Study 2 methods

Keana Richards

6/9/2020

Participants All study measures described below are publicly available on OSF both as a .pdf and .qsf. Participants were recruited on Amazon Mechanical Turk via CloudResearch using the same screening criteria as Study 1. For all studies in the dissertation after Study 1 of Chapter 1, we used CloudResearch to filter out participants that had already participated in any of the other studies in this dissertation. Therefore, only MTurkers who were naive to the design were included in the current and subsequent studies. Also, if participants had an identical IP address, MTurkID, and gender, we excluded their second response. The final sample consisted of 1088 participants (50.64% women), with an average age of 38.54 ($SD = 12.5$) years. 62 participants (51.61% women) dropped out of the study before finishing[1].

[1]Note: we use data from participants who dropped out when available

Demographics Across Conditions

Characteristic	Control condition, N = 536	Preparation condition, N = 535	**p-value**
Age	39 (13)	38 (12)	0.022
Unknown	23	22	
Gender			>0.9
Man	265 (49%)	264 (49%)	
Woman	271 (51%)	271 (51%)	
Race/ethnicity			0.4
Black/African-American	52 (10%)	63 (12%)	
East Asian	36 (7.0%)	27 (5.3%)	
Hispanic/Latino	25 (4.9%)	28 (5.5%)	
Middle Eastern	1 (0.2%)	1 (0.2%)	
Native American	5 (1.0%)	4 (0.8%)	
Pacific Islander	0 (0%)	3 (0.6%)	
Selected more than one option	22 (4.3%)	19 (3.7%)	
Selected other	10 (1.9%)	4 (0.8%)	
White/Caucasian	362 (71%)	364 (71%)	
Unknown	23	22	
Household Income			0.2
Less than $10,000	59 (12%)	74 (14%)	
$10,000 to $20,000	58 (11%)	59 (12%)	
$20,000 to $30,000	62 (12%)	76 (15%)	
$30,000 to $40,000	77 (15%)	74 (14%)	
$40,000 to $50,000	50 (9.7%)	57 (11%)	
$50,000 to $60,000	62 (12%)	50 (9.7%)	
$60,000 to $70,000	29 (5.7%)	40 (7.8%)	
$70,000 to $80,000	33 (6.4%)	28 (5.5%)	
$80,000 to $90,000	22 (4.3%)	14 (2.7%)	
$90,000 to $100,000	23 (4.5%)	14 (2.7%)	
$100,000 to $200,00	36 (7.0%)	23 (4.5%)	
Over $200,000	2 (0.4%)	4 (0.8%)	
Unknown	23	22	
Education			0.2
Less than a high school degree	0 (0%)	2 (0.7%)	
High School Diploma	66 (21%)	75 (25%)	
Vocational Training	15 (4.8%)	15 (5.0%)	
Some College	143 (46%)	142 (47%)	
Bachelor's degree	0 (0%)	0 (0%)	
Graduate Degree	89 (28%)	66 (22%)	
Unknown	223	235	

Table 1: Size of sample in Study 2 with corresponding percentage listed for gender, race, education, and household income, with p-values derived from Fisher's exact test. Mean with corresponding standard deviation listed for age, with p-values derived from Kruskal-Wallis test. If a participant did not respond to a given question, we list their response as 'Unknown'.

Demographics Based on Participant Gender			
Characteristic	**Man**, N = 537	**Woman**, N = 551	**p-value**
Age	37 (12)	40 (13)	<0.001
Unknown	30	32	
Race/ethnicity			0.6
Black/African-American	59 (12%)	56 (11%)	
East Asian	38 (7.5%)	25 (4.8%)	
Hispanic/Latino	30 (5.9%)	23 (4.4%)	
Middle Eastern	1 (0.2%)	1 (0.2%)	
Native American	5 (1.0%)	4 (0.8%)	
Pacific Islander	2 (0.4%)	1 (0.2%)	
Selected more than one option	21 (4.1%)	20 (3.9%)	
Selected other	6 (1.2%)	8 (1.5%)	
White/Caucasian	345 (68%)	381 (73%)	
Unknown	30	32	
Household Income			0.007
Less than $10,000	61 (12%)	72 (14%)	
$10,000 to $20,000	55 (11%)	62 (12%)	
$20,000 to $30,000	49 (9.7%)	89 (17%)	
$30,000 to $40,000	80 (16%)	71 (14%)	
$40,000 to $50,000	55 (11%)	52 (10%)	
$50,000 to $60,000	61 (12%)	51 (9.8%)	
$60,000 to $70,000	38 (7.5%)	31 (6.0%)	
$70,000 to $80,000	27 (5.3%)	34 (6.6%)	
$80,000 to $90,000	24 (4.7%)	12 (2.3%)	
$90,000 to $100,000	21 (4.1%)	16 (3.1%)	
$100,000 to $200,00	35 (6.9%)	24 (4.6%)	
Over $200,000	1 (0.2%)	5 (1.0%)	
Unknown	30	32	
Education			>0.9
Less than a high school degree	1 (0.3%)	1 (0.3%)	
High School Diploma	68 (23%)	73 (23%)	
Vocational Training	17 (5.6%)	13 (4.2%)	
Some College	137 (46%)	148 (47%)	
Bachelor's degree	0 (0%)	0 (0%)	
Graduate Degree	78 (26%)	77 (25%)	
Unknown	236	239	

Table 2: Size of sample in Study 2 with corresponding percentage listed for race, education, and household income, with p-values derived from Fisher's exact test. Mean with corresponding standard deviation listed for age, with p-values derived from Kruskal-Wallis test. If a participant did not respond to a given question, we list their response as 'Unknown'.

Procedures As in Study 1, participants included in the study were told they would be completing a two-minute multiplication task (identical to the one used in Study 1) and would be able to choose a payment scheme for their performance. The instructions and payment per question were identical to Study 1. After being told about the rules for the multiplication task and passing the same comprehension questions used in Study 1, participants were randomly assigned to either a preparation condition, where they were told they would complete several rounds of preparation before completing the multiplication task, or a control condition, where they were told they would complete several rounds of a counting task before continuing. Participants were randomly assigned to each condition, control= 50.05%. Of the men who completed the study, 50.09% were assigned to the control condition and of the women who completed the study, 50% were assigned to the control condition, $\chi^2(1, n = 1088) = 0.00$, $p > .999$.

The participants in the preparation condition completed 12 rounds of practice for each multiplication table (i.e., tables 1-12), with 6 problems per round. The problems for each round were selected at random. Participants in the control condition were asked to complete 5 questions where they counted the number of zeros in a 7x7 matrix of zeros and ones. After a 30-second break following completion of their respective tasks, all participants chose a payment scheme (i.e., piece-rate or tournament) for the multiplication task, where the order of presentation was counterbalanced. That is, half of the participants saw the tournament scheme presented as the first option and half saw the piece-rate payment scheme presented first.

After choosing a payment scheme, participants in both conditions had the option to spend (extra) time preparing for the multiplication task. Importantly, they were not told about the additional opportunity to prepare until after they made their decision to compete. Again, we had two measures of preparation behavior: the binary decision to practice and the number of extra practice rounds completed. If they chose to prepare, participants were given two minutes to complete a randomly selected set of problems from all 12 multiplication tables. Once they finished the first two-minute preparation round, participants could opt into 4 more rounds of preparation, each two minutes long, before they moved on to the paid portion of the study. Here, the practice rounds variable is encoded the same way for participants across conditions, where the choice to practice is encoded as 1 for that variable, and the variable increases incrementally (up to 5 given the design) thereafter ($M = 0.53$, $SD = 0.82$); 39.04% of participants opted for additional practice.

Then, participants completed the paid multiplication task for two minutes. We included many of the same follow-up questions as in Study 1, including risk aversion, confidence, and perceptions of gender differences in preparation, competitiveness, and performance. Like Study 1, participants were incentivized to answer the questions about their confidence and perceptions of gender differences correctly. Specifically, they were told that one of their responses to those questions would be randomly selected and if the selected option was correct, they would earn a bonus of $.10 on top of their guaranteed earnings. We also asked participants if they wished they had more time to prepare for the multiplication task, a binary variable (response options: "Yes" or "No") that we subsequently describe as participants' self-reported "feelings of preparedness". Thereafter, we included measures of their fatigue, field-specific ability beliefs, and interest in the multiplication task all on 1 (Strongly disagree) to 7 (Strongly agree) scales. For the fatigue scale, participants rated how fatigued and mentally exhausted they felt [@Milyavskaya2018]. Participants indicated the degree to which they "enjoyed completing the multiplication task" for the interest scale [@Milyavskaya2018]. Finally, to measure field-specific ability beliefs, we asked participants how much they perceived success in math depends on ability versus effort through six questions (e.g., "If you want to succeed in math, hard work alone just won't cut it; you need to have an innate gift or talent") [@Meyer2015].