Experiment 5: Voting

Name (last name first): _____ Banner ID:_____

You will participate in 4 voting games. We start by giving instructions that are common to all 4 voting games. In each of the 4 games there are 3 players or voters. There are 2 urns. The BLUE urn has 3 blue balls and 1 red ball. The RED urn has 3 red balls and 1 blue ball. For each of the 4 games I will flip a coin to choose among the urns. Voters do not know which urn was picked but will each independently draw one ball from the urn with reposition. Each voter only sees the color of the ball she or he draws.

After seeing the ball, voters must vote on whether the urn is BLUE or RED. If the group choses the right urn they get 10 HW points each, otherwise they get 0.

Experiment 5a:

You will be matched with 2 other students in this class. The group decides between BLUE and RED by majority (if 2 students vote for RED, the group decision is RED, etc.).

Please circle your choice as a function of the ball you draw from the urn:

Drawn ball is	Vote for	NE	Observed
blue	BLUE RED	100%	97%
red	BLUE RED	0%	3%

Experiment 5b:

You will be matched with 2 other students in this class. The group decides between BLUE and RED by unanimity: for the group to choose RED all 3 votes must be for RED, otherwise the group choice is BLUE.

Please circle your choice as a function of the ball you draw from the urn:

Drawn ball is	Vote for	NE	Observed
blue	BLUE RED	70%	65%
red	BLUE RED	0%	10%

What is the effect of changing from majority to unanimity on the probability of the group chosing Red when the state is BLUE: P(Red/ BLUE)? Imagine this is the probability that a jury votes for guilty when the defendant is innocent.

Under majority P(Red/ BLUE)=3*3/4*1/4*1/4+(1/4)^3=0.15625

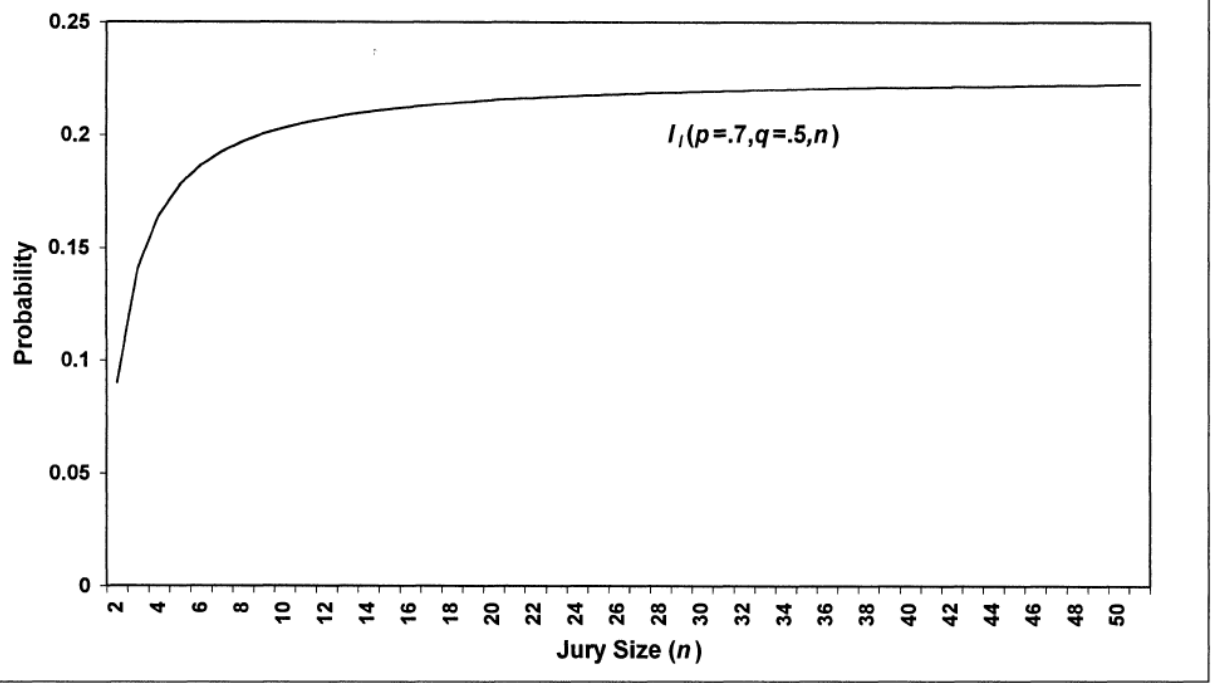
If voters remain voting sincerely when they move to unanimity rule then this probability is reduced to only (1/4)^3.

However voting sincerely is no longer a BNE and in equilibrium this probability is greater:

P(Red/ BLUE)=(1/4+3/4*.7)^3=0.107.

It is the case that the move to unanimity from majority reduces P(Red/ BLUE) with 3 voters, but this effect is smaller than it would be if voters voted sincerely.
In fact, for a large number of voters P(Red/ BLUE) would be greater under unanimity than under majority!! See Feddersen and Pesendorfer APSR (1998) http://www.jstor.org/stable/2585926
Under unanimity, P(Red/ BLUE) is increasing in the number of voters!

FIGURE 1. The Probability an Innocent Defendant Is Convicted as a Function of Jury Size



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Experiment 5c:

The group decides between BLUE and RED by majority (if 2 players vote for RED, the group decision is RED, etc.). You will NOT be matched with 2 other students. Instead you will be matched with two computer programs. These programs see the color of the urn (BLUE or RED) and vote for RED if the urn is RED, and flip a fair coin if the urn is BLUE.

Please circle your choice as a function of the ball you draw from the urn

Drawn ball is	Vote for	NE	Observed
blue	BLUE RED	100%	94%
red	BLUE RED	100%	85%

P(RED / blue, pivotal)=0=P(RED / red, pivotal)

Experiment 5d:

The group again decides between BLUE and RED by majority (if 2 players vote for RED, the group decision is RED, etc.). You will NOT be matched with 2 other students. Instead you will be matched with two computer programs. These programs see the color of the urn (BLUE or RED) and vote for BLUE if the urn is BLUE, and flip a fair coin if the urn is RED.

Please circle your choice as a function of the ball you draw from the urn

Drawn ball is	Vote for	NE	Observed
blue	BLUE RED	0%	15%
red	BLUE RED	0%	6%

P(RED / blue, pivotal)=1=P(RED / red, pivotal)