

T407016 // AUTUMN 2026 // UNIVERSITÉ DE GENÈVE

COMPARATIVE POLITICS

Session 06. Electoral systems.

THU 22 OCT 2026

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PREVIOUSLY

Last week, this week

SESSION 05

- Linz on why presidential democracies break down
- Cheibub and Limongi on whether the evidence backs him

SESSION 06

- Lijphart on how electoral systems turn votes into seats
- Carey and Hix on whether one design can serve two ideals
- One group exercise

The number of parties kept coming back last week. **This week asks how the rules that turn votes into seats shape that number.**

OPENER · ANY VOLUNTEERS?

You are drafting the election law for a new parliament

What should the rules maximize?

01

A parliament that looks like the electorate?

02

A government that voters can clearly reward or punish?

03

Can one set of rules deliver both?

LIJPHART 2012 · TWO FAMILIES

Winner takes all, or seats follow votes?

PLURALITY AND MAJORITY

Winner takes all

The candidate with the most votes wins the district, and everyone who voted for someone else goes unrepresented. The party that leads nationally tends to win more than its share of seats.

PROPORTIONAL REPRESENTATION

Seats follow votes

Majorities and minorities both win seats, and each party's share of the seats should match its share of the votes.

PR is "very difficult to defend" and even "anti-democratic."

Bill Clinton in 1993, on why he withdrew Lani Guinier's nomination. **Countries often change rules within a family and rarely switch between the two.**

Three families of formulas

PLURALITY AND MAJORITY

- Plurality, or first past the post. United Kingdom, United States, Canada, India
- Two ballots, with a plurality enough in the second. France
- Alternative vote, where voters rank candidates. Australia

SEMIPROPORTIONAL

- Limited vote. Japan in 1946
- Single nontransferable vote. Japan from 1947 to 1993
- Parallel plurality and PR, with PR seats that do not compensate. Japan since 1996, Korea

PROPORTIONAL

- List PR, used in 18 of the 36 democracies. Netherlands, Spain, Switzerland
- Mixed member proportional, where list seats compensate. Germany, New Zealand since 1996
- Single transferable vote. Ireland, Malta

Eleven of the 36 democracies used plurality between 1945 and 2010. **The big changes all came in the 1990s, in New Zealand, Italy and Japan.**

LIJPHART · DISTRICT MAGNITUDE

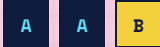
How many seats per district?

UNDER PLURALITY

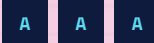
Bigger districts help the leader

Party A runs slightly ahead of party B across an area that elects three members.

THREE DISTRICTS



ONE DISTRICT OF THREE



UNDER PR

Bigger districts help small parties

A party with 10 percent of the vote is unlikely to win a seat in a five-member district and will win one in a ten-member district.

FIVE SEATS



TEN SEATS

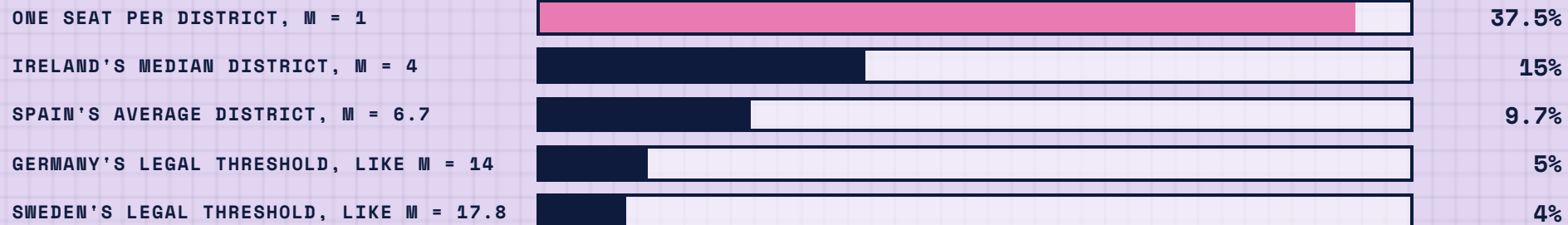


Magnitude is the number of members a district elects, whatever its area or electorate. **Taagepera and Shugart called it "the decisive factor."**

LIJPHART · THRESHOLDS

Two sides of the same coin

$$\text{Implied threshold } T \approx 75\% \div (M + 1)$$



A legal threshold writes the barrier into law, and a small district builds it into the arithmetic. **Lijphart's legal thresholds run from 0.67 percent in the Netherlands to 5 percent in Germany and New Zealand.**

What else shapes the result?

ASSEMBLY SIZE

Small chambers distort more. Assemblies tend to have about the cube root of the population in seats, so Barbados "should" have 63 members and has 30.

PRESIDENTIAL ELECTIONS

Only large parties can win the presidency, and their edge carries into legislative races. Duverger counted a dozen parties in France's Third Republic and four in the Fifth.

MALAPPORTIONMENT

Districts with unequal populations, usually in favor of rural areas, as in the United States before the 1960s, Japan under SNTV and Spain.

LINKS BETWEEN PARTIES

Linked lists pool their votes in Switzerland, Israel and the Netherlands. Under the alternative vote and STV, parties trade lower preferences.

How far do seats stray from votes?

$$G = \sqrt{\left(\frac{1}{2} \sum (v_i - s_i)^2 \right)}$$

- 01 Subtract each party's seat share from its vote share.
- 02 Square the gaps, add them up and halve the total.
- 03 Take the square root. Squaring makes one large gap count for more than several small ones.

A WORKED EXAMPLE · INVENTED ELECTION

PARTY	VOTES %	SEATS %	GAP	SQUARED
A	40	55	-15	225
B	35	40	-5	25
C	25	5	+20	400
Sum, halved				325
G				18.0

Summing the raw gaps understates how proportional PR is, and averaging them overstates it. **Small parties lumped together as "others" are left out.**

One seat, and the winner takes it

AVERAGE DISPROPORTIONALITY, PERCENT

UNITED STATES



URUGUAY



01 A presidential election fills a single seat, so every vote for the loser counts as a gap. In Uruguay's 2009 runoff Lacalle lost with 45.37 percent, and the index is 45.37.

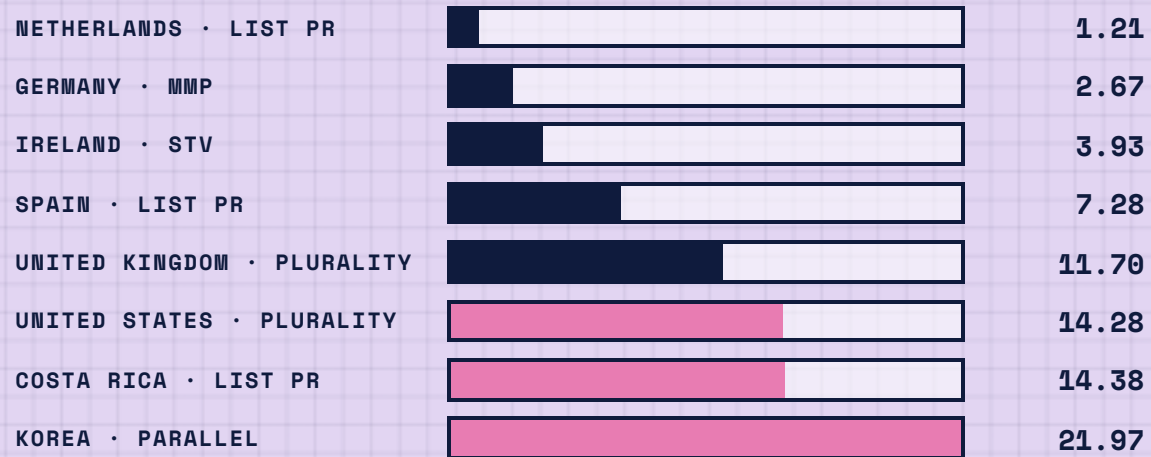
02 Presidential elections averaged 43 to 49 percent in all seven presidential systems.

03 Lijphart combines the two with a geometric mean, so the presidential figure does not swamp the legislative one.

This is one more way presidential systems lean majoritarian. **They also tend to reduce the number of parties.**

A clear dividing line

AVERAGE DISPROPORTIONALITY, 1945 TO 2010 • PRESIDENTIAL SYSTEMS IN PINK



- 01 Eighteen of the twenty least disproportional countries are parliamentary PR systems.
- 02 Spain and Greece "only barely" belong to the PR family. Spain's districts are small and its small provinces overrepresented.
- 03 Costa Rica and Argentina elect their legislatures by PR. Their presidential elections push them down the table.

The mean is 8.55 and the median 7.14. **Most PR countries sit between 1 and 5 percent, and most plurality countries between 10 and 20.**

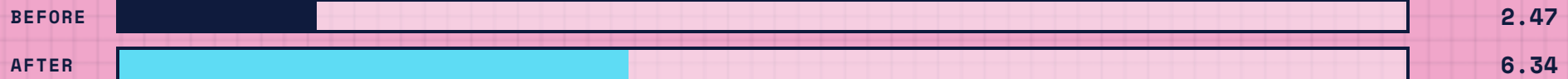
What happens when a country switches?

AVERAGE DISPROPORTIONALITY BEFORE AND AFTER A REFORM, PERCENT

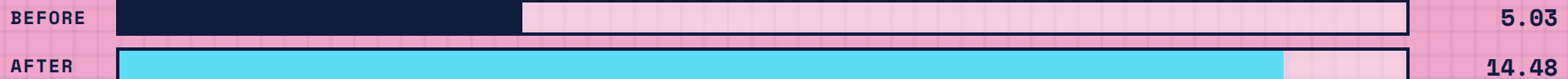
NEW ZEALAND, FROM PLURALITY TO MMP



ITALY, FROM LIST PR TO PARTLY COMPENSATORY MMP



JAPAN, FROM SNTV TO PARALLEL PLURALITY AND PR



Italy and Japan changed rules without changing family. **Disproportionality still more than doubled in both.**

LIDPHART · DUVERGER AND RAE

Why plurality shrinks the party system

MECHANICAL EFFECT

Every party except the two strongest loses in most districts and ends up underrepresented, as the British Liberals did for decades after the war.

PSYCHOLOGICAL EFFECT

"The electors soon realize that their votes are wasted if they continue to give them to the third party." Politicians draw the same conclusion and join a large party.

Rae · what every electoral system tends to do

DISTORT THE VOTE

CUT THE NUMBER OF PARTIES

MANUFACTURE MAJORITIES

Canada's Conservatives won a clear majority of seats with 39.6 percent of the vote in 2011. **All three tendencies are much stronger under plurality and majority rules.**

More distortion, fewer parties

$$r = -0.57$$

Correlation between disproportionality and the effective number of parliamentary parties in 36 democracies.

MORE PARTIES THAN EXPECTED

India, a plural society, and seven countries including Switzerland, Israel and the Netherlands.

FEWER PARTIES THAN EXPECTED

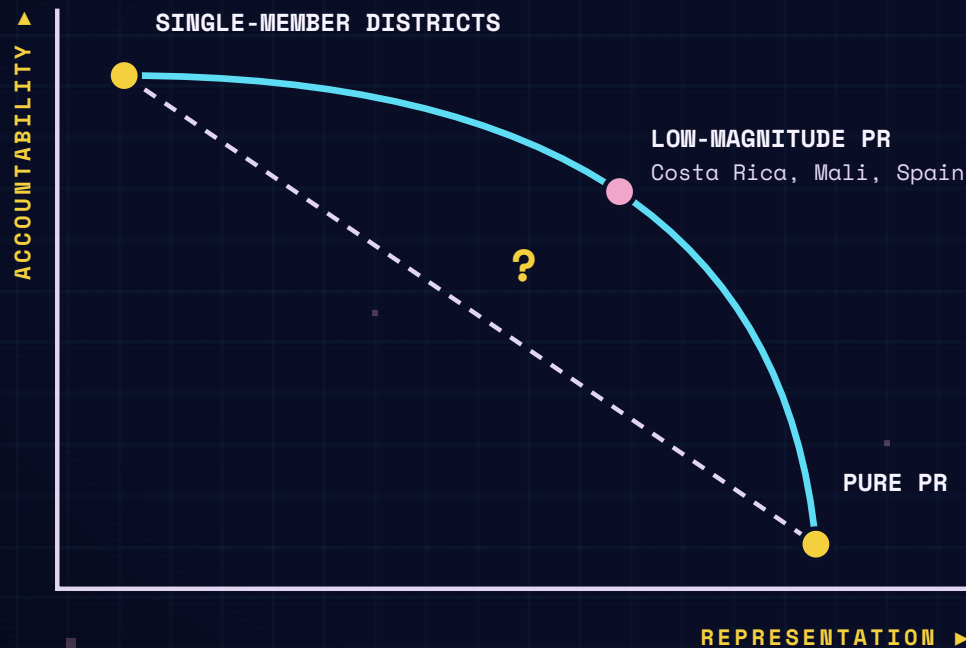
Austria and Malta, where voters long split into two camps, and Botswana.

PRESIDENTIAL OUTLIERS

Argentina, France and Korea have more parties than their disproportionality predicts.

Electoral systems are "a crucial determinant, though by no means the sole determinant, of party systems." **How divided a society is matters too.**

Can you have both?



- 01 Representation. PR mirrors the electorate. Lijphart once called proportionality "virtually synonymous with electoral justice."
- 02 Accountability. Coalitions blur who is responsible, find it harder to change policy and spend more. Voters reward and punish best when few parties govern.
- 03 The literature implies a straight line, where each gain on one ideal costs an equal loss on the other. Carey and Hix expect the frontier to bow outward.

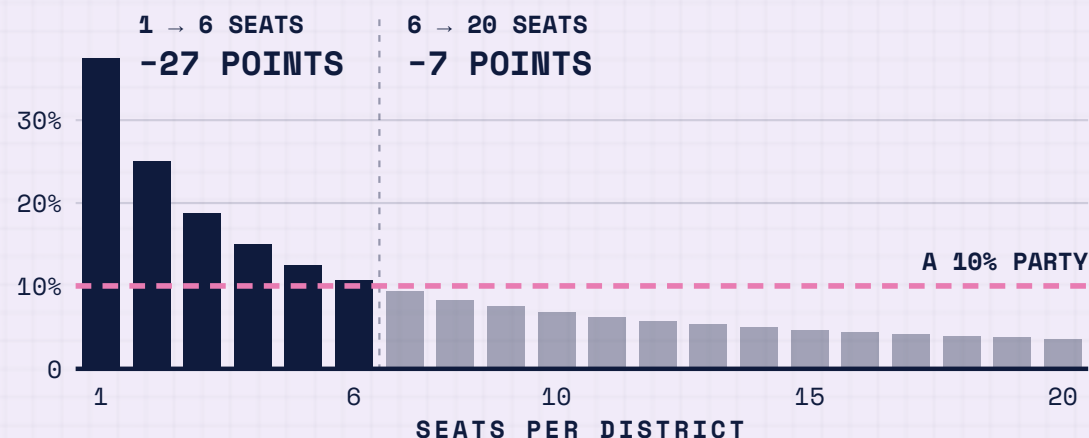
"You cannot have both, so the mantra goes." **The question is how much of one ideal a little of the other costs.**

Three reasons for diminishing returns

ARITHMETIC

Going from one seat to about six per district lets parties with around 10 percent win. Most votes go to parties at least that big, so even larger districts add little.

VOTE SHARE NEEDED FOR A SEAT UNDER PR · $T \approx 75\% \div (M + 1)$



STRATEGY

Voters abandon hopeless parties when they can tell which ones are hopeless. Above about ten seats per district, almost nobody should vote strategically.

COGNITION

People sort a handful of options along one dimension well, and their capacity drops sharply at seven or more (Miller 1956).

In districts of two to six seats, voters face choices much like a single-member race. **Small districts should win most of PR's representation and keep most of the pressure to coordinate.**

Measuring two ideals

609 ELECTIONS

81 COUNTRIES

1945 TO 2006

POLITY SCORE OF +6 OR MORE

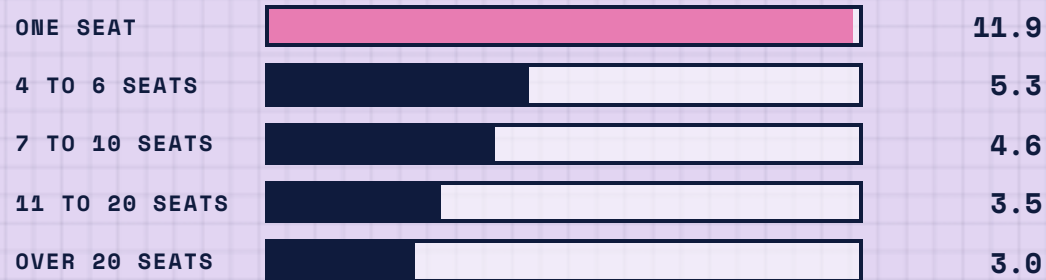
IDEAL	MEASURE	WHAT IT RECORDS
Representation	Disproportionality	Gallagher's index of the gaps between vote and seat shares
Representation	Voter-government distance	Left-right distance between the median voter and the government
Accountability	Effective number of parties	How fragmented parliament is, counted by seats
Accountability	Parties in government	Parties in the first cabinet after the election

The key variable is the median district magnitude. **A few very large districts can inflate the mean while most districts stay small.**

CAREY AND HIX · RESULTS

Most of the gain comes early

AVERAGE DISPROPORTIONALITY BY MEDIAN MAGNITUDE



- 01** Disproportionality falls fast from one seat to five or six and then flattens out.
- 02** Fragmentation and the number of parties in government rise more steadily as districts grow.
- 03** A term for diminishing returns lifts the R^2 for disproportionality from .43 to .56. For the two party counts it barely moves the fit.

The representation curves bend sharply and the accountability curves stay closer to straight. **That gap is the room for a sweet spot.**

CAREY AND HIX · FIGURE 7

What four to six seats buy

MOVING FROM SINGLE-MEMBER DISTRICTS TO A MEDIAN MAGNITUDE OF FOUR TO SIX, AS A SHARE OF THE LARGEST POSSIBLE CHANGE

$\frac{3}{4}$

Of the possible fall in disproportionality, almost 8 points.

80%+

Of the possible fall in voter-government distance.

$\frac{1}{2}$

Of the rise in fragmentation that the largest districts bring.

$< \frac{1}{3}$

Of the largest rise in the number of parties in government.

The baseline is 191 elections in single-member districts. **With country fixed effects, the last result is no longer significant.**

CAREV AND HIX · FIGURE 6

The sweet spot

10%+

Peak chance of a good result on all four measures.

~40%

Chance of a good result on one measure of each ideal.

Countries in the sweet spot

Costa Rica

Hungary

Ireland

Portugal

Spain

01

A result counts as good when it beats the median of their data. That means disproportionality and distance under 5, fewer than 3 effective parties and no more than two parties in government.

02

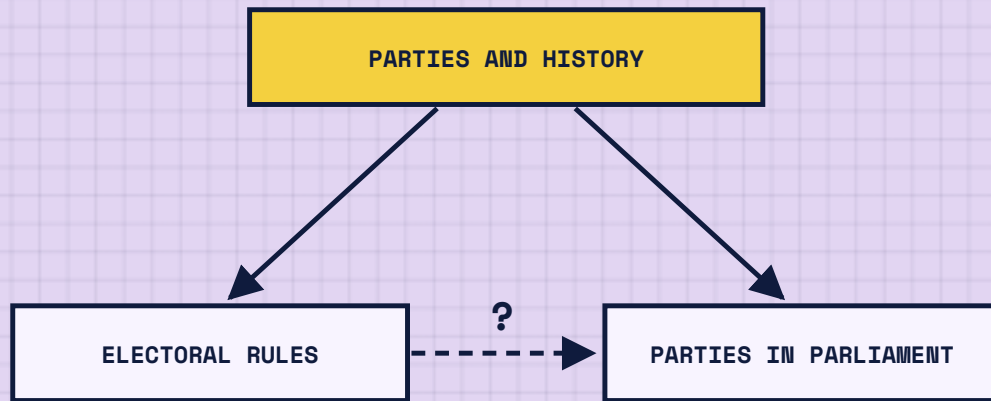
Small-district systems tend to produce coalitions of two parties, three at most.

03

The range shifts across the article. It is three to eight seats in the introduction, four to eight in the discussion and six to eight at the peak of Figure 6.

Every one of the four cut-offs is a choice. **Would the sweet spot survive different ones?**

Who chose the rules?



- 01 The scatter in Figure 2 is "just descriptive," pooled across countries with no controls.
- 02 Rules are institutional choices. Most of Latin America uses PR and most former British colonies use plurality, and the number of parties when the franchise widened is widely seen as shaping the choice.
- 03 Carey and Hix argue that technical details such as magnitude are harder to predict. Their fixed-effects models rely on reforms within countries, which are rare.

Session 05 asked the same question about constitutions. **When countries choose their institutions, comparing outcomes mixes the rule with the place.**

COMPARE THE READINGS

Two readings, one index

	LIJPHART 2012	CAREY AND HIX 2011
Question	How do electoral systems turn votes into seats, and what does that do to party systems?	Can one design serve representation and accountability at the same time?
Evidence	Averages for 36 democracies, 1945 to 2010	Regressions on 609 elections in 81 countries, 1945 to 2006
Yardstick	How closely seats match votes, and how many parties survive	Better than the median on four measures at once
Spain	Small districts leave it "only barely" in the PR family	One of the countries that found the sweet spot
Bottom line	PR is much less disproportional, except in presidential democracies	"Small multimember districts are best"

Both readings use Gallagher's index. **They disagree about what proportionality is worth trading for.**

GROUP EXERCISE · REWRITE THE ELECTION LAW

A reform commission asks your group for advice

Which electoral system should the country use for its 150-seat parliament?

Today the parliament is elected by plurality in 150 single-member districts. The Northern Party's voters all live in the North, a region with 15 of the 150 seats. Last month's election gave this result.

PARTY	PROFILE	VOTES	SEATS
Civic Union	Center-right, governs alone	38%	88
Labour Alliance	Center-left, main opposition	30%	52
Greens	Evenly spread across the country	14%	2
Liberals	Evenly spread across the country	10%	0
Northern Party	Regional, about half the northern vote	5%	8
Others	Several small parties	3%	0

OPTION A · KEEP PLURALITY

150 single-member districts, as today.

OPTION B · NATIONWIDE PR

One district of 150 seats and a 3 percent legal threshold.

OPTION C · SMALL-DISTRICT PR

30 districts of 5 seats each with no legal threshold. The North forms 3 of them.

$T \approx 75\% \div (M + 1) \cdot G = \sqrt{(\frac{1}{2} \sum (\text{votes \%} - \text{seats \%})^2)}$, leaving out Others · Carey and Hix average G is 11.9 for one seat, 5.3 for four to six and 3.0 above 20

- 01 Diagnose last month's result with Lijphart. Compute G, name the kind of majority Civic Union won, and say which of Duverger's effects hit the Liberals.
- 02 Predict Options B and C. Which parties win seats, roughly how disproportional is the result, and how many parties would a majority government need?
- 03 Choose an option as a group and name the biggest risk it leaves. Which parties in today's parliament would vote for it?

The country, parties and results are invented.

NEXT UP

Before Thursday 29 October

Week 07. Parties and representation.

READ

Katz, Richard S., and Peter Mair. 1995. "Changing Models of Party Organization and Party Democracy: The Emergence of the Cartel Party." *Party Politics* 1(1), 5-28.



Tue 27 Oct

Complement on concepts, measurement and validity

M2170



Thu 29 Oct

Quiz 3 opens the class. It covers Sessions 05 and 06.

UNI DUFOUR U300

PROGRESS SAVED

QUESTIONS?

Office hours Thursdays 14:30 to 16:00 in M4328

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BEFORE YOU LEAVE



Rate each group member's participation in today's exercise. **Required before you leave the room.**