

Coordination, Personality, and Cognitive Ability: Evidence from a Nationally Representative Internet Panel

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Being Able to Coordinate Can be an Important Skill

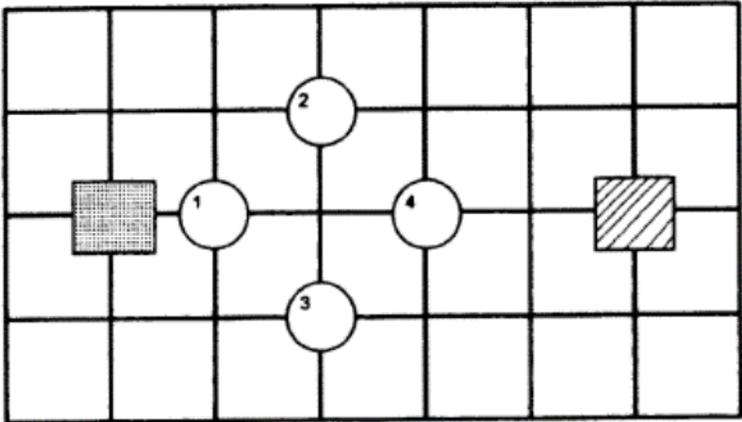
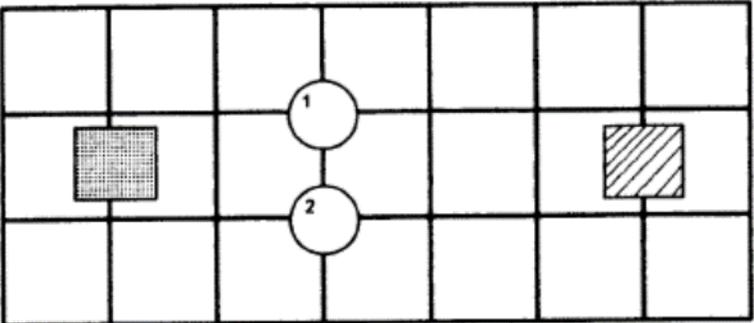
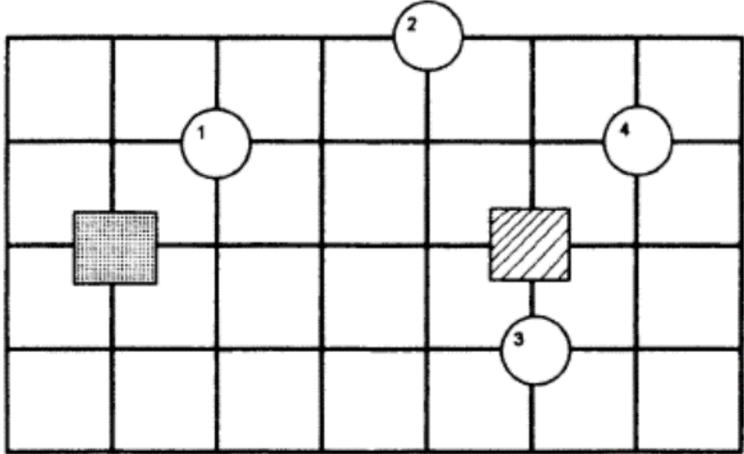
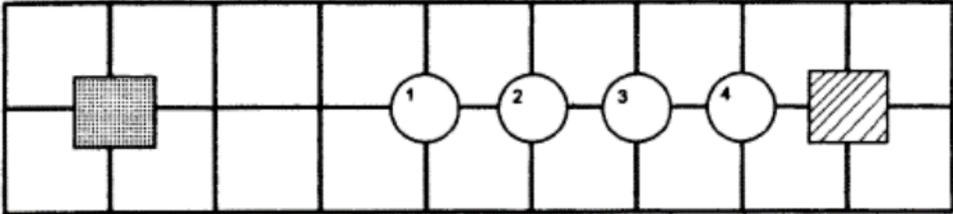
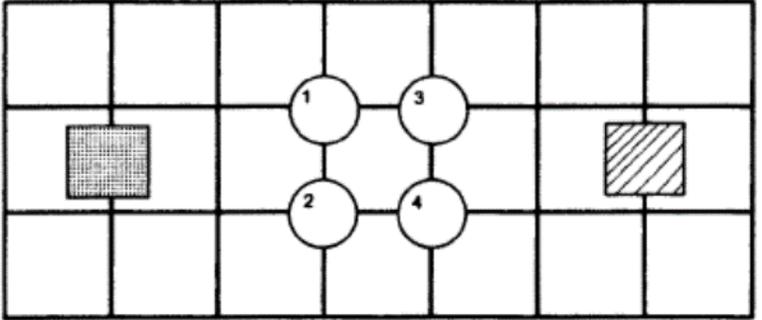
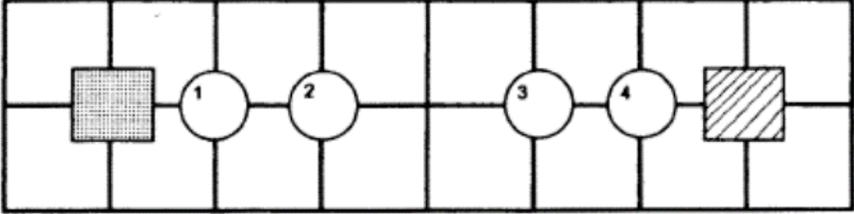
- Being able to consciously anticipate other people's decisions and coordinate can be an important socio-emotional skill
 - Outcomes in most social situations depend not only on one's decisions but also on the decisions of others involved
- People appear remarkably good at coordinating their decisions, even when communication is not possible (Schelling (1960) "The Strategy of Conflict")
 - Schelling (1960) argued that people will try to find "focal points" and base their decisions on the salience of the available choice-options

Mehta, Starmer and Sugden (1994) Coordination Experiment

- **Mehta et. al (1994)** developed a formal experiment and replicated Schelling (1960) results in a sample of 178 mostly undergraduate students
 - Subjects were randomly divided into two groups depending on whether coordination responses would receive incentives or not
- Those receiving incentives received the following information:

“In this experiment we are interested in how far people are able to coordinate their behavior without communicating with one another.....You have been paired with one other person in this room. These pairings have been made at random, and you will never know who you have been paired with. This handout contains a set of 20 questions..... your objective is to give the same answer as the person with whom you have been paired”

Mehta, Starmer and Sugden (1994) Coordination Experiment



People Appear Remarkably Good at Coordinating

(L, L, R, R)^a 61.1
 (R, L, R, L) 17.8

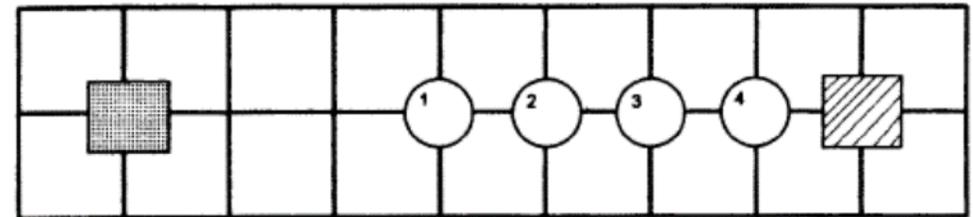
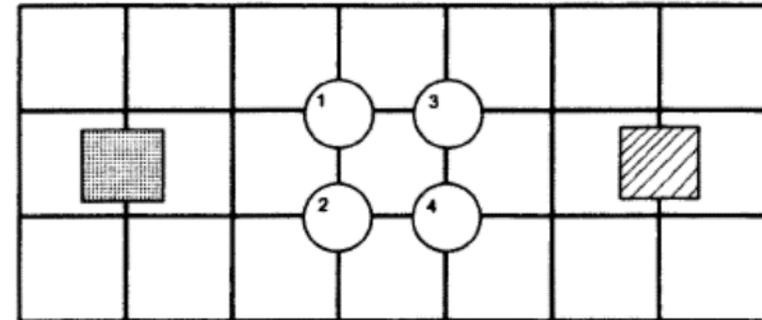
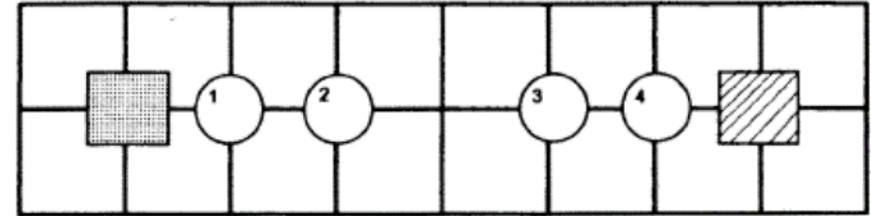
$r = 7$ $c = 0.413$

(L, L, R, R)^a 66.7
 (R, L, L, R) 13.3
 (R, R, L, L) 10.0

$r = 6$ $c = 0.471$

(R, R, R, R) 28.9
 (L, R, R, R)^a 25.6
 (L, L, R, R) 21.1

$r = 10$ $c = 0.197$

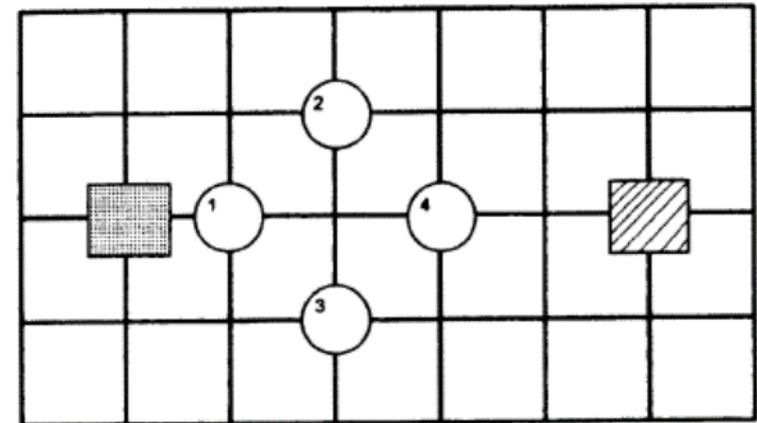
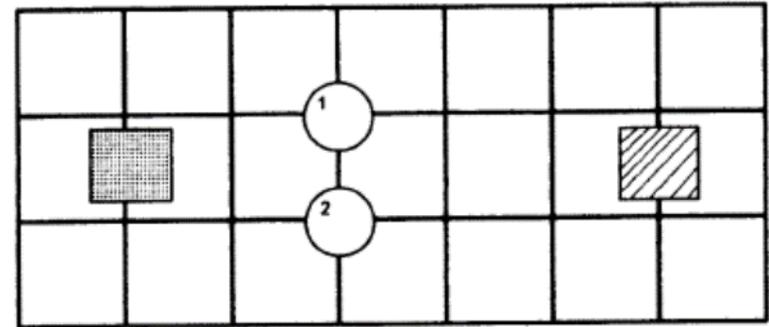
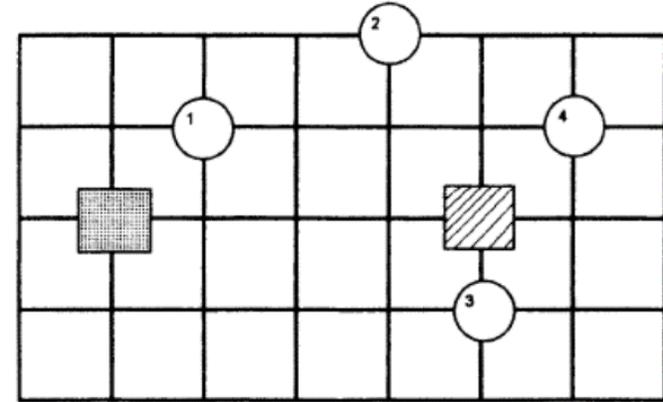


People Appear Remarkably Good at Coordinating

(L, R, R, R) ^a	41.1
(L, L, R, R)	32.2
<hr/>	
$r = 10$	$c = 0.279$

(L, L) ^a	51.1
(L, R)	27.8
(R, L)	13.3
<hr/>	
$r = 4$	$c = 0.355$

(L, L, L, R) ^a	40.0
(L, L, R, R)	18.9
(L, R, R, L)	14.4
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$r = 12$	$c = 0.218$



This Paper

- Little is known about the individual characteristics that would predict the ability to coordinate
- I follow Mehta, Starmer and Sugden (1994) and perform a pure coordination experiment online, among a nationally representative sample of adults from the Understanding America Study (UAS)
- I first study if internet respondents from a nationally representative sample are able to find focal points
- I then study the individual determinants of coordination and whether coordination would help explain heterogeneity in relevant life outcomes

The Understanding America Study (UAS)

- Understanding America Study <https://uasdata.usc.edu/>
 - A nationally representative internet panel of adults (18 and older) run by the University of Southern California
 - Participants are provided internet access and hardware, such as tablets, so that all households in the sample may participate
 - Respondents complete up to 30-minute surveys in waves that occur once or twice each month
 - Respondents receive compensation for their time spent answering questions at a rate of \$20 per 30 minutes of interview time
 - Coordination experiment data collected on a sample of **5,583 respondents**

Relevant Outcome and Explanatory Variables

- College education, employment status, marital status, life satisfaction
- BIG 5 personality traits (John et. al 1990, 1991 & 1999)
 - Conscientiousness, Agreeableness, Neuroticism, Extroversion and Openness
- Cognitive ability (constructed using a factor analysis of total number of correct responses on Numeracy, Cognitive Reflection Test, quantitative reasoning, picture vocabulary, and verbal analogies from the Woodcock-Johnson Tests of Cognitive Abilities) (Lipkus et. al, 2001; Frederick, 2005; Mather and Jaffe, 2016)
- Other important demographic information (e.g. age, gender, race, region dummies)

Respondents Coordinate Also in an Internet Panel

Percentage of Respondents Choosing Focal Point Strategies

	<i>Image 1</i>	<i>Image 2</i>	<i>Image 3</i>	<i>Image 4</i>	<i>Image 5</i>	<i>Image 6</i>
(L,L,R,R)	35.25	41.30	25.77	31.45		31.83
(L,R,L,R))	7.73	10.48	12.94	5.22		17.74
(L,R,R,L)		8.75		5.98		
(L,L,L,L)			7.32			
(R,R,R,R)			8.17			
(L,R)					58.14	
(R,L)					20.16	
N. Obs	905	983	943	919	903	930

Who Coordinates?

Coordination Rates (Std)			
Female	0.030 (0.024)	std_Big5_C	0.012 (0.013)
Age	-0.002** (0.001)	std_Big5_A	0.028** (0.013)
African American	-0.101** (0.045)	std_Big5_N	-0.015 (0.014)
Hispanic	-0.201 (0.291)	std_Big5_O	0.003 (0.012)
Other Race	-0.075** (0.030)	std_Big5_E	-0.023* (0.012)
		std_cog_factor	0.263*** (0.013)

Note: Image fixed effects and regional dummies included

Coordination and Life Outcomes

Relationship with life outcomes-No Cognitive Ability
Controls

	(1)	(2)	(3)	(4)
	college_degree	working	married	Life Satisfaction
std_coordination	0.073*** (0.008)	0.022*** (0.007)	0.021*** (0.008)	0.101*** (0.031)
Constant	0.542*** (0.041)	1.128*** (0.038)	0.537*** (0.040)	6.480*** (0.161)
Observations	5,485	5,480	5,485	5,485
Adjusted R-squared	0.0313	0.115	0.0693	0.0186

Note: Image fixed effects, demographic controls and regional dummies included

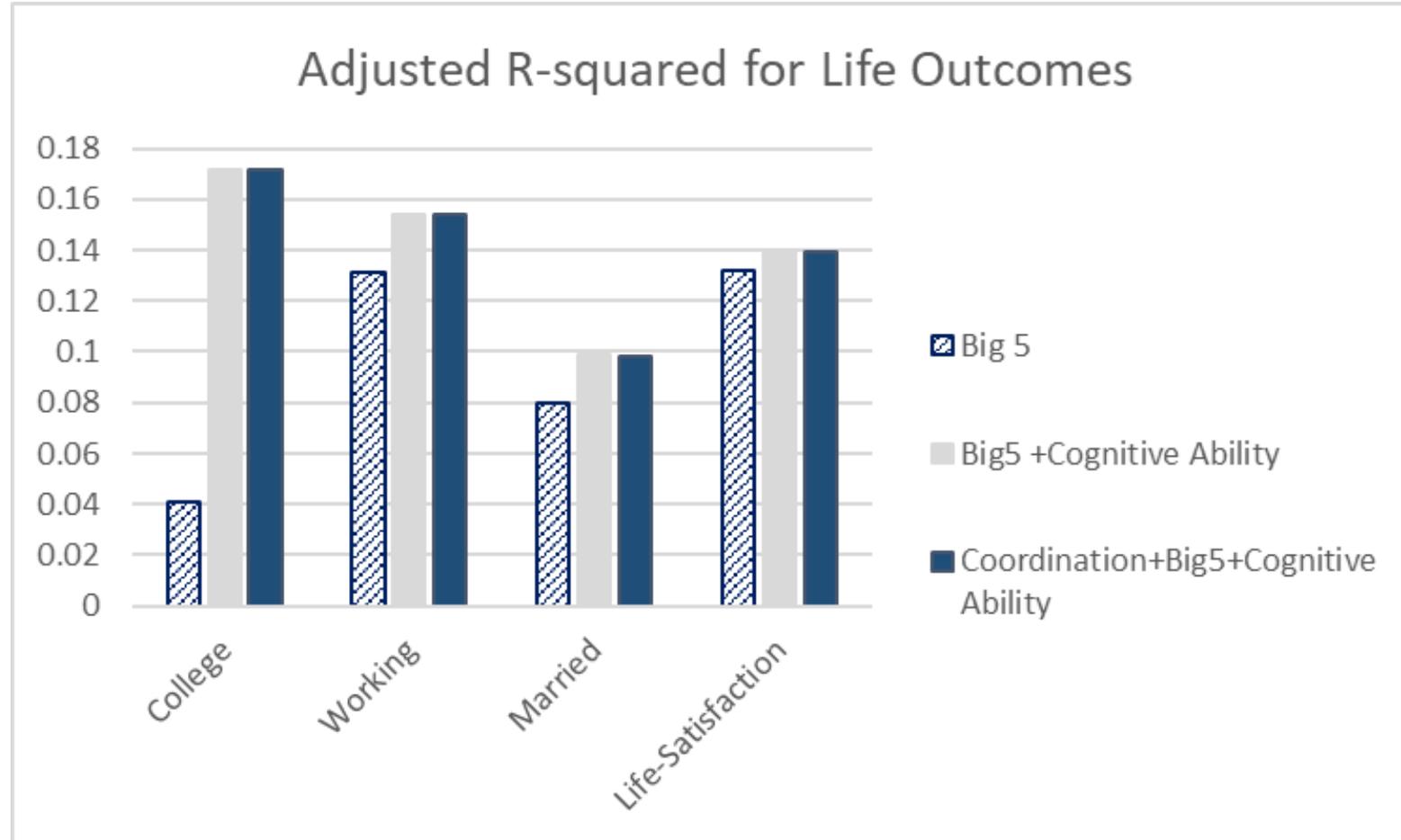
Coordination and Life Outcomes

Relationship with life outcomes-With Big 5 traits and Cognitive Ability Controls

	(1) college_degree	(2) working	(3) married	(4) Life Satisfaction
std_coordination	0.008 (0.008)	-0.003 (0.007)	0.002 (0.008)	0.038 (0.030)
std_Big5_C	0.024*** (0.007)	0.046*** (0.007)	0.030*** (0.007)	0.152*** (0.029)
std_Big5_A	-0.011 (0.007)	-0.017** (0.007)	0.013* (0.008)	0.043 (0.029)
std_Big5_N	-0.014* (0.008)	-0.032*** (0.007)	-0.008 (0.008)	-0.536*** (0.030)
std_Big5_O	0.031*** (0.007)	-0.033*** (0.007)	-0.060*** (0.007)	-0.188*** (0.027)
std_Big5_E	-0.004 (0.007)	0.021*** (0.007)	0.020*** (0.007)	0.170*** (0.027)
std_cog_factor	0.201*** (0.007)	0.081*** (0.007)	0.074*** (0.007)	0.143*** (0.029)
Constant	0.474*** (0.038)	1.126*** (0.038)	0.537*** (0.040)	6.822*** (0.153)
Observations	5,418	5,413	5,418	5,418
Adjusted R-squared	0.171	0.154	0.0985	0.139

Note: Image fixed effects, demographic controls and region dummies included

Coordination and Life Outcomes



Conclusions

- I replicated Mehta, Starmer and Sugden (1994) and performed a pure coordination experiment online, among a nationally representative sample of adults from the Understanding America Study (UAS)
- Internet respondents from a nationally representative sample are able to find focal points
- I then study the individual determinants of coordination and whether coordination would help explain heterogeneity in relevant life outcomes
 - Agreeableness, extroversion, and cognitive ability help predict coordination although the predictive power of cognitive ability is larger

Conclusions

- Being able to coordinate significantly predicted important life outcomes but this effect disappears once we control for cognitive ability
- These results go in line with a growing literature that has studied the relationship between economic preferences, personality and cognitive ability (e.g. Becker et al., 2012; Dohmen et al. 2018)
- To what extent performance in these behavioral experiments is just driven by individual differences in cognitive ability?

THANK YOU!



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