



Airbnb's reputation system and gender differences among guests

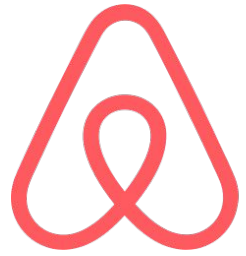
Similar but different?



Eunseo Choi



Agnes Horvat



airbnb

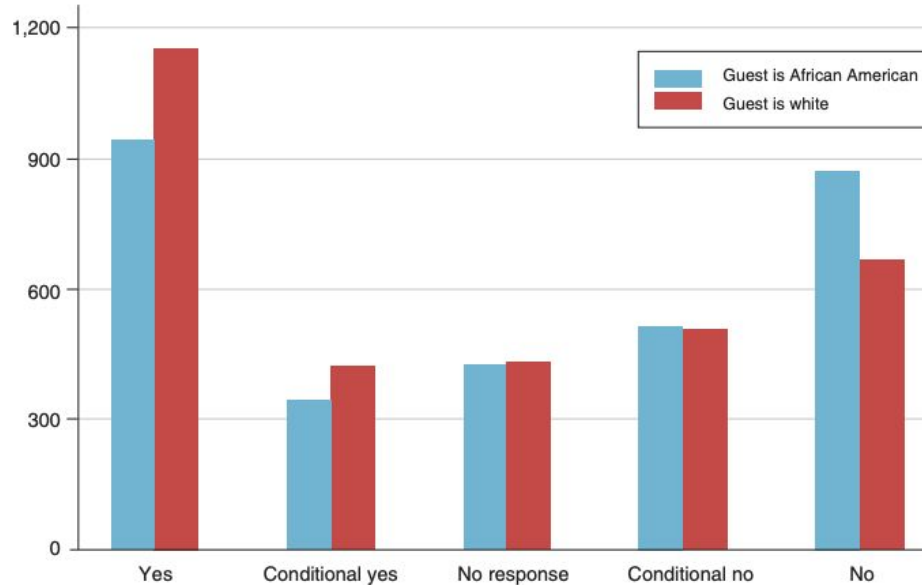




VS



Host Response by Race



African-American guests were **16%** less likely to be accepted compared to white guests!

Edelman, B., Luca, M., Svirsky, D.: Racial discrimination in the sharing economy: Evidence from a field experiment. *American Economic Journal: Applied Economics* 9(2), 1–22 (April 2017). <https://doi.org/10.1257/app.20160213>



Where are you going?

Special Winter Pricing-Great Area!

Booking

Calendar

Pricing

Instant Book

ON



Listing

Basics

Description

Location

Instant Book is On

Guests can book immediately. No need for you to approve every request.



Who Can Book

- Anyone in the Airbnb Community
- Only guests recommended by other hosts



Angela

Francesca was a wonderful host. Her book of recommendations was super helpful and her apartment is in the perfect location near the Forum but tucked into perfectly cute and safe alleyways away from crowds. I stupidly left my passport wallet in the taxi on the way from the airport and Elisabetta helped me get in touch with the taxi driver! Great host. Highly recommend.

September 2015

Helpful



Mike & Diane

Francesca is very friendly and accomodating. She communicates well. Diane appreciated her apartment from the female perspective! The kitchen and bathroom appointments made it easy for her to get ready for Roma. Her apartment is perfectly situated in central Rome. We were surprised how quiet it was for being right in the heart of the historic district.

September 2015

Helpful 1

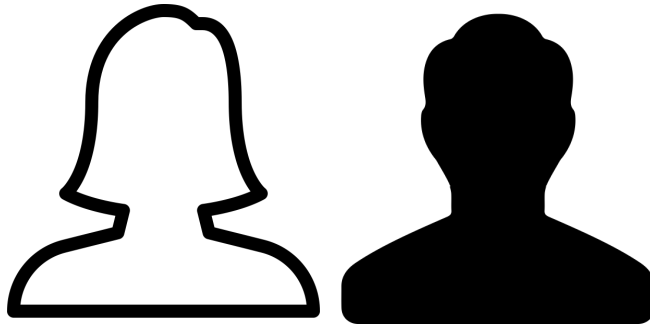
Research Questions

RQ 1 : Is there a gender imbalance in participation on Airbnb?

RQ 2: Is there a preference for hosts of either gender?

RQ 3: Do reviewers of a specific gender carry more weight?

RQ 4: Does sensitivity to review sentiments differ by gender?



HOW

Large-scale
Data analysis



Controlled
Experiments

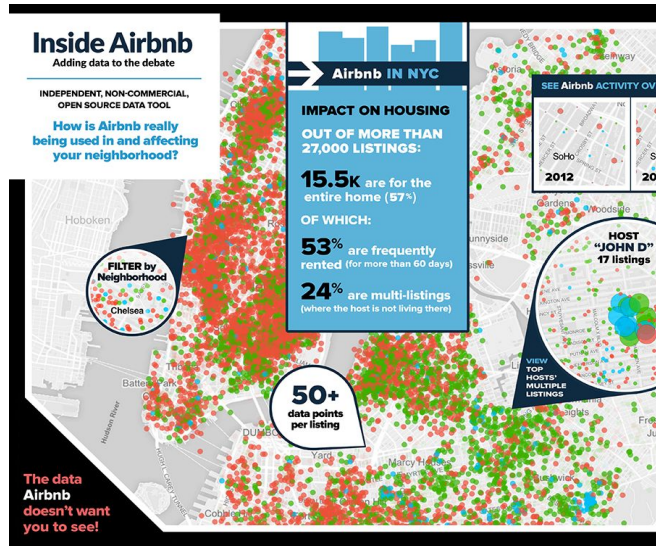


Uncover gendered
attitudes on Airbnb

18,123 LISTINGS &
169,632 REVIEWS

Reviews from
2009-01-10 ~
2017-05-10

Data on Actual Bookings



110 reviews

From guests (107) From hosts (3)

February 2018

This place is great for long-term stays as it offers all the facilities needed esp. the kitchen. There are some damages here and there but I do think for the price you won't find much better in NY. The area is nice, close to all the cool spots in Brooklyn and easy to commute to Manhattan for work. Further, bed-stuy is super multicultural and overall very safe & friendly. Disclaimer: you should really be a cat person, because the two will demand attention. Very nice when you like furry...Read more



Pia, Burgwedel, Germany
Joined in 2015

October 2017

Well connected to Manhattan and easy to reach from JFK. Safe neighborhood. Great communication with Garon.



Greta, Reggio Emilia, Italy
Joined in 2017

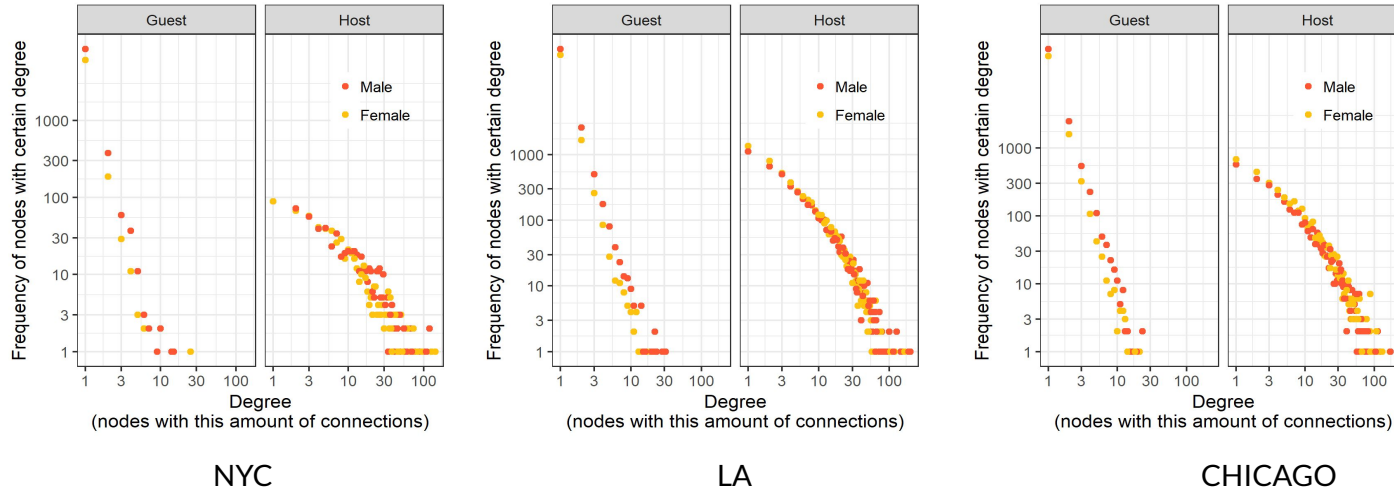
June 2016

Great quiet space in a great location, only a short ride away from Manhattan. Garon is an extremely helpful and gracious host. Overall a great experience in the city!



Jeffrey, Belvedere Tiburon, CA
Joined in 2015

Users' Presence and Frequency of Activity



	NYC	LA	Chicago
<i>Female hosts</i>	5,445	3,483	627
<i>Male hosts</i>	4,898	2,908	690
<i>Female reviewers</i>	35,167	24,584	6,336
<i>Male reviewers</i>	43,706	31,749	8,884
<i>Total reviews</i>	87,241	65,339	16,271

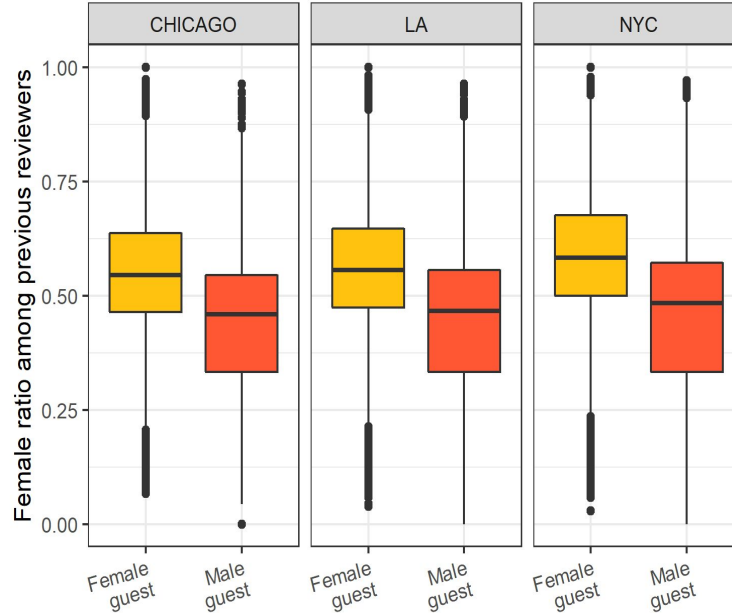
Degree distributions of networks built for each city.
 Bipartite networks connect each host having a listing to those guests who left a review
 (Mann-Whitney U tests: $p < 0.001$)

Basic statistics of
 host-reviewer networks
 built for each city

Homophily Index

Female guests choose listings reviewed by more females

Male guests choose listings reviewed by more males

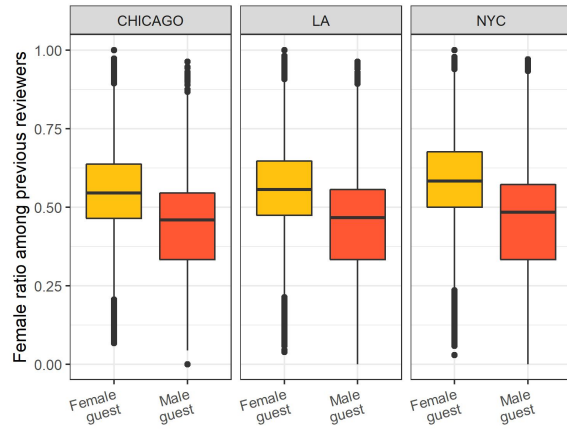


of prior female reviewers on a listing

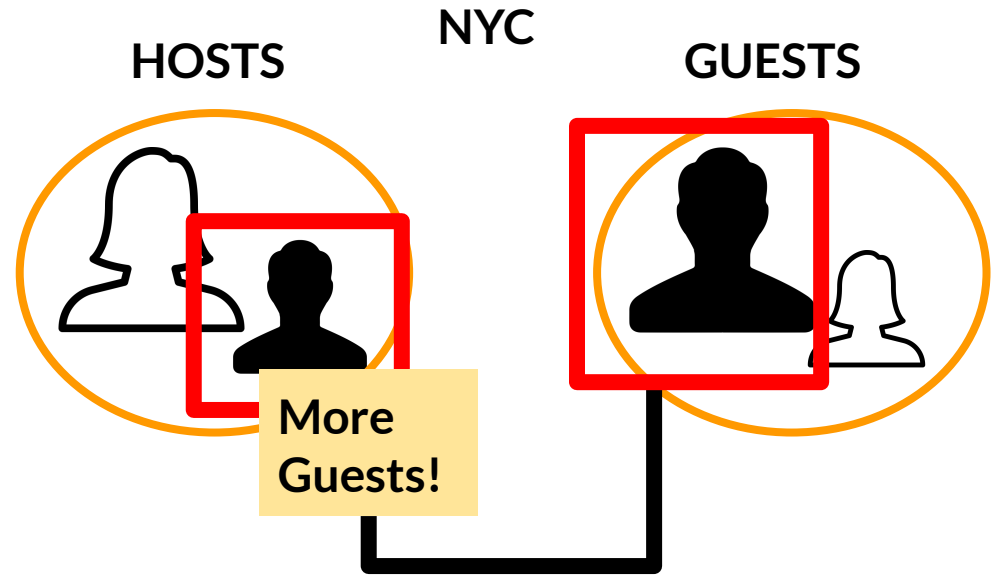
Total # of prior reviewers on a listing

(Chi-squared tests: $p < 0.001$)

Homophily Index



(Chi-squared tests: $p < 0.001$)



N = 1041

Mechanical Turk Experiment

Sarah



Reviews

Reviews From Guests



Daniel

Highly recommend this home and I hope I have an opportunity to return. Thank you for being a wonderful host!!

Sarah



Reviews

Reviews From Guests



Rachel

The host's messages were rude and slow. Left me waiting outside his apartment for so long. This host is an awful host.

 Verified

Star ratings: ★★★★★

 Verified

Star ratings: ★★★★★

Paolacci, Gabriele and Chandler, Jesse and Ipeirotis, Panagiotis G., Running Experiments on Amazon Mechanical Turk (June 24, 2010). Judgment and Decision Making, Vol. 5, No. 5, 411-419. Available at SSRN: <https://ssrn.com/abstract=1626226>

RQ 1: Is there a gender imbalance in participation on Airbnb?

Modeling Booking Rate

Variable	Coeff	SD
<i>Female host</i>	-0.28	0.24
<i>Positive review</i>	3.07***	0.31
<i>Female guest</i>	-2.12***	0.64
<i>Female guest x Female host</i>	1.03**	0.34
<i>Female reviewer</i>	0.10	0.24
<i>Female guest x Female reviewer</i>	-0.18	0.34
<i>Female guest x Positive review</i>	1.67**	0.61
<i>Stars</i>	0.40*	0.17
Constant	0.14	1.45
Deviance = 809.95		
Penalized Deviance = 781.76		
McFadden's pseudo $R^2 = 0.36$		

RQ 2: Is there a preference for hosts of either gender?

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RQ 3: Do reviewers of a specific gender carry more weight?

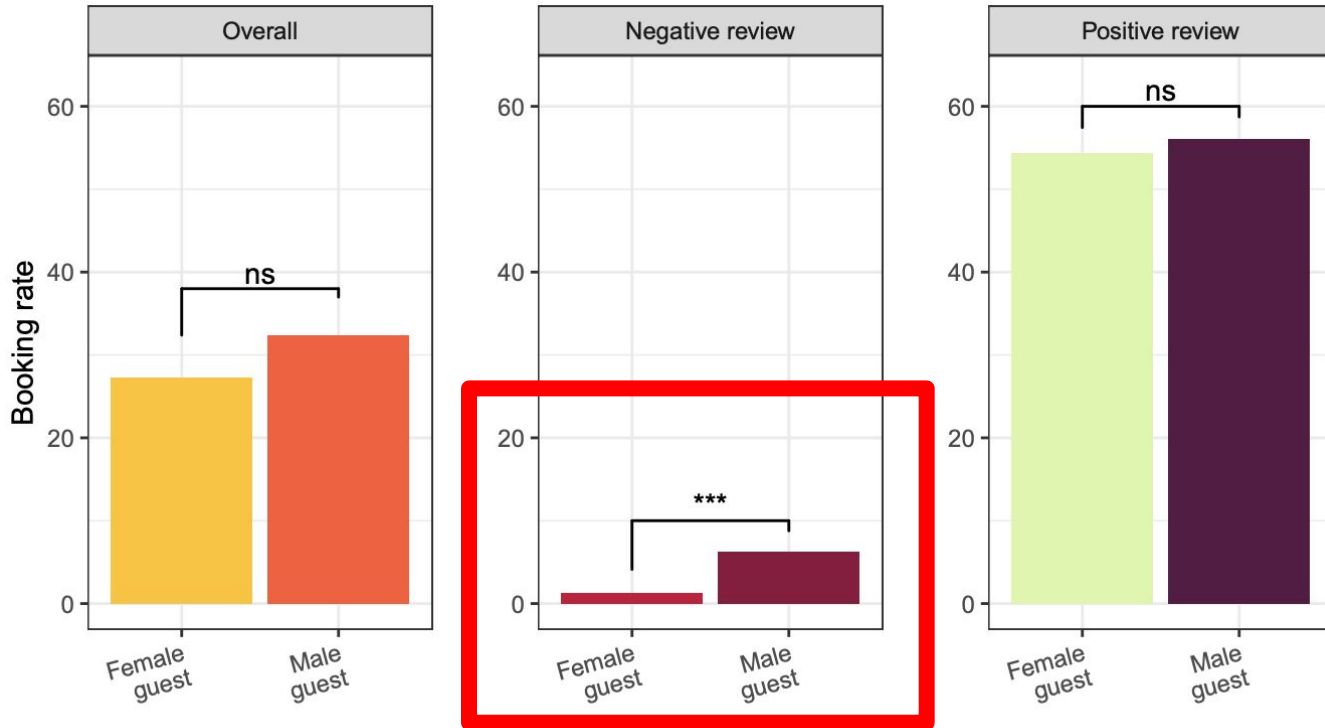
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...For Future Research

RQ 4: Does sensitivity to review sentiments differ by gender?

The Effect of Review Sentiments



(Chi-squared tests: $p = 0.006$)



Contributions

- **Gender imbalance in participation on Airbnb**
 - Females are more risk-averse → effectively opted out of using the platform.
- **Effect of host's gender on guests' booking decisions**
 - Gender homophily among guests of both gender when choosing hosts as a strategy to deal with uncertainty
- **Gender-differential effect of review sentiments**
 - One positive review leads to a sizeable increase in booking rates for both male and female guests
 - Female guests were more sensitive to negative reviews than male participants

Thank you



Eunseo Choi



Agnes Horvat



**Northwestern
University**

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