UiO : University of Oslo

Recent experiments to detect discrimination in Norway

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EQUALITY • SOCIAL ORGANIZATION • PERFORMANCE

ESOP

Outline

Todays talk

- Is there gender and ethnic discrimination in Norway?
- How can we find out?
- What type of discrimination is there?
- Can exposure change the degree of discrimination?

How find out?

- A common approach is to control for as many things as possible and just compare conditional outcomes.
- These methods can control for too little (e.g. preferences, motivation) but they can also control for too much (e.g. training).
- Identifying discrimination based on observational data is very difficult as the researcher does not have access to all relevant variables.

Audit and correspondence studies

- Audit studies use personal testers, often actors, to apply for a job (e.g., Riach and Rich 2002).
- This type of study may suffer a bias, since it is almost impossible to erase all the differences among testers and since such experiments are not double blind.
- Correspondence studies, by sending written applications, on the other hand allows for experimental manipulation of one factor at a time, which makes it possible to identify the causal effect of assigning someone gender or race.

Taste-based and statistical discrimination

- In taste-based discrimination models, discrimination results from some sort of animus towards members of an out-group.
- In statistical discrimination models, discrimination takes the form of stereotyping based on group membership that results from imperfect information.

Outline

Outline

A Field Experiment of Discrimination in the Norwegian Housing Market: Gender, Class, and Ethnicity

- Andersson, Jakobsson, and Kotsadam (2011)

Introduction

- Ethnic discrimination in different markets is well documented across many countries (List 2004; Riach and Rich 2002).
- Its effects are found to be severe and the inequalities are further perpetuated by the change in behavior in the discriminated groups (Parsons et al. 2011).
- Although it is known that men and ethnic minorities are discriminated against in the housing market (Ahmed and Hammarstedt 2008), to date (2011) no study had investigated multiple discrimination in this market.

The experiment (1)

- From December 15, 2009, to March 20, 2010, we applied for 950 advertised apartments on finn.no
- We responded to ads from all over Norway and used fictitious applicants whose names reflected one male and one female ethnic Norwegian (Håvard and Hanne), as well as one Arabic male and one Arabic female (Mohammed and Fatima).

The experiment (2)

- We also let our four names be either economists or warehouse workers.
- In order not to infer extra costs on people, we replied and rejected offers within three days.

What do we find?

- The probability of receiving a positive response is lowered by about 7 ppt if the applicant is a man,
- by 13 ppt if the applicant has an Arabic-sounding name,
- and by 7 ppt if the applicant is a warehouse worker.

The takeaway

- Changing name helps more than getting an education.
- While having a higher-status job increases a person's chances in the housing market for both Arabs and Norwegians, it is not enough to compensate for the negative effect of having an Arabic sounding name
- Mohammed working in a warehouse has a 25 percentage point (64%) lower probability of receiving a positive response when showing interest in an apartment, as compared to Hanne working as economist.

Outline

Gender Bias in Public Long-term Care? A Survey Experiment among Care Managers

- Jakobsson, Kotsadam, Syse, and Øien (submitted)
- Skjønn og kjønn – desentralisert diskriminering i en kvinnevennlig velferdsstat.

Context

- LTC is health- and social services provided to persons who, often related to age, have difficulty in maintaining daily life due to a disability.
- More women than men need (non-spousal) LTC in old age.
- In the Nordic countries, services should be allocated according to health needs and children have no legal obligation to take care of their parents.
- At the same time, daughters are more likely than sons to provide informal care for their elderly parents, (e.g. Schmid et al., 2012) and children are more likely to provide informal care for a parent of the same gender (e.g. Leopold et al., 2014).

Rough hypothesis

- If care managers who are responsible for matching public service provision to needs take into account the likely availability of informal care when rationing care, there will be a relationship between the sex of children and access to formal care.
- But we would like to have a more precise hypothesis.

Deriving a prediction (1)

- We consider four cases,

  $g_i \in \{FatherSon, FatherDaughter, MotherSon, MotherDaughter\}$.
- To predict availability of informal care in the four cases we use LOGG data.
  - This is a Norwegian representative survey of 25 397 individuals from 2008.
- Informal caregivers are identified as sons and daughters answering the following question in affirmative:
  - Over the last 12 months, have you given regular help to your mother/father with personal care?

Deriving a prediction (2)

Table: Mean of informal care supply by sons and daughters to elderly parents (age$>$ 67).

Gender of parent	*Gender of child*	*Obs*	$\hat{\mu}_y$
Father	Son	4601	0.073
Father	Daughter	4755	0.063
Mother	Son	4263	0.097
Mother	Daughter	4335	0.255

$\hat{\mu}_y$ is the average of how many times a month informal care is provided by column 2 to column 1.

- Precise hypothesis to be tested: women with daughters will get less formal care.

What do we do?

- We “apply" for LTC using hypothetical (but realistic) patient descriptions.
- The descriptions are identical except for gender of patient and gender of patient’s child.
- We randomised the cases to care managers (responsible for matching service provision to need), who decided on the amount of services to be provided.
- Main result: A woman with a daughter gets 167 minutes (34 percent) less a week than a woman with a son.

The survey experiment: Context

- The responsibility of providing and funding LTC services is decentralized to the municipalities.
- Residents apply to the municipality to receive home-based LTC.
- The application is assessed by care managers (CM) in the home-based care sector.
- CMs decide which service, and the extent of the service, is necessary to the corresponding individual need.
- However, restricted to allocate services according to need and independently of demographic characteristics and SES.

Experimental design

- We constructed hypothetical (but realistic) case descriptions of persons in need of care, and randomly assigned the cases to care managers.
- The only characteristics varying among cases are the gender of the patient and the gender of the patient's child.
  - The person in need of care is identified by name (Bjørg or Kjell) and the gender of the child was explicitly stated.
  - Four treatments: FatherSon; MotherSon; FatherDaughter and MotherDaughter.
- After reading the description the CMs were asked to do a needs assessment and decide on the number of minutes per week to provide.

Why hypothetical vignette?

- In our case a field experiment is too costly and ethically problematic.
- Real applicants for public LTC are often interviewed in their private homes by a representative of the public LTC sector.
- We would have had to create fake public identities and provide housing for fictitious applicants.
- And audit studies have less internal validity.

Construction of case description

- To include the essential information observed in real cases we assessed many application forms as they differ across municipalities.
- We also assessed 4 real anonymized applications and their corresponding decision letters.
- We further conferred with 6 nurses previously working with needs assessment.

The case description

- X is 80 years old and single, and lives in a modern three room flat centrally in the municipality. She/he ...
  - used to smoke but quit
  - experienced a wrist fracture after a fall in his/her home
  - moderate form of chronic obstructive disease (COPD)
  - often remembers to take the medication
  - likes to solve crossword puzzles and watch television
  - At the home visit you notice that she/he is not well nourished ...
  - Y lives in the same municipality and a few neighbors drops by a couple of times a week.
- X = Bjørg, Kjell. Y = daughter, son. ▸ Vignette

Sampling

- The experiment was carried out during April to December 2013.
- The plan was to visit large municipalities in Eastern Norway and have the respondents complete the questionnaire on site.
  - However, this turned out to be logistically impossible.
  - The solution was to mail the survey and ask the respondents explicitly to answer independently.
  - The advantage of using mail is that it allowed us to expand the sample.
  - The disadvantage is that it creates two well-known problems: nonresponse and noncompliance.
  - Sample: 262 municipalities, 804/1420=57% response rate; 563/804=70% complete cases.

Empirical strategy

- We are interested in whether the parent-child gender mix affects the minutes per week offered, denoted y_{ijs}.
- The relationship we estimate is

$$y_{ijs} = \beta_j + \beta_1 FatherSon_i + \beta_2 MotherSon_i + \beta_3 FatherDaughter_i + X_s'\gamma + \epsilon_{ijs},$$

where i denotes case description, j denotes municipality and s denotes case worker.

  - β_2 measures the average difference in minutes per week for a woman if she had a son instead of a daughter.

Table 4: Regression results, total minutes of care

	(1) Baseline	(2) Controls	(3) Municipality	(4) Total sample	(5) Ln minutes
FatherSon	73.94*	70.08	97.43**	81.37	0.303**
	(43.61)	(43.65)	(47.05)	(50.45)	(0.137)
MotherSon	120.4***	117.7***	166.7***	149.1***	0.371***
	(45.47)	(45.30)	(46.29)	(53.93)	(0.130)
FatherDaughter	83.22**	79.37*	103.6**	85.26	0.227
	(42.06)	(42.84)	(48.65)	(54.59)	(0.197)
Gender of CM		-34.73	-4.718	-151.0	-0.126
		(77.25)	(95.33)	(171.0)	(0.420)
Age of CM		-0.552	0.276	0.491	-0.00306
		(1.922)	(1.875)	(2.242)	(0.00623)
>5 years of exp.		-26.40	-5.912	2.662	-0.0427
		(60.90)	(53.56)	(55.44)	(0.158)
CM nurse edu.		72.99	-36.19	-36.23	0.109
		(86.42)	(79.64)	(82.84)	(0.334)
Other health edu.		16.36	-81.61	-87.90	0.165
		(79.47)	(75.32)	(76.64)	(0.295)
Constant	491.6***	484.5***	501.7***	516.9***	5.754***
	(31.81)	(116.8)	(115.5)	(133.1)	(0.416)
Fixed effects	No	No	Yes	Yes	Yes
N	563	563	563	565	563

Robust standard errors clustered at the municipality level in parentheses.
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Distribution

Internal validity

- Is there a causal effect, in the sample, of manipulating the parent-child gender mix?
- Those that responded by mail (96% of the sample) could have colluded and contaminated the treatment.
  - Give equal amounts of care to conceal potential discrimination OR
  - (and worse) give unequal amounts to prove discrimination.
- Since basing the allocation on gender is illegal, and they know the study is going to be published, any collusion would lead to a downward bias.

External validity

- The case is fictitious and the CM's know they are being studied.
  - 87% stated the case was similar to cases they normally consider.
- Nonresponse:
  - Do the potential answers differ from those that did answer?
- Do the results depend on what we kept constant in the case description?
  - It could be possible that they do not discriminate if they also observe the education of children.

Concluding remarks

- The results provide evidence of gender bias in access to public long-term care.
  - Contradicts official Norwegian social policy.
  - The allocation rule can be self-confirming.
    - Daughters provide more informal care, because their mothers receive less formal care.
    - This would be one potential source of the observed gender gap.
  - Informal care provision has adverse effects on labor force participation and health (Norton et al 2011).
  - If this is a viewed as a problem a possibility would be to make the needs assessment process more standardised.

Outline

Exposure reduces gender discrimination: Evidence from a combined vignette and field experiment

- Finseraas, Johnsen, Kotsadam, and Torsvik (In progress).

Introduction

Understanding gender differences in outcomes:

- Due to differences in productivity, preferences, or discrimination?
- Unobservable characteristics: hard to measure.
- Peer effects: How does exposure affect attitudes and discrimination? Perhaps even harder to prove.
- Solution: Two randomized experiments.

What do we do?

- Setting: Norwegian Armed Forces. Conscripts during the first 8 weeks of service (recruit period).
- Vignette experiment: Evaluate fictive male/ female squad leader candidates.
- Finding 1: Female candidates valued less than male candidates.
- Field experiment: Female recruits randomly assigned to male rooms (“Mixed rooms”).
- Finding 2: Males from mixed rooms do not discriminate and report that gender equality is more important.

Contributions

The study contributes to the research frontier in several fields:

- We separate between taste based and statistical discrimination of women in a male environment.
- We test if men and women interpret the signals from the opposite sex differently.
- We control for attitudes directly.
- We move beyond merely identifying discrimination to show that exposure reduces it.
- We also show that exposure affects attitudes toward gender equality by randomly allocating female peers.

The experiments and empirical strategy

The field experiment

- We conducted a survey of all incoming soldiers of the August 2014-contingent of the Second Battallion of the North Brigade
- All soldiers meet at Sessvollmoen to go through a program of medical and psychological testing before they are boarded on planes to Bardufoss at the end of the first day
- Importantly, since this is the first day of service, they do not know each other and do not know who they will share room with

The field experiment

- We constructed a randomization procedure which randomize soldiers to share rooms during the “recruit training period” (first 8 weeks of the service).
- In these rooms they perform tasks together, such as cleaning the room for inspection each morning.
- They also serve in the same platoon and constitute a team within the platoon.
- This period is very strict and the soldiers have wear uniforms 24/7 and are not allowed to sleep outside of base. As the base is remotely located this implies that soldiers spend all time with each other.

The field experiment

- At the end of the recruit training period we repeated the survey
- And we also conducted our Vignette experiment

The Vignette experiment

- Evaluate a fictional candidate on a scale 1-6.
- Experimentally manipulate gender and information: Infer causal impact on discrimination.
- 4 treatments randomly allocated to 413 soldiers: Ida basic, Martin basic, Ida more info, Martin more info.
- Ida/ Martin most common names for 1994-cohort.
- Ran the experiment 26th September, 2014.
- 8 sessions.

SQUAD LEADER:

The unit is choosing a new squad leader. The squad leader is the link between officers and soldiers. For some, this position can be very physically and mentally demanding. The position requires high skills. As squad leader one is responsible not just for oneself, but also for the team.

A potential candidate: Name: Ida Johansen/ Martin Hansen

• Grades from high school: 4.1 (average).

• Career plans: Does not wish to continue in the armed forces, plans to pursue higher education (civilian) in the field of economics and administration.

• Family background: Has a sister, dad is an engineer and mother is a teacher. Comes from a middle-sized city in the eastern part of Norway.

• Motivation: Thinks that serving in the armed forces is both meaningful and important.

• Physical capacity: Among the top 20 percent in his/ her cohort (armed forces). Exercise regularly.

• Leadership experience: Was the leader of a youth organization.

LAGFØRER

Troppen skal velge nye lagførere. Lagfører er bindeleddet mellom befalet og soldatene. For noen vil denne stillingen være meget fysisk og psykisk krevende. Det stilles høye krav for å bli lagfører. Som lagfører har man ikke bare ansvaret for seg selv, men også et lag.

En mulig kandidat

Navn: Ida Johansen/ Martin Hansen

- *Fysisk kapasitet:* Var blant de 20% beste på sesjonskullet. Trener regelmessig.
- *Karakter fra Videregående Skole:* 4,1 i snittkarakter.
- *Ledererfaring:* Har vært leder i en ungdomsforening.
- *Karriereplaner:* Ønsker ikke å fortsette i forsvaret, sikter mot å ta høyere utdanning i det sivile innenfor økonomi og administrasjon.
- *Familieforhold:* En søster, far er ingeniør og mor er lærer. Kommer fra en mellomstor by på Østlandet.
- *Motivasjon:* Synes tjenesten i forsvaret er meningsfull og viktig.

Ida Johansen/ Martin Hansen vil gjerne bli lagfører, marker hvor godt synes du han/ hun passer til den jobben: (1= svært dårlig, 6= svært godt) – sett en sirkel rundt ditt valg:

1 2 3 4 5 6

Recap Theory and testable hypotheses

- Taste-based discrimination: Personal prejudice of agents who dislike associating with individuals of a given gender.
- Statistical discrimination: Employers use gender to extrapolate a signal of unobserved components of productivity.

1. Discrimination if Martin is perceived as a better candidate than Ida.
2. Statistical discrimination if more information reduces discrimination.

Evaluation of candidate: Statistical versus taste-based discrimination.

	Less info		More info	
	Ida	Martin	Ida	Martin
Mean score candidate	3.816	4.144	4.405	4.727
Standard deviation	(1.018)	(0.955)	(0.888)	(0.823)
(1=very bad, 6=very good)				
No difference in background characteristics				

Evaluation of candidate: Statistical versus taste-based discrimination.

VARIABLES	Info Pooled	More/ less info
Female candidate	-0.285***	-0.230*
	(0.104)	(0.135)
Information added		0.554***
		(0.127)
Female*Information		-0.124
		(0.157)
Mean of dependent variable	4.306	4.306
Observations	398	398
R-squared	0.125	0.185
Troop FE	Yes	Yes
Session FE	YES	YES

Notes: Standard errors clustered at the room level in parantheses.

Peer effects

Treatment and control groups

- *TREATED* equals 1 if the soldier shares room with a female soldier (treatment group), and equals 0 if not (control group)
- 8 percent of the soldiers are women, 22 percent of the men are treated
- We only use information on *assigned* room and we only include men in the regressions. Details

Empirical specification

$$Y_{irt2} = \alpha_J + \beta_1 Treated_r + \beta_2 Y_{irt1} + \beta_n X + \epsilon_{ir}$$

where α_J is platoon ("tropp") fixed effects, Y_{t1} is Y at baseline (day 1), X refers to the vector of potential controls. SE are clustered at room.

Testable hypothesis

1. Discrimination if Martin is perceived as a better candidate than Ida.
2. Statistical discrimination if more information reduces discrimination.
3. Exposure matters for discrimination if males from mixed rooms evaluate the candidate differently from males from strict male rooms.
4. Exposure affects attitudes toward gender equality.

Evaluation of candidate: Peer effects. Males only.

VARIABLES	Evaluation
Female candidate	-0.430***
	(0.124)
Treated	-0.230
	(0.145)
Treated*Female candidate	0.513**
	(0.204)
Mean of dependent variable	4.281
Observations	367
R-squared	0.139
Troop FE	Yes
Session FE	Yes

Notes: Standard errors clustered at the room level in parantheses.

Peer effects (Males): Effect of exposure on attitudes.

VARIABLES	Gender equality important	
Treated	0.088**	0.082**
	(0.038)	(0.035)
Attitude at baseline		0.451***
		(0.109)
Mean of dependent variable	0.896	0.893
Observations	338	319
R-squared	0.038	0.177
Troop FE	Yes	Yes
Session FE	Yes	Yes

Notes: Standard errors clustered at the room level in parantheses.

More results

- Women do not discriminate, but all of them share room so it is unclear what the mechanism is.
- Attitudes moderate the relationship significantly: Discrimination is more than doubled among those men that did not think gender equality was important at baseline.

Conclusions

- There are discriminatory attitudes towards women in the Norwegian army.
- The discrimination seems to be taste based or at least not related to stereotypes of strength and leadership experience.
- Living together with female recruits makes the discrimination disappear and it also affects attitudes toward gender equality.

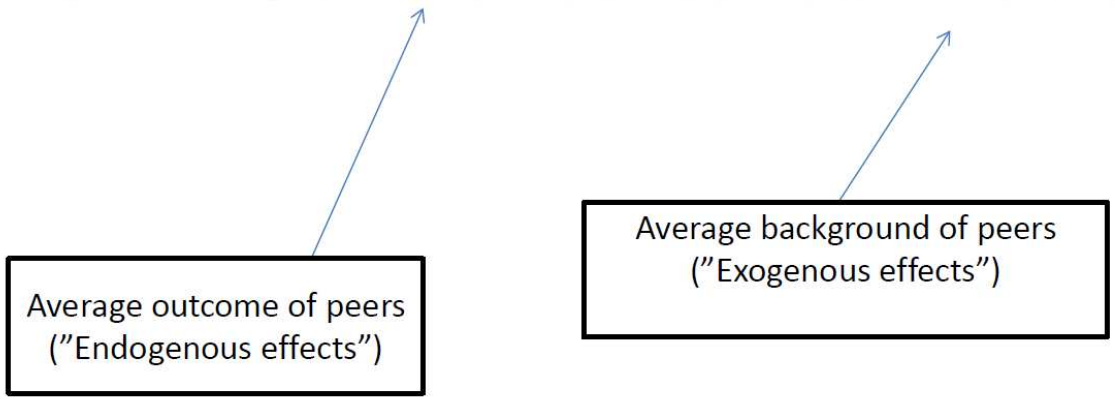
Appendix

Other military projects

- Immigrants
- Voting and political attitudes
- Teamwork
- Games: Trust, cooperation, competition, and risk.
- How do friendships form?

Identification of peer effects

$$Y_i = \alpha + \beta 1 * \overline{Y}_{-i} + \gamma 1 * X_i + \gamma 2 * \overline{X}_{-i} + \varepsilon_i$$



- At least three reasons why OLS is problematic

Back

Problems

- The reflection problem
- Correlated effects
- Separate identification is difficult since peer background itself affects peer outcome

More critique

- Angrist (2014) strongly cautions against using outcome on outcome estimations as they are driven by a common variance in outcomes
- He is also skeptical to studies where individuals whose background characteristics are thought to be important are also included in the sample thought to be affected by other individuals
- He instead argues that the most compelling evidence comes from studies whereby there is a clear separation of the individuals thought to be affected and the peers thought to provide the mechanisms for the peer effects Back

	(1)	(2)	(3)	(4)	(5)	(6)
VARIABLES	Baseline	Adding attitudes	Interaction	Information	Adding attitudes	Interaction
Female (candidate)	-0.326***	-0.307***	-0.813***	-0.275*	-0.249*	-0.717
	(0.108)	(0.109)	(0.303)	(0.140)	(0.145)	(0.557)
Equality		-0.074	-0.259		-0.053	-0.486
		(0.195)	(0.260)		(0.201)	(0.493)
Equality*Fem			0.545			0.508
			(0.331)			(0.601)
Information added				0.551***	0.534***	0.152
				(0.134)	(0.137)	(0.551)
Equality*Info						0.416
						(0.574)
Female*Information				-0.109	-0.133	-0.157
				(0.166)	(0.181)	(0.708)
Equality*Fem*Info						0.012
						(0.770)
Mean dep	4.281	4.274	4.274	4.281	4.274	4.274
Observations	367	340	340	367	340	340

	(1)	(2)	(3)	(4)
VARIABLES	No information		With information	
	Baseline	difference	Baseline	difference
Fem	-0.285***	-0.325***	-0.230*	-0.275*
	(0.104)	(0.107)	(0.135)	(0.141)
Information			0.554***	0.550***
			(0.127)	(0.135)
Female*Info			-0.124	-0.112
			(0.157)	(0.166)
Female		-0.107		-0.168
		(0.293)		(0.466)
Female*Fem		0.641*		0.962
		(0.346)		(0.639)
Female respo*Info				0.104
				(0.474)
Fem*Info*Fem resp.				-0.534
				(0.721)
Dep.	4,206	4,206	4,206	4,206

	(1)	(2)
VARIABLES	Treatment	Information and Treatment
Fem	-0.430***	-0.350**
	(0.124)	(0.164)
Info		0.538***
		(0.133)
Fem*Infor		-0.130
		(0.174)
Treated	-0.230	-0.163
	(0.145)	(0.140)
T*fem	0.513**	0.359
	(0.204)	(0.223)
T*Fem*Info		0.141
		(0.278)
Mean dep	4.281	4.281
Observations	367	367
R-squared	0.139	0.198
Treat FE	Yes	Yes

Nedenfor finner du en kortfattet beskrivelse av en fiktiv eldre person. Forestill deg at du har dannet deg et bilde av hjelpebehovet til denne personen på bakgrunn av undersøkelser som er gjort av hjemmetjenesten og noen telefonsamtaler du har hatt med den eldre. Du skal ta stilling til hjelpebehov og hvilke tjenester du ville tildelt ved å svare på noen spørsmål. Du skal late som om personen er en reell person. Ta hensyn til det du vanligvis tar hensyn til når du vurderer og tildeler tjenester. Avslutningsvis får du mulighet til å oppgi hvilken vesentlig informasjon du skulle ønske du hadde tilgang til men som ikke var tilgjengelig i beskrivelsen.

Kjell er 80 år og enslig, og bor i en moderne toromsleilighet sentralt i kommunen. I sitt yrkesaktive liv arbeidet Kjell som lærer. Kjell er tidligere røyker, men sluttet for om lag 10 år siden.

Kjell pådro seg et håndleddsbrudd for 6 uker siden etter et fall i sin leilighet, men han er nå medisinsk ferdigbehandlet. Han har ingen tidligere fallhistorie.

Kjell har ingen kjente sykdommer med unntak av moderat kronisk obstruktiv lungesykdom (KOLS). Han skal bruke *Oxis tubuhaler* (9 mikrogram/dose, inhalasjon) hver morgen og kveld. Han sier at han som oftest husker dette, men ikke alltid. Kjell har ikke tidligere fått hjelp fra hjemmetjenesten, men har nå søkt om hjelp. Han er tilbake i leiligheten etter sykehusoppholdet, og har gått med på et hjemmebesøk.

Kjell har ingen store problemer med å bevege seg, men er svak. Ved hjemmebesøket merker du deg at han spiser dårlig og at han ikke tar vare på sin hygiene. Det ser ut til at leiligheten ikke er rengjort på lenge. Kjell har ikke mange interesser, men løser kryssord og ser på TV. Du forstår at han lever isolert.

Under hjemmebesøket sier Kjell at det hadde vært bra om noen kom hver dag og laget middag, samt rengjorde leiligheten en gang iblant. Forøvrig sier han at han klarer seg selv. En sønn bor i samme kommune, og noen naboer pleier å titte innom et par ganger i uka.

Back to presentation.

Table 3: Total minutes of care by treatment

	Son		Daughter		
	Man	Woman	Man	Woman	Total
Total minutes	565.6	612.0	574.8	491.6	560.2
	(409.1)	(449.3)	(401.6)	(375.1)	(410.0)
Observations	143	132	146	142	563

The table shows means of the services by treatment of Complete cases.

Units are in minutes per week. Standard deviations in parentheses.

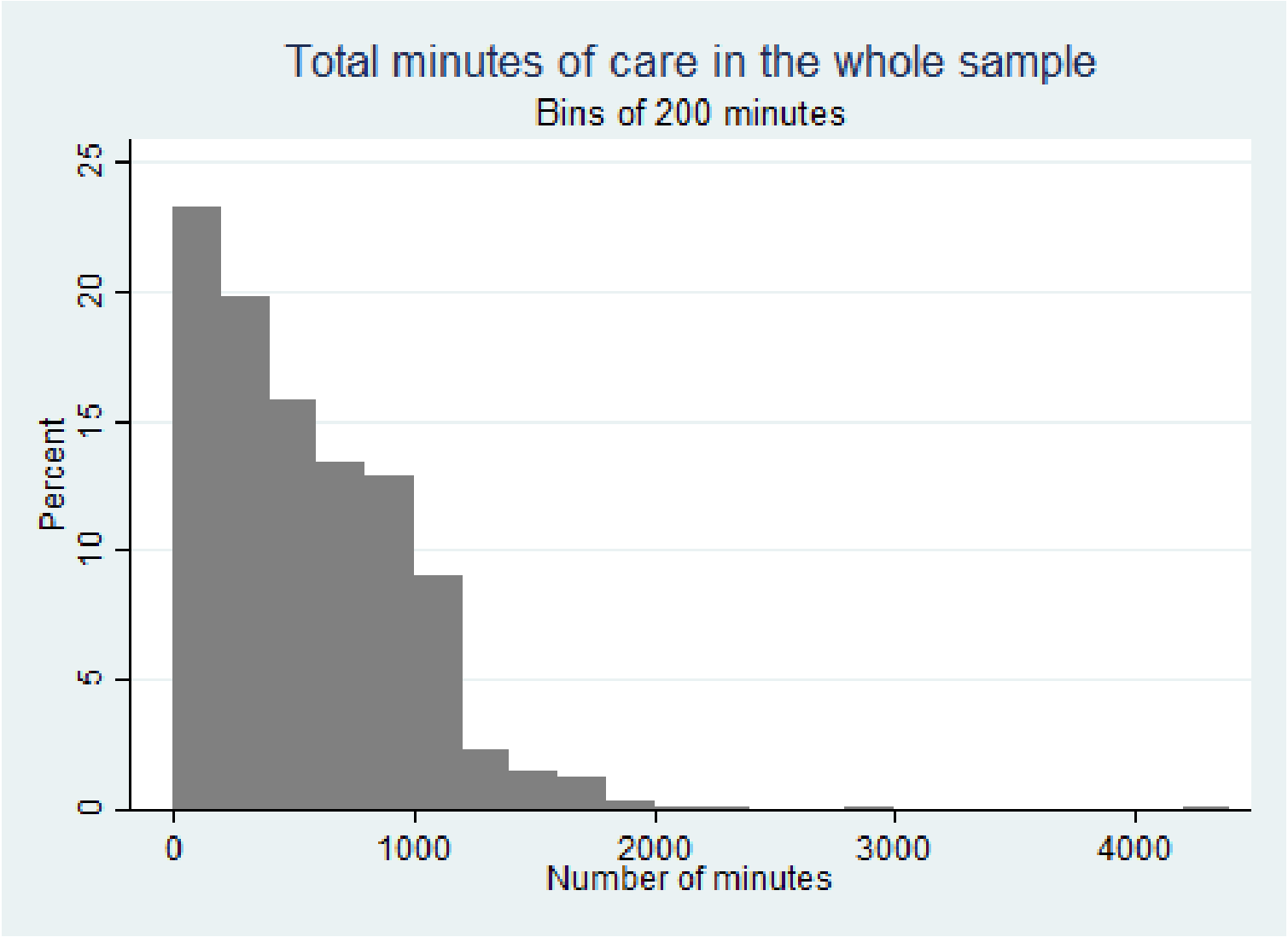
Table 2: Comparison of background characteristics of care managers across groups.

	Son		Daughter		
	Man	Woman	Man	Woman	Joint P-value
Gender of care manager (male = 1)	0.0629	0.0606	0.0411	0.0493	0.8316
Age of care of manager	47.11	46.55	46.22	47.54	0.6102
>5 years of experience	0.881	0.803	0.842	0.852	0.3535
Educated nurse	0.825	0.773	0.795	0.754	0.4953
Other health education	0.133	0.144	0.130	0.155	0.9288

Columns (1) to (4) show means of background characteristics of CMs by treatment.
Column (5) shows the P-value for the F-test of equality of means across the four groups

Back to main presentation.

Figure: Histogram of care minutes



Back to Results.