Demand for “Safe Space”: Avoiding Harassment and Stigma

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Motivation
Sexual harassment shockingly common in public places worldwide:

- 50% physically harassed in public (Livingston 2015)
- Prevalence of harassment in public transport in Sao Paulo 35%

Evidence that violence against women restricts mobility and reduces women’s access to education and market participation (Burde and Linden 2013; Muralidharan and Prakash 2017; Cheema et al. 2017; Borker 2018; Jayachandran 2019)

- Most of the evidence from conservative or high-crime contexts
- Less evidence on the costs of sexual harassment women experience in the public space on a daily basis

Women-reserved “safe spaces” are a common policy response; may allow women to avoid harassment (Aguilar et al. 2018)

- Are there unintended consequences - reinforcing perception that women outside the reserved space provoke harassment?
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Our study

- We use crowdsourced data from \( \approx 22,000 \) rides on public transit in Rio de Janeiro, Brazil to capture the costs of sexual harassment
- We then document a potential general equilibrium effect of reserved spaces: stigma against women who choose the public space instead of the reserved space
- We find that
  - women commuters are sexually harassed once a week and physically harassed once a month
  - riding in the safe space reduces the incidence of harassment by half
  - harassment on public transit reduce womens labor force participation by 0.5%
  - women face a stigma for riding in the public space and the costs associated of this stigma may outweigh the benefits of the safe space
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Context
The reserved space policy in Rio de Janeiro

- Since 2006 metro and train operators required to provide a women-reserved car in each train during rush hours (6-9AM and 5-8PM)
- 1 in 8 carriages are dedicated to women; 50% of riders are women
- Women can choose which space to ride
Data and experiment
Crowd sourcing preferences and experiences

- 357 female participants recruited from train stations; most are regular commuters
- Recruitment material did not mention space reservation or harassment to avoid self-selection
- Participants paid $4.5 per ride to capture data through a phone application
  - capture ≈ 22,000 train rides
Presentation of tasks across phases

(a) Revealed preference: zero opportunity cost
(b) Revealed preference: positive opportunity cost
(c) Random assignment to space
Estimate cost of harassment

- Elicit revealed preference willingness to pay:
  - Riders can ride either car but are offered varying opportunity cost (additional payment to ride in public space)
- Estimate reduction in harassment from riding the reserved car:
  - Randomize offer of paid ride only on the women-reserved or only on the public car
  - Partial equilibrium - not a measure of policy impact

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• Recruited women who ride suburban rail on a regular basis regardless of the study; familiar with context and earning extra money for contributing data during commute

• Before varying payment / conditions, verified that all participants had experience riding in the public space

• Participation in each ride voluntary; payment per ride, not conditional on continuing

• Respondents who reported any harassment directed to local resources
Results
20% of women give up at least $0.20 to use the reserved space on some rides.

F-test for coefficient equality across positive opportunity costs
P-value = 0.479
Low presence of men increases use of and WTP for the reserved space

Notes: p-value for F-test low=high. Male presence is divided at the median value: 26.4
Riding the reserved space reduces physical harassment by 50%

- Sexual harassment in the public space: 10% of rides = once a week
- Physical harassment in the public space: 2.6% of rides = once a month

Notes: All specifications include user fixed effects. Observations are weighted per user and clustered at user level.
Other mechanisms

- Congestion equal across cars: not a motivation to use the reserved space
- Women ride the reserved space due to fear of harassment, not other crimes
- Sorting of men doesn’t seem to be driving the results: the share of male riders in one space does not affect occurrence of harassment in the other space
Stigma
Women who choose the public space are blamed for harassment

**Stated attitudes:** We conduct a platform survey among a representative sample of commuters:

- Half of the men agree that "women who choose to ride in the public space are more sexually open"
- 20-40% agree that "if a woman is harassed in the public space, it is partially her fault: she could have chosen the reserved space"

**Implicit attitudes:** We design a pair of Implicit Association Tests to measure male and female commuter association between a women’s car choice and sexual provocation

- IAT measures a respondents *implicit* attitudes
- Respondents sort items into categories as quickly as possible
- Assumes that the stronger the association a respondent makes between two concepts, the faster they are to make these associations
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Commuters associate women in the public space with sexual openness

Respondents associate:
1. the reserved space with safety
2. the public space with provocation

Association (2) is stronger than (1) among female respondents
In a setting with a women-reserved space on the public transit system we find:

- 20% of riders would pay 20% premium on the fare to ride in the reserved space
- Choice driven by avoiding harassment:
  - randomized assignment demonstrates harassment is halved in women-reserved cars
  - crowding, fear of property crime do not drive the choice
- Low-bound cost of harassment on intensive margin is equivalent to $1.45 per incident
  - this tax on a woman’s earnings would imply a 0.5% fall in female labor supply
- But this choice is also driven by a fear of stigma - potential unintended consequence in general equilibrium
  - stated and implicit attitudes reveal that gender norms put the burden on the victim for not taking up the reserved space
  - the cost of social stigma may outweigh the benefit of the safe space
Conclusion

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