
R-squared	0.078	0.140

Standard errors in parentheses

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

Table.4

Summary of Average PES score, Amount for Self and Received Offer based on gender

Gender	Treatment		Average PES	Amount for Self	Received Offer
Female	Control	Mean	3.4209	5.606	4.303
		N	33	33	33
		Std. Deviation	.98670	.9334	1.2115
	Treatment	Mean	3.5597	5.815	3.815
		N	27	27	27
		Std. Deviation	1.02878	.8787	1.1448
	Total	Mean	3.4833	5.700	4.083
		N	60	60	60
		Std. Deviation	.99965	.9076	1.1973
Male	Control	Mean	3.6340	5.438	4.750
		N	17	16	16
		Std. Deviation	1.30098	1.8246	1.3904
	Treatment	Mean	3.5802	6.167	4.389
		N	18	18	18
		Std. Deviation	.85180	1.2005	.6978
	Total	Mean	3.6063	5.824	4.559
		N	35	34	34
		Std. Deviation	1.07704	1.5467	1.0785

Table.5

T tests for Average PES score, Amount for Self and Received Offer based on gender

	t-test for Equality of Means				
	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
Average PES	-.562	93	.575	-.12302	.21878
Amount for self	-.426	46.152	.672	-.1235	.2900
Received Offer	-1.916	92	.058*	-.475	.248

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

Table.6

Regression results for Amount for Self and Average PES

VARIABLES	(1) Amount for Self	(2) Amount for Self	(3) Amount for Self	(4) Average PES
Proposer Gender	0.06	0.016	0.872	1.623*
	(0.253)	(0.253)	(0.929)	(0.914)
Responder Gender	-0.42	-0.462*	-0.193	
	(0.253)	(0.252)	(0.393)	
Treatment		0.435*	0.109	1.565*
		(0.241)	(0.93)	(0.913)
Average PES		0.03	0.135	
		(0.117)	(0.188)	
Proposer*Responder Gender			-1.120**	
			(0.546)	
Proposer Gender*Treatment			0.461	-0.195
			(0.509)	(0.433)
Responder Gender*Treatment			0.264	
			(0.51)	
Average PES*Proposer Gender			-0.199	
			(0.241)	
Average PES*Treatment			-0.006	
			(0.241)	
Me versus Other				0.491***
				(0.154)
MeOther*Treatment				-0.306
				(0.188)
MeOther*Gender				-0.294
				(0.190)
Constant	5.875***	5.593***	5.210***	1.127
	(0.184)	(0.453)	(0.68)	(0.739)
Observations	94	94	94	95
R-squared	0.032	0.067	0.129	0.111

Standard errors in parentheses

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

Table.7

Regression results for Amount for Self on Proposer and Responder Gender interaction

VARIABLES	(1) Amount for self	(2) Amount for self	(3) Amount for self	(4) Amount for self
Treatment	0.366	0.366	0.366	0.366
	(0.239)	(0.239)	(0.239)	(0.239)
Average PES	0.043	0.043	0.043	0.043
	(0.115)	(0.115)	(0.115)	(0.115)
Male to Female	1.237***	0.375	0.476	
	(0.443)	(0.301)	(0.321)	
Female to Male	0.761*	-0.101		-0.476
	(0.444)	(0.301)		(0.321)
Female to Female	0.862**		0.101	-0.375
	(0.426)		(0.301)	(0.301)
Male to Male		-0.862**	-0.761*	-1.237***
		(0.426)	(0.444)	(0.443)
Constant	4.565***	5.427***	5.326***	5.802***
	(0.578)	(0.451)	(0.471)	(0.480)
Observations	94	94	94	94
R-squared	0.112	0.112	0.112	0.112

Standard errors in parentheses

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

Table.8

Regression results of Decision

VARIABLES	(1) decision	(2) decision	(3) decision	(4) decision	(5) decision	(6) decision
Gender	0.014	-0.080	-0.122	-0.070	-0.086	-0.118
	(0.076)	(0.068)	(0.093)	(0.067)	(0.065)	(0.091)
Treatment	-0.142*	-0.083	-0.714***	-0.082	-0.715***	-0.315
	(0.073)	(0.065)	(0.238)	(0.064)	(0.234)	(0.335)
Gender*Treatment			0.053			0.059
			(0.132)			(0.129)
Amount for Self		0.046	0.041	0.046	0.042	0.043
		(0.029)	(0.028)	(0.029)	(0.028)	(0.027)
Received Offer		0.164***	0.110***	0.156***	0.101***	0.108***
		(0.028)	(0.034)	(0.028)	(0.033)	(0.033)
ReceivedOffer*Treatment			0.147**		0.152***	0.135**
			(0.057)		(0.054)	(0.056)
Average PES				-0.058*	-0.058*	-0.017
				(0.031)	(0.029)	(0.038)
Treatment*Average PES						-0.099
						(0.060)
Constant	0.914***	-0.040	0.238	0.189	0.462*	0.292
	(0.056)	(0.212)	(0.228)	(0.242)	(0.252)	(0.272)
Observations	94	93	93	93	93	93
R-squared	0.039	0.315	0.372	0.342	0.398	0.418

Standard errors in parentheses

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

Table.9

Regression result for Decision on Treatment with different received offer

Received Offer	Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
			B	Std. Error	Beta		
4.0	1	(Constant)	.900	.111		8.100	.000
		Treatment	-.054	.148	-.079	-.364	.719
3.0	1	(Constant)	.857	.176		4.867	.000
		Treatment	-.457	.230	-.457	-1.991	.065

a. Dependent Variable: decision

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VIII. Appendix

Survey Questions Part I **ID # _____**

Your ID number is written on the upper-right side of this sheet. This number, not your name, will be used to identify your answers.

Please answer the following questions:

1) What is your Gender? Male Female

2) What year are you? (Circle the Appropriate Response)

Freshman Sophomore Junior Senior

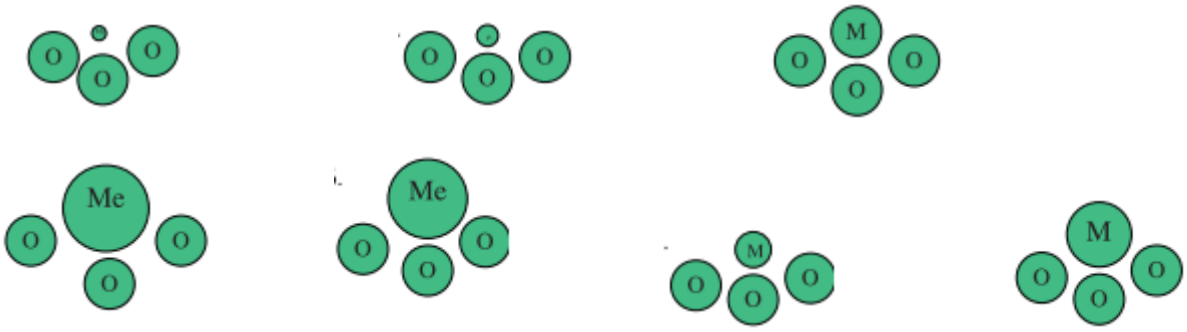
3) What is your major?

_____

4) What is your age? _____

5) What is your race? _____

6) Please <u>underline</u> the diagram that best represents how you see yourself "Me" compared to others "O"? ___



Survey Questions Part II **ID # _____**

1. Please indicate to which degree do you agree with the following statement: “I am more important than others.”

Strongly Disagree	Generally Disagree	Mildly Disagree	Neutral	Mildly Agree	Generally Agree	Strongly Agree

Game Sheet

You have been endowed with 10 pieces of chocolate and you are going to propose a split to another person in the room. Each piece of chocolate represents 1 dollar. If the other player takes the offer, you will split the 10 pieces of chocolate as you suggest. However, if the other player refuses to take the offer, then neither of you is going to receive anything. The smallest unit is 1 in this interaction. Your ID number can be found on the general instruction page.

Please bear in mind that you have the opportunity to receive monetary compensation that is equal to the number of candy bars you eared.

ID # _____

How many candy bars do you wish to keep to yourself? _____

How many candy bars do you wish to transfer to another player? _____

STOP HERE AND GIVE THE SHEET TO EXPERIMENTER.___

The experimenter has now provided you with another subject's proposal to split 10 pieces of chocolates. If you agree to accept the offer, simply circle "YES" on the game sheet. You are going to split 10 pieces of chocolates as the other player proposed. You will receive the number of chocolate as indicated in the last line of the top part of this sheet. If you reject, please circle "NO" on the game sheet and neither of you are going to receive anything.

Your ID number can be found on the general instruction page.

ID # _____

Please indicate if you are going to accept the offer.

YES NO

Survey Questions Part III **ID # _____**

Please indicate to which degree do you agree with the following statement.

1. I honestly feel I'm just more deserving than others.

Strongly Disagree	Generally Disagree	Mildly Disagree	Neutral	Mildly Agree	Generally Agree	Strongly Agree

2. Great things should come to me.

Strongly Disagree	Generally Disagree	Mildly Disagree	Neutral	Mildly Agree	Generally Agree	Strongly Agree

3. High schools and colleges make students spend too much time reading "classics" that have little relevance in today's world.

Strongly Disagree	Generally Disagree	Mildly Disagree	Neutral	Mildly Agree	Generally Agree	Strongly Agree

4. If I were on the Titanic, I would deserve to be on the first lifeboat!

Strongly Disagree	Generally Disagree	Mildly Disagree	Neutral	Mildly Agree	Generally Agree	Strongly Agree

5. I demand the best because I'm worth it.

Strongly Disagree	Generally Disagree	Mildly Disagree	Neutral	Mildly Agree	Generally Agree	Strongly Agree

6. There should be more government support for industry to develop new products and technology.

Strongly Disagree	Generally Disagree	Mildly Disagree	Neutral	Mildly Agree	Generally Agree	Strongly Agree

7. I do not necessarily deserve special treatment.

Strongly Disagree	Generally Disagree	Mildly Disagree	Neutral	Mildly Agree	Generally Agree	Strongly Agree

8. I deserve more things in my life

Strongly Disagree	Generally Disagree	Mildly Disagree	Neutral	Mildly Agree	Generally Agree	Strongly Agree

9. The rate of TV watching among people today is alarming.

Strongly Disagree	Generally Disagree	Mildly Disagree	Neutral	Mildly Agree	Generally Agree	Strongly Agree

10. Things should go my way.

Strongly Disagree	Generally Disagree	Mildly Disagree	Neutral	Mildly Agree	Generally Agree	Strongly Agree

11. People like me deserve an extra break now and then.

Strongly Disagree	Generally Disagree	Mildly Disagree	Neutral	Mildly Agree	Generally Agree	Strongly Agree

12. A rise in the world's temperature caused by the greenhouse effect is a serious problem.

Strongly Disagree	Generally Disagree	Mildly Disagree	Neutral	Mildly Agree	Generally Agree	Strongly Agree

13. I feel entitled to more of everything.

Strongly Disagree	Generally Disagree	Mildly Disagree	Neutral	Mildly Agree	Generally Agree	Strongly Agree

Survey Questions Part IV **ID # _____**

1. How many older sisters do you have?
   __ 1 __ 2 __ 2 or more

2. How many older brothers do you have?
   __ 1 __ 2 __ 2 or more

3. Was your mother employed when you were 10 years old?
   __ Yes __ No __ Not Applicable

4. If yes, what was her occupation? _____

5. Did you grow up with both a female parent AND a male parent?
   __ Yes __ No

Only answer the following questions if you your answer to last question is "Yes".

The following questions ask about parent involvement in certain activities. For example, "Female Parent 100%" means that your mother/female caretaker was the only parent involved in the activity, and "Female Parent 50%/Male Parent 50%" means that both of your parents had equal involvement in the activity.

6. Who was more responsible for house chores?

Female parent 100&			female parent 50%/ male parent 50%			male parent 100%
1	2	3	4	5	6	7

7. Who was more responsible for making decisions such as buying a new TV?

Female parent 100&			female parent 50%/ male parent 50%			male parent 100%
1	2	3	4	5	6	7

8. Who had more influence in your college decision?

Female parent 100%			female parent 50%/ male parent 50%			male parent 100%
1	2	3	4	5	6	7

Survey Questions Part V **ID # _____**

1. How many people in the room do you know their names?
   ___less than 3 ___ 3 to 5 ___6 to 8 ___more than 8

2. How many people in the designated pair zone do you know their names?
   ___ 0 ___1 ___2 ___more than 3