The Effect of Movies on Pro-social Behavior

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Motivation

- We investigate the role of movies in promoting pro-social behavior in experimental games
- We look at trust and reciprocity
- We randomly assign people to watch different movies
- We expect that films produce different moods
- We examine, whether the effect is mediated by subjects' moods, norms or beleifs

Background

- Trust game literature
  - Berg et al (1995), Dufwenberg, Kirsteiger (2001)
- Affect of generated moods on risk and trust in incentivised experiments
  - Kirsteiger et al (2004), Tan and Forgas (2010), Eckel, Walser (2010), Drichoutis, Nayga (2013), Hu et. al. (2014)
- Priming literature
  - Shariff , Norenzayan (2007), Kosfeld et al. (2005), Burnham et al (2009)

Experiment Design

- Pre-experiment survey
- Demonstration of a movie fragment
- One-shot dictator game
- **One-shot trust game**
- Lottery revealing risk preferences
- Donations (dictator game setup)
- Post-experiment survey

23-point pre-experiment questionnaire

- Demographic characteristics
- Perception of subjects' own economic well-being
- Adverse economic experiences
- Trusting behavior
- Political attitudes
- Attitudes toward redistribution of income
- Attitudes toward the role of government in the economy

Social norms

Please indicate to what extent each statement can be justified using the scale from 1 to 10 where 1 indicates "can never be justified" and 10 indicates "can always be justified"

1. Claiming government subsidy when you don't have the right to do it
2. Free-riding in public transport
3. Stealing somebody else's property
4. Not paying taxes
5. Accepting a bribe using the benefits of your position

Altruism

Carpenter et al (2007)

On the following pages there are phrases describing people's behaviors. Please use the rating scale to indicate how accurately each statement describes you

1. I make people feel welcome.
2. I like to help others.
3. I feel sympathy for those who are worse off than myself.
4. I believe that criminals should receive help rather than punishment.
5. I believe that the poor deserve our sympathy.
6. I am indifferent to the feelings of others.
7. I make people feel uncomfortable.
8. I turn my back on others.
9. I don't like to get involved in other people's problems.
10. I have little sympathy for the unemployed.

Measuring Emotional Affect

- PANAS emotional scale (Watson, Clark, and Tellegen (1988), adopted by Osin (2012) for Russian students)
- Post-experiment survey so as not to interfere with the choices of the subjects
- Positive and negative affect
- 20 positive and negative adjectives

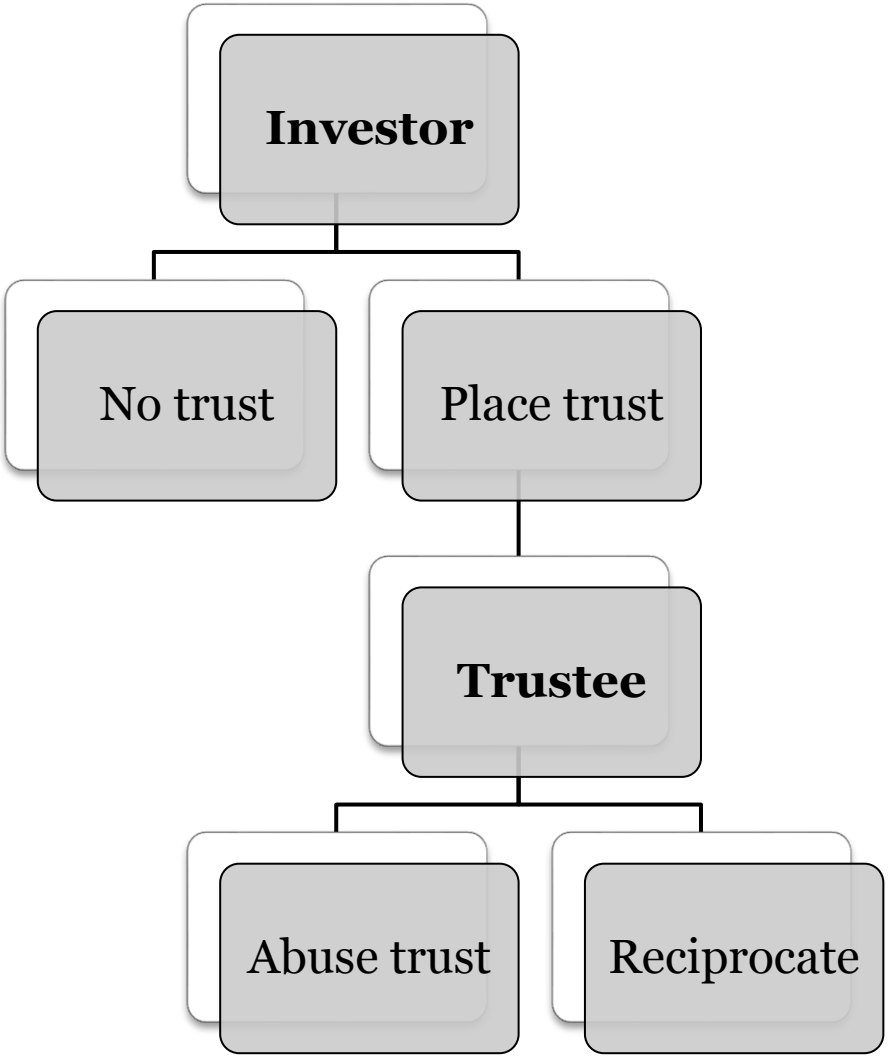
«This scale consists of a number of words and phrases that describe different feelings and emotions. Read each item and then mark the appropriate answer in the space next to that word. Indicate to what extent you have felt this way during this day. Use the following scale to record your answers: very slightly or not at all; a little; moderately; quite a bit; extremely»

Priming with movie fragment

- 12-minute ending scene from one of three films
- Movies selected based on perception by the viewers
- Online survey (August-September 2013)
- 1000 respondents
- Evaluation of movies from the top of Russian box-office 2012-2013
- 3 criteria: fun, sadness and patriotism

Jungles (2012)	Funny movie, neutral mood
Legend no 17 (2013)	Patriotic movie, positive mood
Stone(2012)	Sad movie, negative mood

Trust game


Investor
No trust
Place trust
Trustee
Abuse trust
Reciprocate

Model

Investor

- invests if she assumes that chances that trustee returns trust are high (Barber(1983), Falk, Fishbacher(2001))
- invests if she is ready to risk that no money is returned (Kosfeld et al. (2005)
- invests if she is kind and wants to share with trustee (Berg et al (1995))

Trustee

- reciprocates if she is ready to reward investor for placed trust (Rabin(1993), (Bacharach, Gambetta (2001), Dufwenberg, Kirsteiger (2001))
- returns if feeling guilty keeps her from abusing investor's trust (Snijders et al (1996), Fehr, Shmidt (1999))

Model (Falk, Fishbacher (2001))

- Xi – investor's payoff
- Xj – trustee's payoff
- Investor's budget is normalised to 1

$$U_i = x_i + \beta \cdot \max\left[x_j - x_i; 0\right]$$

$$U_i = x_j + \beta \cdot \max\left[x_i - x_j; 0\right]$$

$$x_i = (1-p)\cdot 1 + p(1-\theta)(1-t) + p\theta(1-t+3vt)$$

$$x_j = (1-\theta)(3t) + \theta(3t(1-v))$$

- β – other regarding preferences and norms
- p – how investor perceives the chances to get something back
- θ – how trustee wishes to reward investor's trust

Trust Game – Strategy method

- Each subject had to provide her strategy for both investor and trustee roles
- Sender (A)

	1.	2.	3.	4.	5.	6.
Hold	0	20	40	60	80	100
Pass to B	100	80	60	40	20	0

- Receiver (B)

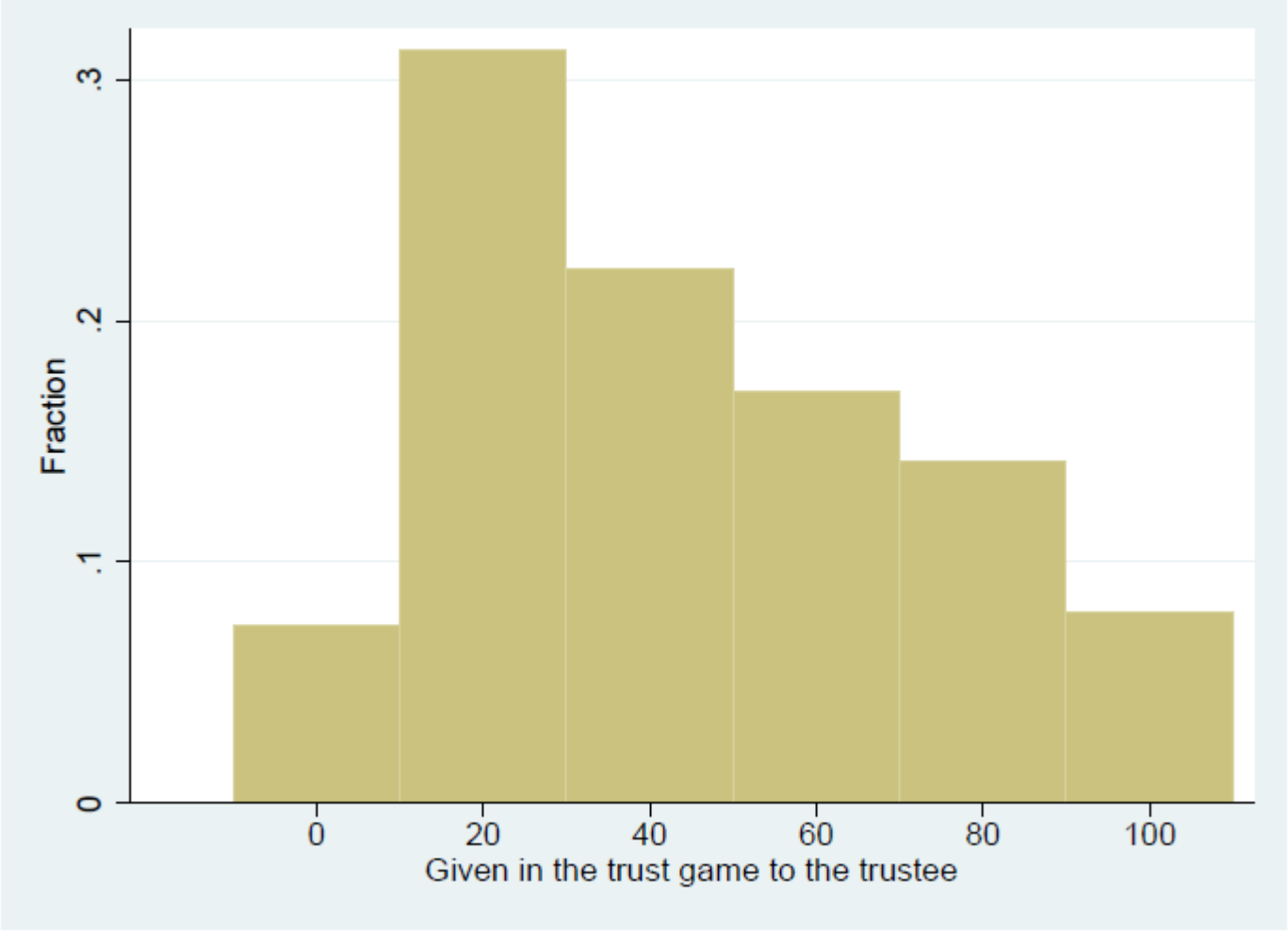
	1.	2.	3.	4.	5.	6.
A passed to B	0	20	40	60	80	100
B received from A	0	60	120	180	240	300
Hold						
Pass to A						

Subjects

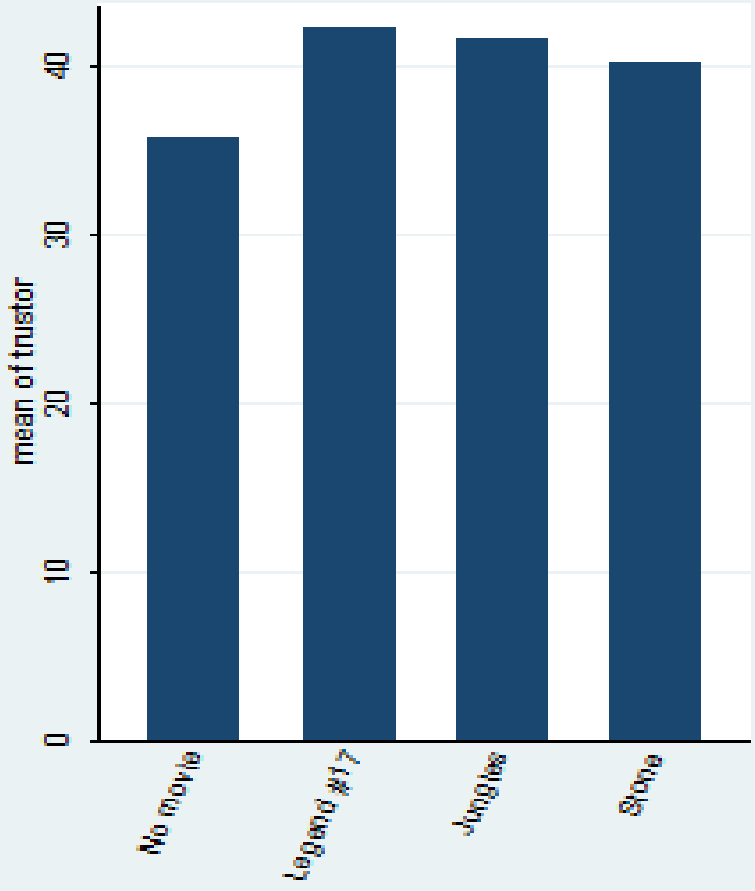
	Moscow	St. Petersburg	Perm	Total
No movie, reverse order	26	0	0	26
No movie	46	0	0	46
Legend #17	26	20	18	64
Jungles	22	22	18	62
Stone	24	18	34	76
Total	144	60	70	274

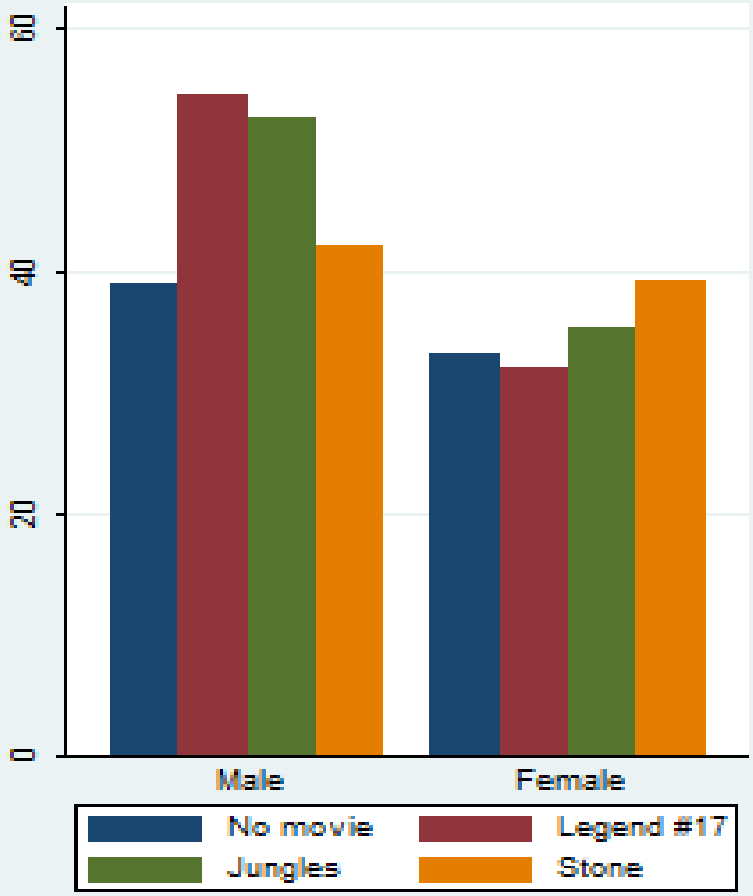
	Male	Female	Total
No movie, reverse order	13	13	26
No movie	20	26	46
Legend #17	29	35	64
Jungles	22	40	62
Stone	30	46	76
Total	144	160	274

Trust game - Investment



Trust under treatment





Investment and Altruism

VARIABLES	All	Female	Male
Jungles	0.0422	-0.000315	0.224*
Legend17	0.0115	0.0639	0.0664
Stone	0.0130	0.0411	0.0665
altruism	0.0773**	0.0918*	0.0591
trust	0.0754	0.0724	0.108
Leg*altruism	-0.207***	-0.194**	-0.326*
Jun*altruism	-0.0831*	-0.122**	-0.0158
Stone*altruism	-0.134**	-0.122*	-0.165
affect_positive	0.00582**	0.0116***	0.00942**
affect_negative	0.00937**	0.0107**	0.0149*
Observations	210	131	79
R-squared	0.675	0.723	0.624
Legend=Jungles	0.670	0.393	0.316
Legend=Stone	0.981	0.746	0.999
Jungles=Stone	0.612	0.502	0.221

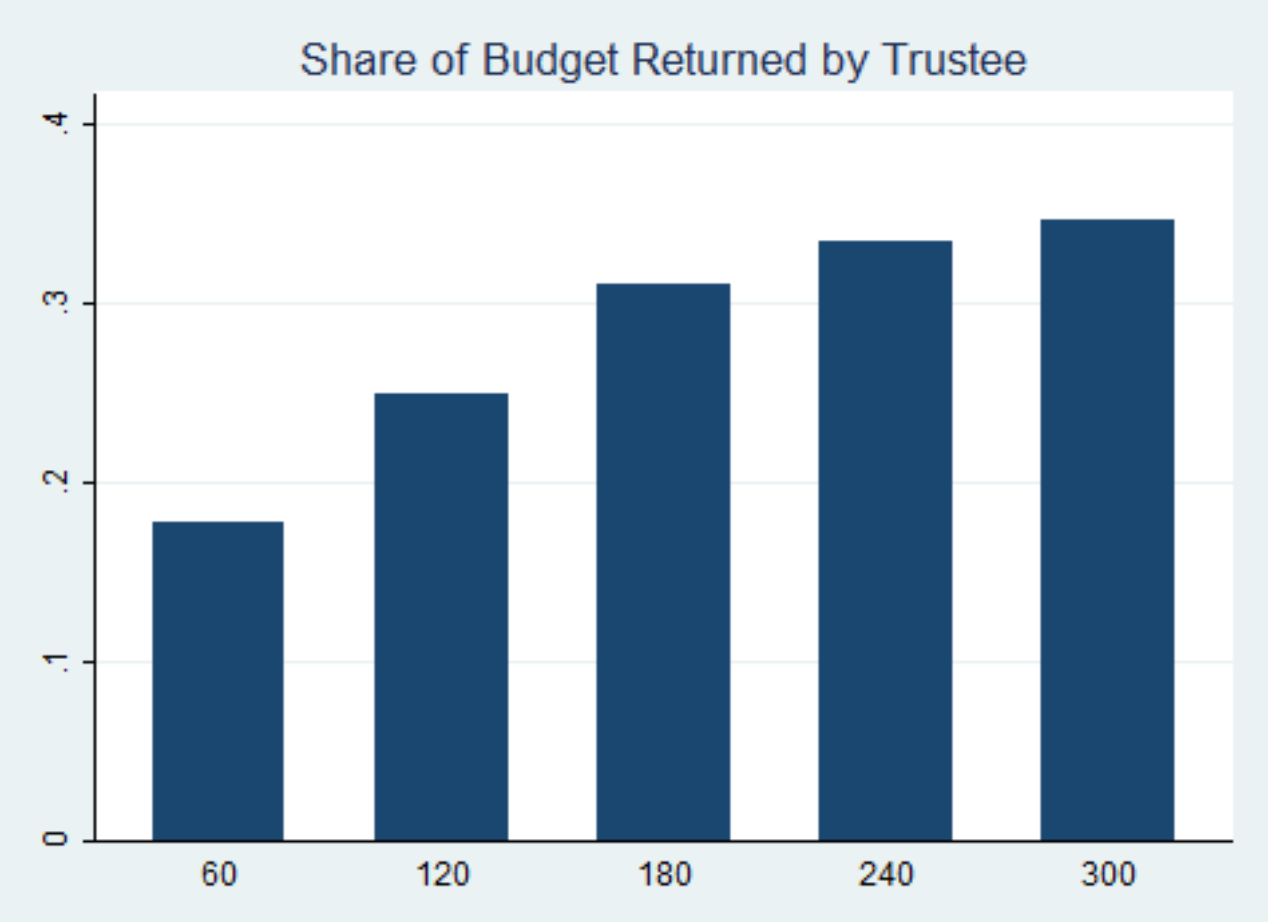
*** p<0.01, ** p<0.05, * p<0.1

Investment and Norms

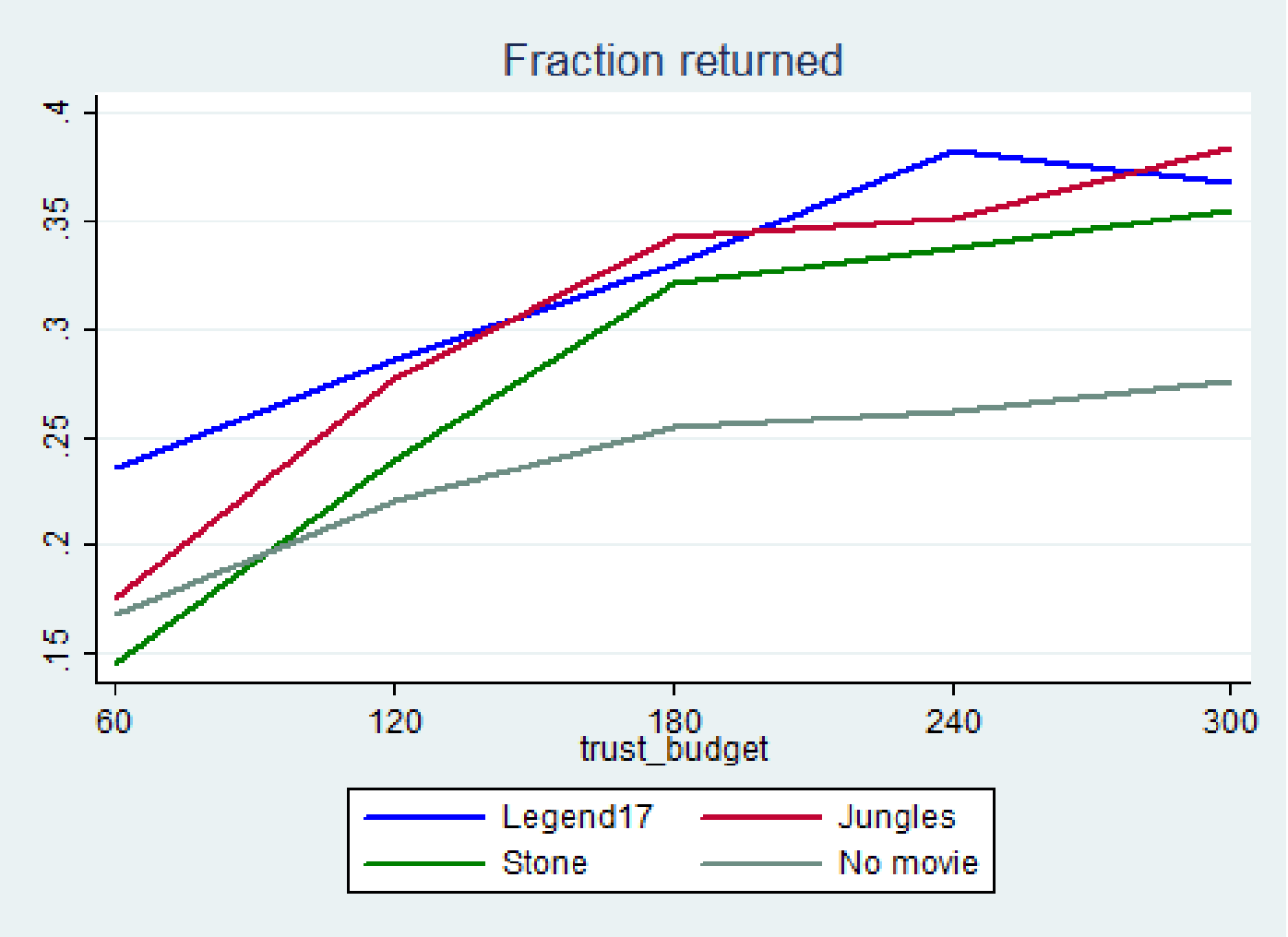
VARIABLES	All	Female	Male
Jungles	0.0876	-0.0373	0.370***
Legend17	0.0478	-0.0233	0.160
Stone	0.0748	0.0178	0.126
norms	-0.0721*	-0.0205	-0.128*
trust	0.0973*	0.0540	0.138
Leg*norms	0.127*	0.0679	0.163
Jun*norms	0.0852	0.0246	0.179
Stone*norms	0.0407	-0.0161	0.103
affect_positive	0.0102***	0.0132***	0.00814**
affect_negative	0.0123***	0.0105*	0.0131*
Observations	208	130	78
R-squared	0.664	0.712	0.654
Legend=Jungles	0.573	0.843	0.237
Legend=Stone	0.661	0.525	0.808
Jungles=Stone	0.833	0.390	0.0814

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

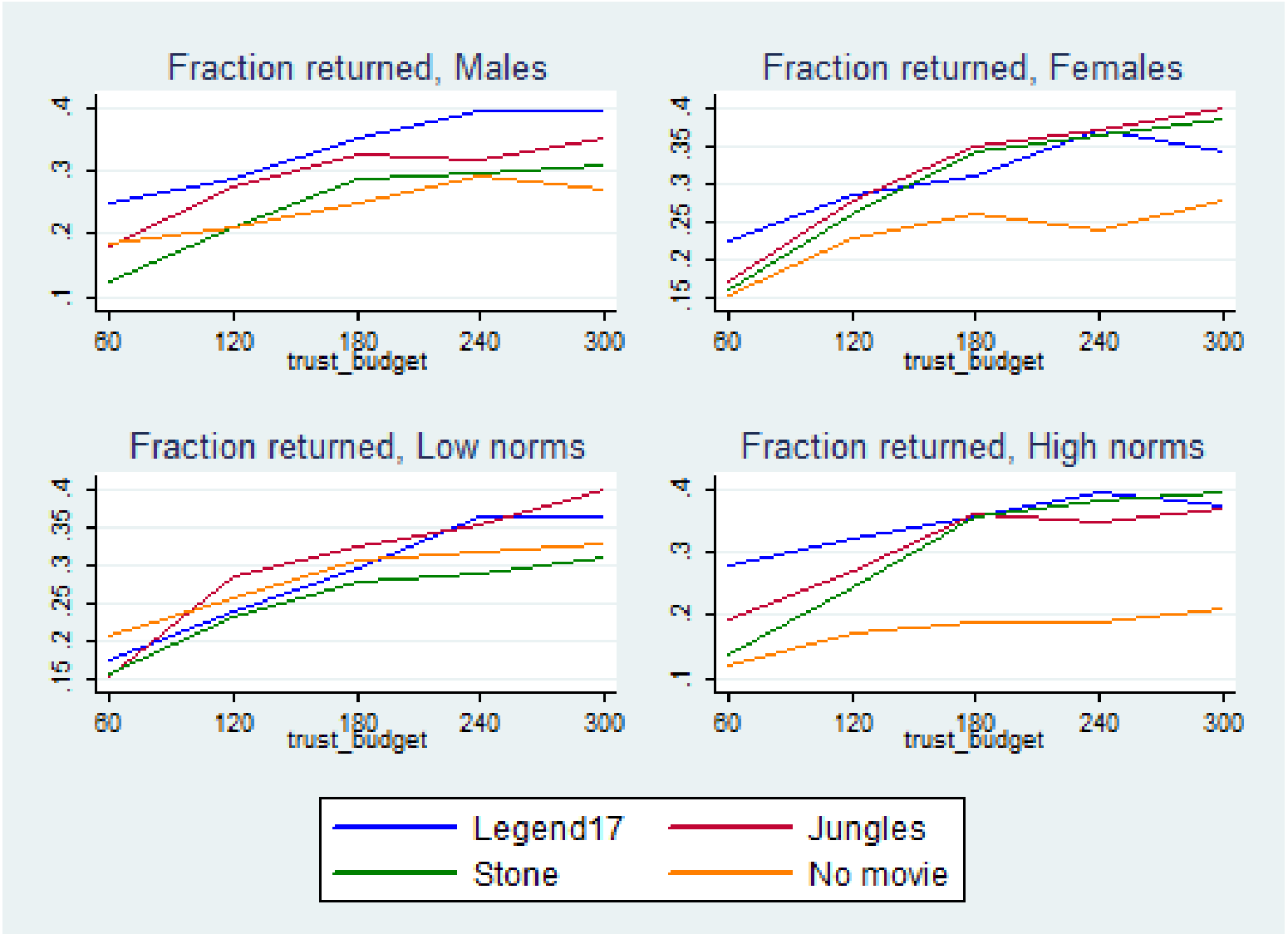
Amount returned



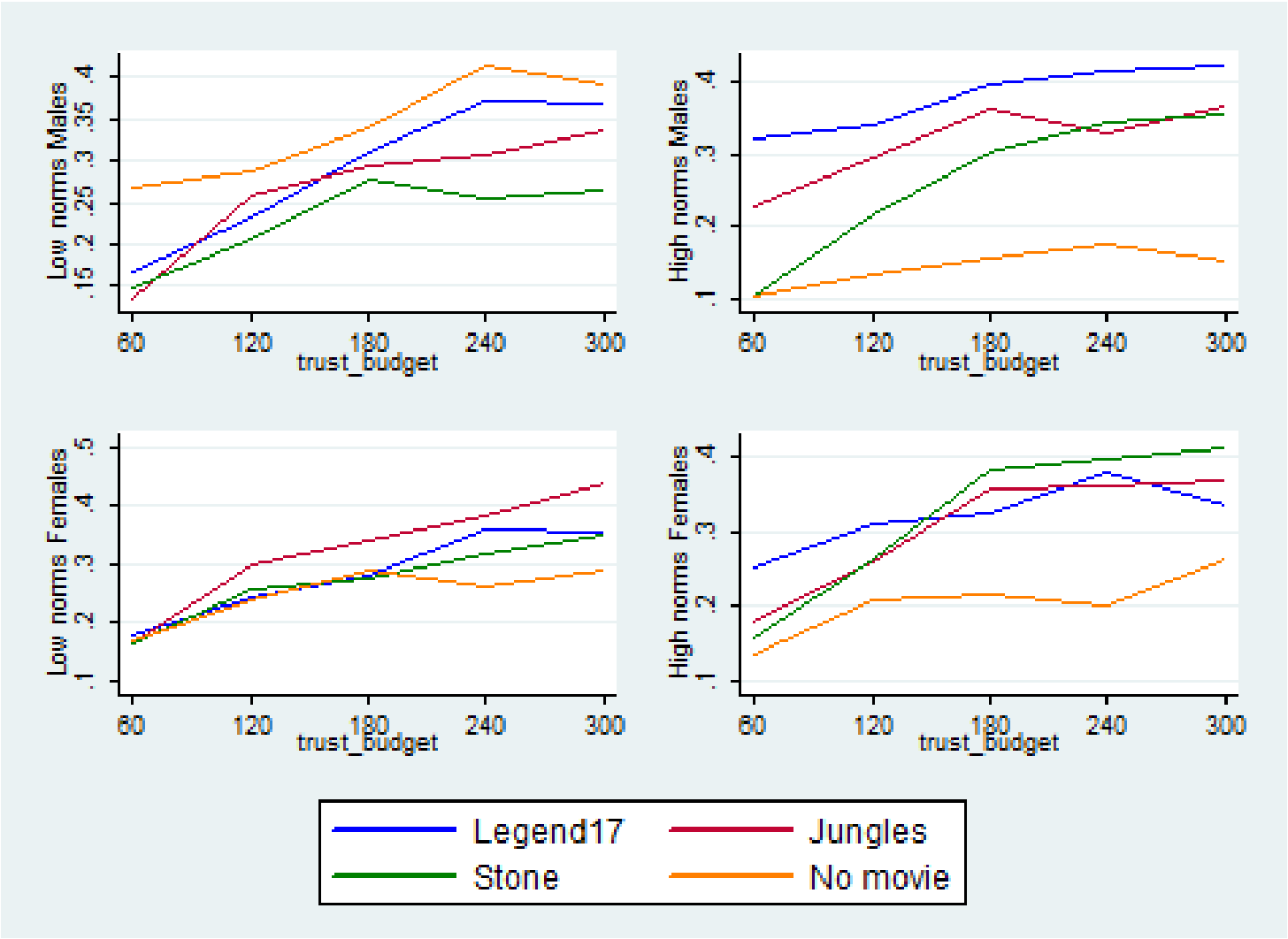
Amount returned by treatments



Amount returned by gender and norms



Amount returned by gender and norms (2)



Amount returned and altruism

VARIABLES	Budget=60	Budget=120	Budget=180	Budget=240	Budget=300
Jungles	0.0348	0.102***	0.135***	0.153***	0.137***
Legend17	0.0718	0.114***	0.122***	0.159***	0.151***
Stone	0.00704	0.0635***	0.103***	0.105***	0.108***
altruism	-0.0523*	0.0172	0.0134	0.0104	0.0184
Leg*altruism	0.114*	0.0152	-0.0313	0.00986	-0.0352
Jun*altruism	0.0552	-0.00458	-0.0243	-0.0485*	-0.0353
Stone*altruism	0.0181	-0.0312	-0.0353	-0.0297	-0.0141
affect_positive	0.00418**	0.00605***	0.00732***	0.00764***	0.00955***
affect_negative	0.00621*	0.00562***	0.00738***	0.00824***	0.00521*
Observations	221	220	220	220	220
R-squared	0.356	0.785	0.795	0.804	0.794
Legend=Jungles	0.529	0.714	0.729	0.875	0.761
Legend=Stone	0.225	0.0809	0.584	0.147	0.278
Jungles=Stone	0.564	0.137	0.304	0.157	0.406
Leg*altr=Jun*altr	0.346	0.556	0.862	0.178	0.998
Leg*altr=St*altr	0.141	0.187	0.925	0.383	0.661
Jun*altr=St*altr	0.424	0.291	0.717	0.561	0.538

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

Amount returned and norms

VARIABLES	Budget=60	Budget=120	Budget=180	Budget=240	Budget=300
Jungles	0.0483	0.110***	0.140***	0.158***	0.144***
Legend17	0.0713	0.117***	0.112***	0.165***	0.149***
Stone	0.00685	0.0634***	0.0998***	0.102***	0.105***
norms	-0.0592*	-0.0336**	-0.0291	-0.0338	-0.0406*
Leg*norms	0.128**	0.0742***	0.0642*	0.0640*	0.0467
Jun*norms	0.0830*	0.0469*	0.0390	0.0170	0.0375
Stone*norms	0.0458	0.0288	0.0513*	0.0605**	0.0647**
affect_positive	0.00350**	0.00588***	0.00733***	0.00767***	0.00928***
affect_negative	0.00754**	0.00579***	0.00725***	0.00789***	0.00606**
Observations	219	218	218	218	218
R-squared	0.360	0.790	0.802	0.808	0.801
Legend=Jungles	0.687	0.822	0.455	0.862	0.915
Legend=Stone	0.203	**0.0495**	0.702	0.0748	0.245
Jungles=Stone	0.397	**0.0767**	0.205	0.101	0.282
Leg*norms=Jun*norms	0.416	0.361	0.482	0.222	0.821
Leg*norms=St*norms	0.108	0.102	0.698	0.922	0.633
Jun*norms=St*norms	0.422	0.472	0.684	0.180	0.428

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

Conclusions

- Films affect trust and reciprocity in the game experiment
- There are significant gender effects
- In some cases effect differs between films
- Effect is mediated by social norms and level of altruism
- Positive and negative emotions both have a positive effect on trust and reciprocity

Conclusions (2)

- All films decrease trust in subjects with high level of altruism
- Patriotic film increases trust in subjects with high social norms
- All films increase reciprocity for 4 out of 5 budgets
- Patriotic film increases reciprocity in subjects with high level of altruism when the budget is small
- Patriotic and funny film increase reciprocity in subjects with high social norms when the budget is small
- Sad film increases reciprocity in subjects with high social norms when the budget is large

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