



## Three Main Concerns

- Empirical Evidence for Condorcet Paradox? (Majority Cycles)
- Empirical Consensus among Consensus Methods? (Generalization of Condorcet Efficiency)
- Consistent Estimators (Beyond Condorcet Efficiency)

## Normative Theory

## Descriptive Theory & Data

## Behavioral Social Choice

## Data

American Psychological Association Presidential Elections  
8 Data sets (1998-2005)

Ballots: Partial/Full Rankings of 5 Candidates

## Partial Ranking Ballots

### Complete Ranking

B D C E A

### Partial Ranking

B D C

## Three Models of Partial Rankings

### Weak order model

Unranked candidates  
Are tied at the bottom of the preference

B D C E A

### Partial order model

No preferences b/w  
candidates  
when one or both are  
unranked

B D C E A

### Size-Independent Linear Order model

Partial ranking is “beginning” of an unknown linear order  
Linear order “profile” inferred statistically

B D C A E

B D C E A

## Consensus Methods

- Condorcet
- Borda
- Plurality
- Anti Plurality
- STV
- Coombs
- Plurality Runoff

## Results

No Cycle in any of the 8 data sets !!!

1998	Condorcet	Borda	Plurality
<i>WO</i>	CBADE	<b>CBADE</b>	CEABD
<i>ZW</i>	CBADE	CBADE	CAEBD
<i>SIM</i>	CBADE	CBADE	CAEBD

Agreement among winners APA data  
(Weak Order Model)

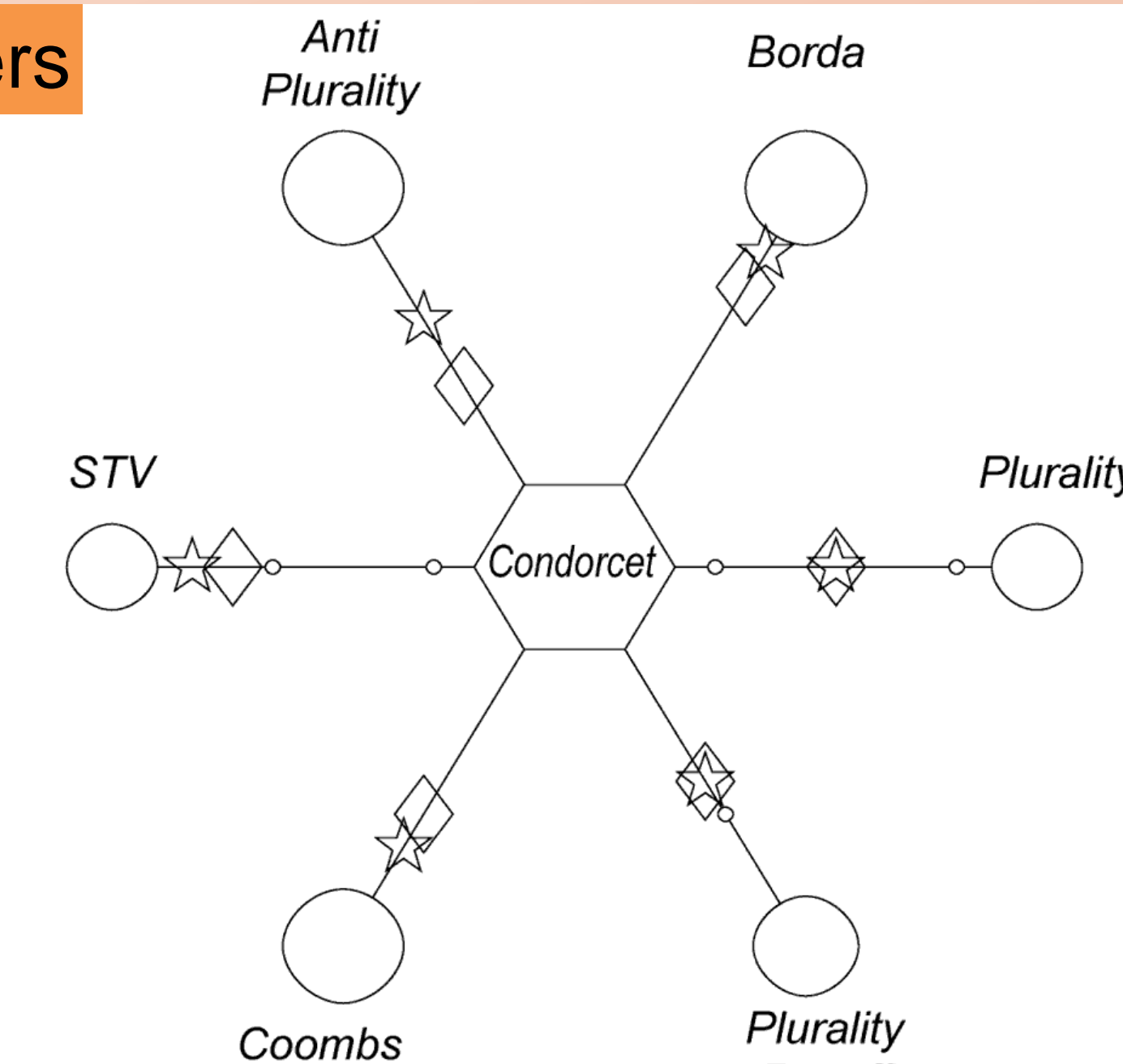
	Condorcet Borda	Condorcet Plurality	Borda Plurality
1998	>.99	>.99	>.99
1999	>.99	.79	.79
2000	>.99	>.99	>.99
2001	>.99	>.99	>.99
2002	>.99	>.99	>.99
2003	>.99	>.99	>.99
2004	>.99	>.99	>.99
2005	>.96	.03	.06

Results are consistent for other models

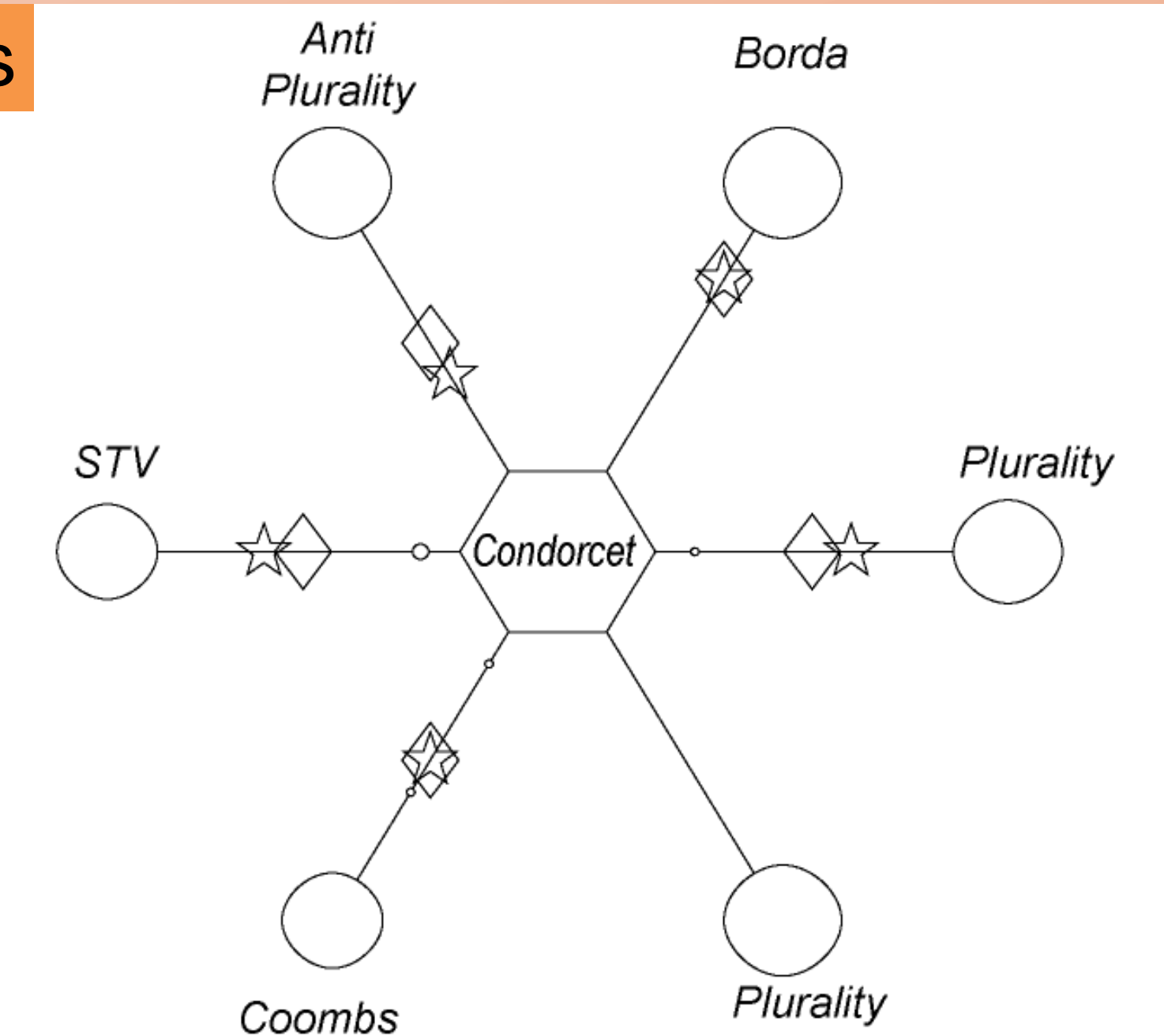
## Three Main Conclusions

- Absence of Empirical Evidence for Condorcet Paradox (Majority Cycles)
- Empirical Consensus among Consensus Methods (Generalization of Condorcet Efficiency)
- Consistent Estimators (Beyond Condorcet Efficiency)

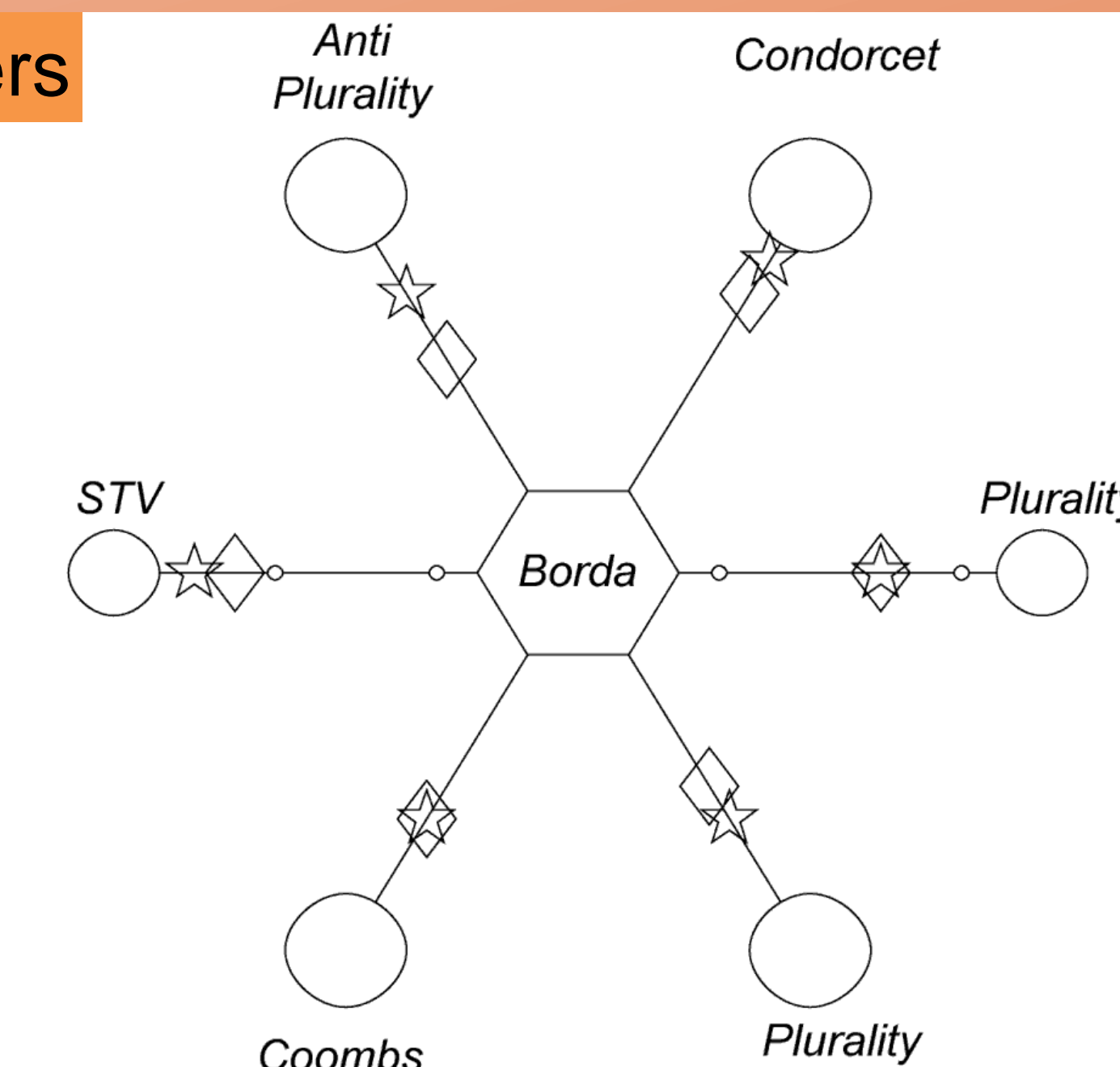
## Winners



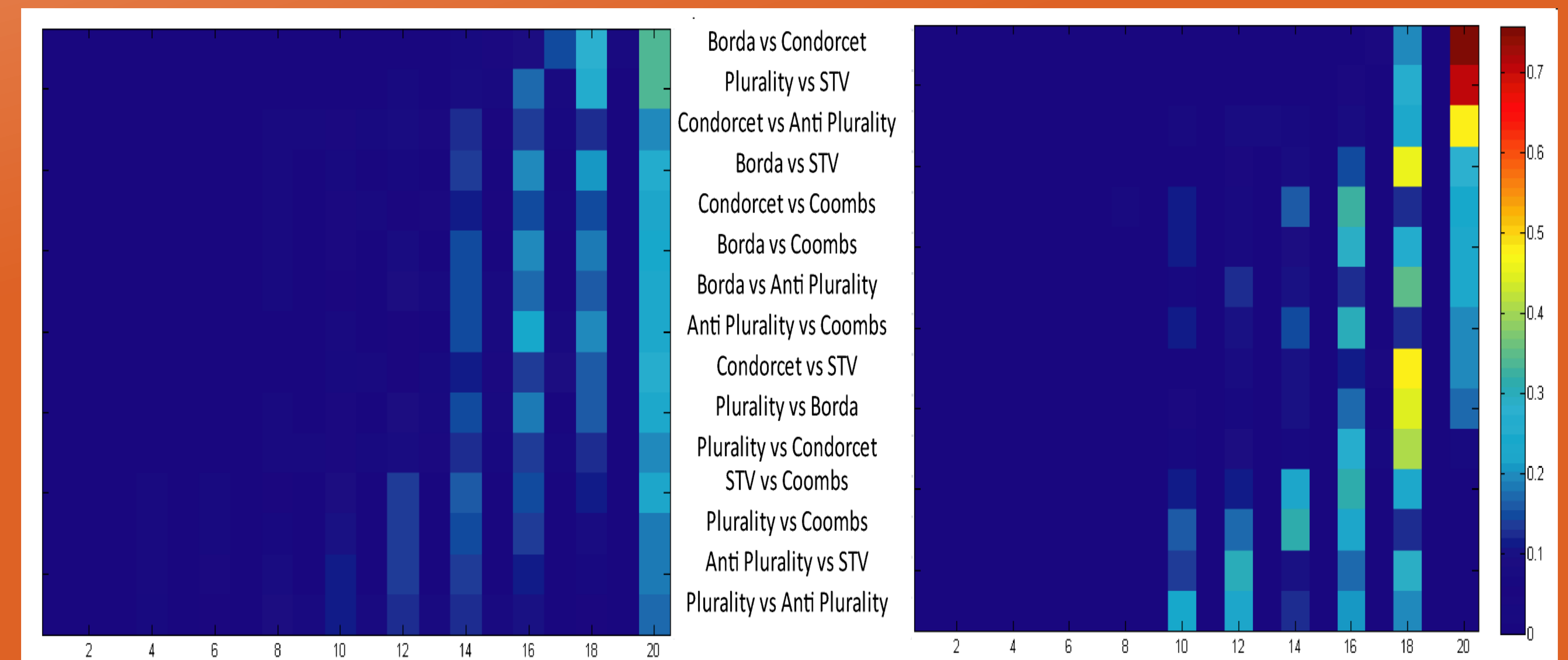
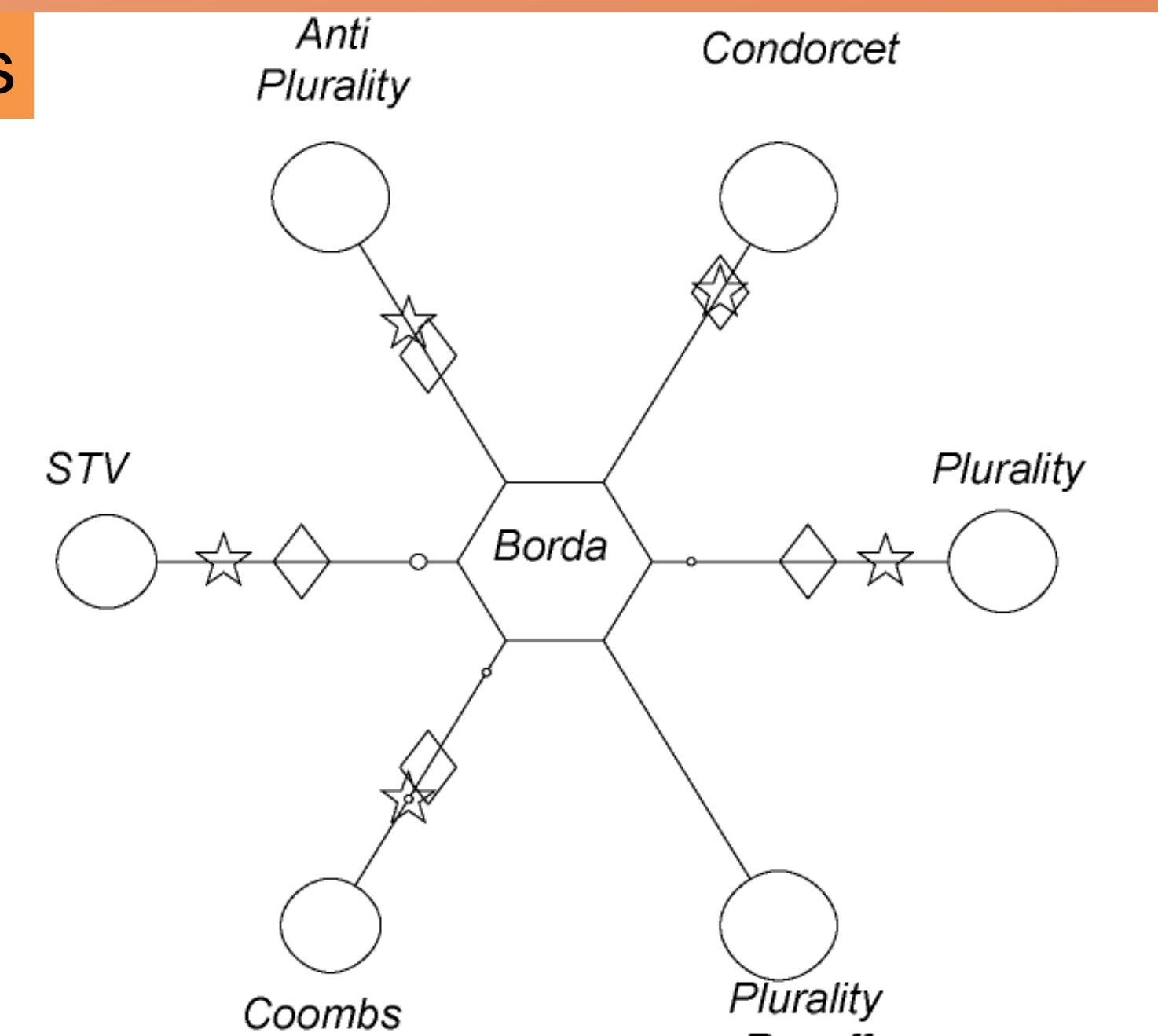
## Losers



## Winners



## Losers



## Future Directions

Analysis of large scale national election surveys from, e.g., Canada, France, Germany, Israel, USA

Analysis of data from individual and group decision making experiments

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