Supplemental Appendix

Drivers of change: employment responses to the lifting of the Saudi female driving ban

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A1. Appendix A

Additional Figures

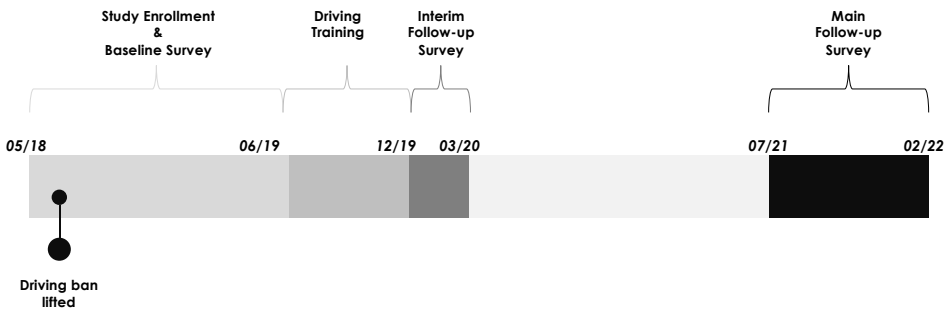

Figure A1. : Timeline

Figure A2. : Second Order Gender Attitudes (Control Group)

Note: Notes: As part of the main follow-up, respondents were asked to consider each of a series of statements and indicate what they believe the share of each second order group (their female social network, male family, and male social network) would agree with each statement. The statements presented to the respondent were: "On the whole, men make better business executives than women do", "A woman's priority should be in the home and with her family", "When a mother works for pay, the children suffer". Reported in this figure are responses given by the control group only, as percentages of the sample.

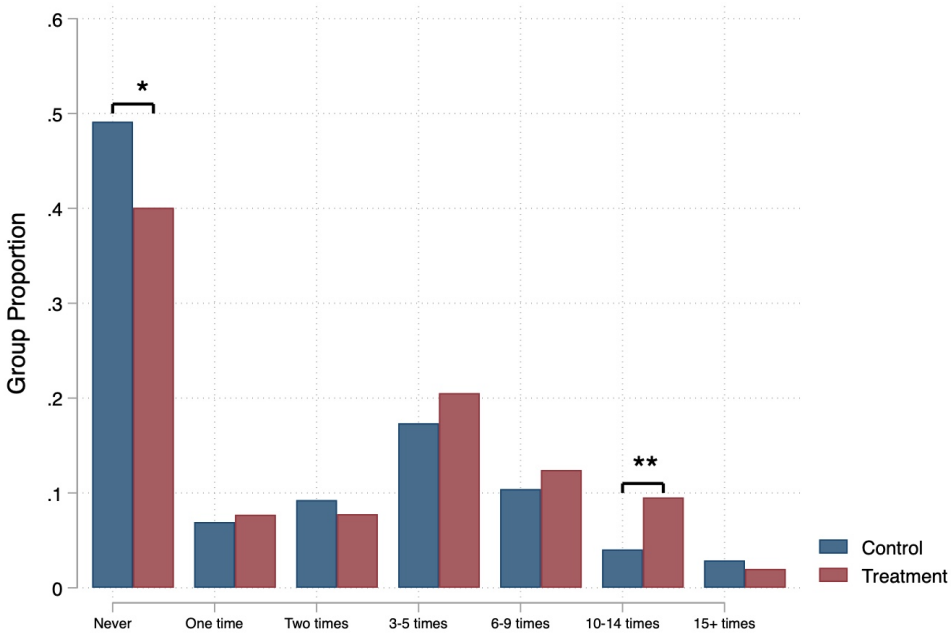

Figure A3. : Treatment effects on unaccompanied travel in the previous seven days

Note: This figure shows the results of a series of estimates of equation (1) in which the outcome variables are mutually exclusive and exhaustive indicators for the frequency of travel. Each control group bar shows the control group mean, while the treatment bar shows the sum of the control group mean and the ITT treatment effect β_1. Regressions include individual and household controls: age (above median dummy), education level (less than a high school degree), marital status (indicators for married, never-married, and widowed), household size (number of members), number of cars owned (indicators for one car and for more than one car), an indicator for baseline labor force participation, and strata fixed effects. SEs are clustered at household level. We replace missing control values with 0 and include missing dummies for each. * $p < 0.1$ ** $p < 0.05$ *** $p < 0.01$.

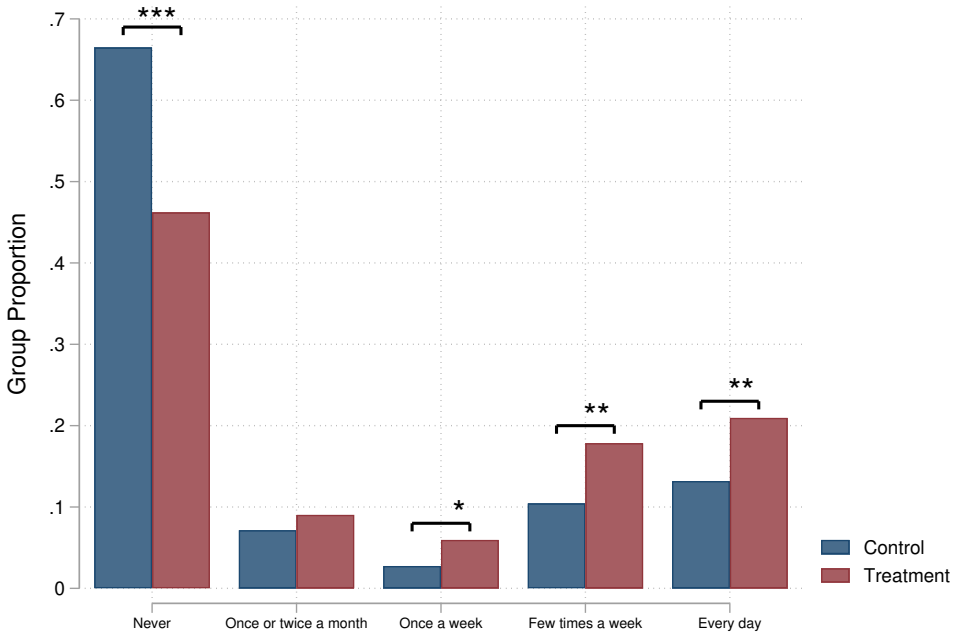

Figure A4. : Frequency of driving in previous month

Note: This figure shows the results of a series of estimates of equation (1) in which the outcome variables are mutually exclusive and exhaustive indicators for the frequency of driving reported by the respondent in the recall period. Each control group bar show the control group mean, while the treatment bar shows the sum of the control group mean and the ITT treatment effect β_1. Regressions include individual and household controls: age (above median dummy), education level (less than a high school degree), marital status (indicators for married, never-married, and widowed), household size (number of members), number of cars owned (indicators for one car and for more than one car), an indicator for baseline labor force participation, and strata fixed effects. SEs are clustered at household level. We replace missing control values with 0 and include missing dummies for each.
* $p < 0.1$ ** $p < 0.05$ *** $p < 0.01$

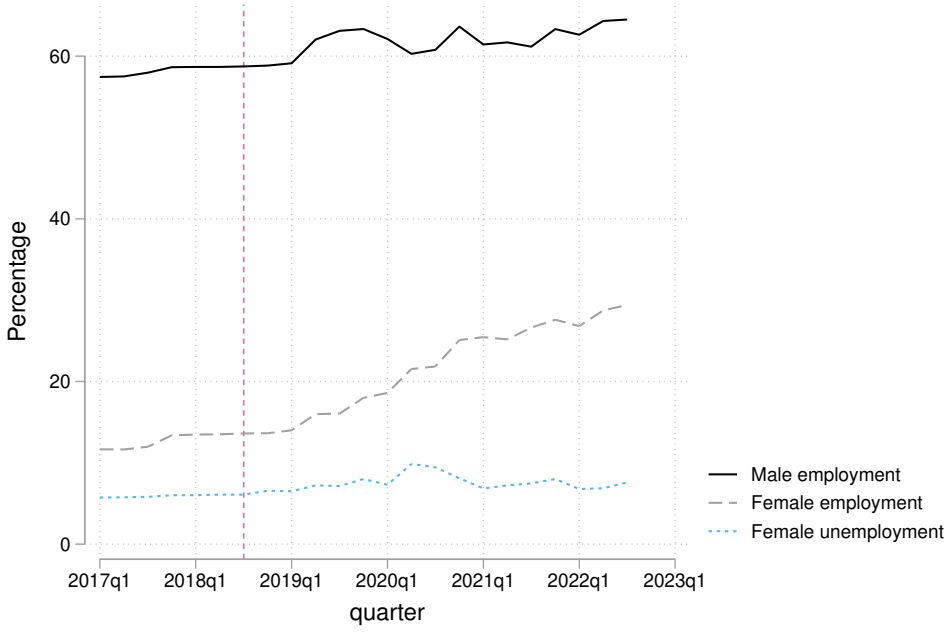

Figure A5. : Female Labor Force Participation in Saudi Arabia

Note: Source: Estimates from Saudi LFS - GASTAT. Red vertical line shows the date of the driving ban repeal.

Additional Tables

Table A1—: Legal rights of women by marital status

	Never-married	Married	Divorced	Widowed
Woman's guardian	Father	Husband	Father/brother/son	Father/brother/son
Child's legal guardian	N/A	Husband	Husband	In-laws[1]
Head of children's household (Article 91)[2]	N/A	Husband	Husband	Woman
Physical custody of children (Article 30)[3]	N/A	N/A	Husband or woman	In-laws or woman

Note: Source: Embassy of the Kingdom of Saudi Arabia (2019). Red text highlights areas of influence by a husband or co-parent, while blue indicates areas where the woman herself or her blood relatives may hold the specified legal rights.

1. Guardianship of children is always granted to a male on the paternal side of the family, which is generally the deceased husband's brother or father.

2. "Head of household" is a legal designation assigned to all children, which imbues that person with the authority to conduct government business on their children's behalf. Legally speaking, the precise distinction for unmarried mothers is not between divorced and widowed women, but between divorced women with ex-husbands who are still alive, and widows or divorced women whose ex-husband has died, because as of a 2019 reform, the latter can become head of household for their minor children and unmarried daughters (Article 91).

3. In March 2018, women received the right to receive custody of children in divorce settlements, and the ruling that enforced their return to ex-spouses has been abolished. Article 30 states that default custody (place of residence) goes to father, but can be granted to women. Hence, while default physical custody by law remains with the husband and his family, physical custody of children can now go to mothers upon request. Hence, it is reasonable to assume that physical custody is more likely to go to widowed than divorced women because the children's paternal uncle or grandfather would have a weaker motivation to retain custody than a father would.

Table A2—: Comparison of Experimental Sample and Population Representative Statistics

	Experimental sample	Representative sample (Riyadh)	Representative sample (National)
	(1)	(2)	(3)
Ever employed	0.393	0.540	0.427
Currently employed	0.185		0.135
Unemployed	0.652		0.062
Average monthly household income (SAR)	2,500	16,011	14,823
Age			
15-29	0.368		0.422
30-44	0.412		0.377
45+	0.221		0.200
Marital status			
Never married	0.338		0.215
Married	0.202		0.665
Divorced/Separated	0.356		0.052
Widowed	0.104		0.067
Education			
Less than primary	0.061	0.202	0.232
Elementary (1-5 years)	0.298	0.303	0.296
Highschool (6-12 years)	0.340	0.286	0.261
Vocational certificate (13-14 years)	0.152	0.025	0.028
College or above (16+ years)	0.150	0.184	0.183

Notes: Column 1: Monthly household income is provided by administrative records from Alnahda beneficiary subsample only (64% of RCT responder sample). All other column (1) statistics are generated from a combination of administrative data provided by Alnahda and baseline survey responses for the RCT sample. Statistics reported for the subsample who started the endline survey. Column 2 and 3: Statistics for Ever Employed, Age, and Marital Status are reported in KSA Ministry of Health (2019); Ever Employed is representative of the Riyadh region and Age and Marital Status are representative at the national level. Statistics for Currently Employed and Unemployed Searching are reported in Saudi Arabia GASTAT (2018) and are representative at the national level. The statistics for Education levels and Average monthly household income in columns (2 and 3) are reported in Saudi Arabia GASTAT (2017) and GASTAT (2018), respectively; Education is representative at the national level and Average monthly household income is representative at the Riyadh region level.

Table A3—: Baseline balance among responders

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
			Control			Treatment		
	N	Mean	SD	N	Mean	SD	Difference	P-value
Age	188	34.78	11.00	312	35.36	11.18	-0.24	0.80
Never-married	188	0.32	0.47	309	0.35	0.48	0.06	0.22
Married	188	0.19	0.39	309	0.21	0.41	0.00	0.92
Divorced or separated	188	0.35	0.48	309	0.36	0.48	-0.04	0.34
Has husband/co-parent	188	0.53	0.50	309	0.51	0.50	-0.08	0.06
One child in the household	185	0.15	0.35	300	0.14	0.35	0.00	0.91
Multiple children in the household	185	0.70	0.46	300	0.65	0.48	-0.07	0.18
Number of household members 18+	185	3.75	2.19	300	3.64	1.96	-0.09	0.69
Household owns car	183	0.53	0.50	305	0.57	0.50	0.04	0.53
Cars owned by household	183	0.78	0.96	305	0.77	0.88	-0.02	0.85
Likely to drive soon after ban is lifted	187	0.68	0.47	302	0.67	0.47	0.05	0.29
Highest edu: Elementary (1-5 yrs)	183	0.28	0.45	308	0.31	0.46	0.01	0.81
Highest edu: High school (6-12 yrs)	183	0.36	0.48	308	0.33	0.47	-0.01	0.85
Highest edu: Any tertiary education (13+ yrs)	183	0.31	0.46	308	0.29	0.46	-0.02	0.69
Employed	188	0.16	0.37	313	0.20	0.40	0.03	0.44
Unemployed (searching for job)	188	0.69	0.47	312	0.63	0.48	-0.05	0.30
On-the-job search	188	0.11	0.32	313	0.12	0.33	-0.00	0.88
Ever employed	188	0.35	0.48	313	0.42	0.49	0.07	0.16
Years of experience	183	1.05	2.08	305	1.10	2.05	0.09	0.66
F-test of joint significance								1.42
Prob > F								0.115

Notes: Data from administrative records and baseline survey. Statistics reported for the subsample who started the endline survey. "Likely to drive soon after ban is lifted" variables are binary response indicators based on the following scale for whether the respondent would be likely to drive once the ban on female driving would be lifted (it was lifted partway through the baseline): unlikely to drive, somewhat likely, likely but not at first, and likely. Responders include 501 RCT participants who started the endline survey. To estimate the F-stat, we impute variable means for missing values.

Table A4—: Baseline balance in full sample

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
			Control			Treatment		
	N	Mean	SD	N	Mean	SD	Difference	P-value
Age	231	34.39	10.95	374	35.24	11.46	-0.02	0.99
Never-married	231	0.35	0.48	371	0.37	0.48	0.05	0.25
Married	231	0.17	0.38	371	0.21	0.41	0.02	0.54
Divorced or separated	231	0.34	0.47	371	0.35	0.48	-0.04	0.28
Has husband/co-parent	231	0.49	0.50	371	0.51	0.50	-0.05	0.21
One child in the household	225	0.16	0.37	362	0.14	0.35	-0.02	0.64
Multiple children in the household	225	0.67	0.47	362	0.66	0.47	-0.03	0.50
Number of household members 18+	225	3.73	2.12	362	3.61	1.97	-0.08	0.68
Household owns car	223	0.57	0.50	366	0.56	0.50	-0.01	0.77
Cars owned by household	223	0.83	0.94	366	0.79	0.93	-0.04	0.62
Likely to drive soon after ban is lifted	228	0.69	0.46	363	0.67	0.47	0.03	0.41
Highest edu: Elementary (1-5 yrs)	225	0.28	0.45	369	0.31	0.46	0.01	0.77
Highest edu: High school (6-12 yrs)	225	0.36	0.48	369	0.32	0.47	-0.02	0.62
Highest edu: Any tertiary education (13+ yrs)	225	0.32	0.47	369	0.29	0.46	-0.01	0.75
Employed	231	0.14	0.35	375	0.21	0.41	0.06	0.09
Unemployed (searching for job)	231	0.71	0.46	374	0.62	0.49	-0.07	0.08
On-the-job search	231	0.10	0.30	375	0.14	0.34	0.03	0.34
Ever employed	231	0.32	0.47	375	0.42	0.49	0.09	0.03
Years of experience	226	0.90	1.92	364	1.04	1.99	0.16	0.36
F-test of joint significance								1.43
Prob > F								0.107

Notes: Data from administrative records and baseline survey. "Likely to drive soon after ban is lifted" variables are binary response indicators based on the following scale for whether the respondent would be likely to drive once the ban on female driving would be lifted (it was lifted partway through the baseline): unlikely to drive, somewhat likely, likely but not at first, and likely. Estimated differences and p-values reported from OLS; strata FEs and household-level clustered SEs. To estimate the F-stat, we impute variable means for missing values.

Table A5—: Descriptive statistics on travel patterns in control group

	N	Mean	SD	Min	Max
Any trip yesterday	149	0.51	0.50	0	1
Trips Yesterday	149	1.18	1.41	0	10
Mean one-way trip duration mins | any trip yesterday	76	38.78	35.67	5	180
One-way commute duration mins | any commute to work yesterday	16	41.31	22.72	10	90
Trip purpose | Trip yesterday					
Leisure to meet friends	76	0.01	0.11	0	1
Leisure to meet relatives	76	0.16	0.37	0	1
Leisure to park or movies	76	0.01	0.11	0	1
Leisure for meal	76	0.05	0.22	0	1
Errands - personal business	76	0.01	0.11	0	1
Errands - health	76	0.11	0.31	0	1
Errands - HH shopping	76	0.16	0.37	0	1
Errands - personal shopping	76	0.21	0.41	0	1
Pick or drop someone	76	0.03	0.16	0	1
University commute	76	0.16	0.37	0	1
Work commute	76	0.21	0.41	0	1
Trip mode | Trip yesterday					
Bus provided by university or employer	76	0.04	0.20	0	1
Walking	76	0.05	0.22	0	1
Drove herself	76	0.01	0.11	0	1
Car - family member driving	76	0.32	0.47	0	1
Car with paid driver	76	0.17	0.38	0	1
Car pooling	76	0.03	0.16	0	1
Ride-hailing (e.g. Uber)	76	0.24	0.43	0	1
Taxi	76	0.20	0.40	0	1
Other mode	76	0.13	0.34	0	1

Notes: Descriptive statistics from detailed travel diary collected as part of the interim follow-up. Control group sample only. Respondents may report multiple trips and/or multiple modes for each trip, so means for trip purposes and modes can sum to greater than 1.

Table A6—: Attrition

	Started Endline Survey		Started Mobility Module		Started Employment Module		Started Attitudes Module	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Treatment	0.021	0.027	0.021	0.029	0.033	0.038	0.018	0.019
	(0.033)	(0.033)	(0.034)	(0.034)	(0.034)	(0.034)	(0.033)	(0.033)
Observations	606	606	606	606	606	606	606	606
Control Group Mean	0.814	0.814	0.805	0.805	0.788	0.788	0.801	0.801
Controls		X		X		X		X

Notes: Dependent variables are indicators for whether the respondent began the respective module in the survey; the order of modules was randomized. Estimates in even numbered columns include individual and household controls: age (above median dummy), education level (less than a high school degree), marital status (indicators for married, never-married, and widowed), household size (number of members), number of cars owned (indicators for one car and for more than one car), an indicator for baseline labor force participation, and strata fixed effects. SEs are clustered at household level. We replace missing control values with 0 and include missing dummies for each. * $p < 0.1$ ** $p < 0.05$ *** $p < 0.01$

Table A7—: Attrition HTE

	(1) Started Employment Module	(2) Started Attitudes Module	(3) Started Employment Module	(4) Started Attitudes Module	(5) Started Employment Module	(6) Started Attitudes Module
β_1: Treatment	0.051	0.039	0.041	0.036	0.075*	0.052
	(0.088)	(0.084)	(0.050)	(0.051)	(0.043)	(0.043)
β_2: HTE variable	0.019	0.001	0.052	0.078	0.017	0.016
	(0.075)	(0.075)	(0.052)	(0.053)	(0.058)	(0.058)
β_3: Treatment x HTE variable	-0.021	-0.026	-0.012	-0.037	-0.097	-0.087
	(0.094)	(0.093)	(0.065)	(0.066)	(0.072)	(0.072)
Observations	605	605	605	605	594	594
Control Mean: HTE variable = 0	0.771	0.800	0.761	0.761	0.781	0.795
HTE variable	In LF at BL	In LF at BL	Above median age	Above median age	Less than HS	Less than HS

Notes: Dependent variables are indicators for whether the respondent began the respective module in the survey; the order of modules was randomized SEs are clustered at household level. We do not include additional controls in these estimations. * $p < 0.1$ ** $p < 0.05$ *** $p < 0.01$

Table A8—: Attrition HTE (continued)

	(1) Started Employment Module	(2) Started Attitudes Module	(3) Started Employment Module	(4) Started Attitudes Module
β_1: Treatment	0.034	0.027	0.083	0.066
	(0.054)	(0.054)	(0.050)	(0.049)
β_2: Treatment x Married	-0.111	-0.129		
	(0.085)	(0.082)		
β_3: Treatment x Never-married	0.029	0.017		
	(0.081)	(0.083)		
β_4: Treatment x Widowed	0.054	0.070		
	(0.116)	(0.109)		
β_5: Has husband/co-parent			0.138***	0.130**
			(0.052)	(0.052)
β_6: Treatment x Has husband/co-parent			-0.106	-0.103
			(0.065)	(0.065)
Observations	602	602	602	602
Mean: Control, married	0.897	0.923		
Mean: Control, single	0.716	0.728		
Mean: Control, widowed	0.758	0.788		
Mean: Control, divorced	0.821	0.821		
Control Mean: HTE variable = 0			0.720	0.737
HTE variable	Marital status at BL	Marital status at BL	Has husband/co-parent	Has husband/co-parent

Notes: 'Has husband/co-parent' is defined as (a) currently married or (b) divorced/separated with children under 18 in the household. Dependent variables are indicators for whether the respondent began the respective module in the survey; the order of modules was randomized. Four observations are dropped due to missing marital status at baseline. SEs are clustered at household level. * $p < 0.1$ ** $p < 0.05$ *** $p < 0.01$

Table A9—: Treatment effects estimates with Lee (2009) bounds

Panel A: Driving and independent mobility

	(1) Started driver's training	(2) Received license	(3) Any driving in past month	(4) Number of times left house in last 7 days	(5) Share of trips made without male chaperone	(6) Always travels with male chaperone
Treatment	0.605***	0.418***	0.189***	0.715	0.083*	-0.085*
	(0.039)	(0.038)	(0.047)	(0.475)	(0.044)	(0.047)
Observations	467	467	489	470	461	461
Control mean	0.192	0.102	0.335	5.200	0.433	0.491
β/control mean	3.151	4.098	0.564	0.138	0.192	-0.173
P-value $\beta = 0$	0.000	0.000	0.000	0.133	0.059	0.070
Treatment						
lower	0.5837***	0.3670***	0.1707***	-0.1014	0.0702	-0.1002**
	(0.0386)	(0.0429)	(0.0509)	(0.6002)	(0.0498)	(0.0494)
upper	0.7256***	0.4810***	0.2098***	0.9424*	0.0957**	-0.0747
	(0.0487)	(0.0481)	(0.0462)	(0.5015)	(0.0447)	(0.0533)
Observations	606	606	606	606	606	606

Panel B: Labor, individual attitudes, and social interactions

	(1) Employed	(2) Unemployed	(3) Out of labor force	(4) On the job search	(5) Index: Own attitudes towards women working	(6) Index: Social contact
Treatment	0.093**	-0.113**	0.020	0.040	0.130	0.048
	(0.041)	(0.047)	(0.040)	(0.026)	(0.096)	(0.097)
Observations	488	488	488	483	490	474
Control mean	0.210	0.569	0.221	0.072	0.000	0.000
β/control mean	0.443	-0.199	0.090	0.556	.	.
P-value $\beta = 0$	0.023	0.016	0.620	0.125	0.175	0.619
Treatment						
lower	0.0617	-0.1374**	-0.0140	0.0072	0.0691	-0.1401
	(0.0509)	(0.0576)	(0.0532)	(0.0427)	(0.1235)	(0.1092)
upper	0.1066***	-0.0926	0.0309	0.0441*	0.1765	0.0946
	(0.0383)	(0.0565)	(0.0479)	(0.0267)	(0.1270)	(0.0773)
Observations	606	606	606	606	606	606

Panel C: Permission to leave the house and to make a purchase, second order attitudes

	Agreement with the following statements		Indices: Second order attitudes towards women working	
	(1) Allowed to leave house w/o permission	(2) Allowed to make purchase w/o permission	(3) Female Social Network	(4) Male Social Network
Treatment	0.069	-0.069	0.037	-0.137
	(0.046)	(0.047)	(0.099)	(0.098)
Observations	488	486	486	487
Control mean	0.344	0.484	0.000	-0.000
β/control mean	0.201	-0.143	.	.
P-value $\beta = 0$	0.134	0.145	0.712	0.163
Treatment				
lower	0.0532	-0.0860*	0.0366	-0.1369
	(0.0479)	(0.0467)	(0.2301)	(0.1196)
upper	0.0799*	-0.0571	0.7099**	-0.1369
	(0.0440)	(0.0439)	(0.3458)	(0.1021)
Observations	606	606	606	606

Notes: Outcome variables are constructed as described in the notes for Table 1 (in paper). Variations in sample size are due to drop-off from telephone survey; order of survey modules was randomized. Because our strata are small, Lee bounds are unstable with the strata and control variables in our preferred specification, so this table includes the main point estimate and the bounds estimated with no controls or fixed effects. SEs are clustered at the household level. * $p < 0.1$ ** $p < 0.05$ *** $p < 0.01$.

Table A10—: Treatment effects estimates without control variables

Panel A: Driving and independent mobility

	(1) Started driver's training	(2) Received license	(3) Any driving in past month	(4) Number of times left house in last 7 days	(5) Share of trips made without male chaperone	(6) Always travels with male chaperone
Treatment	0.615***	0.432***	0.196***	0.677	0.094**	-0.094**
	(0.040)	(0.039)	(0.046)	(0.456)	(0.044)	(0.046)
Observations	467	467	489	470	461	461
Control mean	0.192	0.102	0.335	5.200	0.433	0.491
β/control mean	3.203	4.235	0.585	0.130	0.217	-0.191
P-value $\beta = 0$	0.000	0.000	0.000	0.138	0.031	0.042

Panel B: Labor, individual attitudes, and social interactions

	(1) Employed	(2) Unemployed	(3) Out of labor force	(4) On the job search	(5) Index: Own attitudes towards women working	(6) Index: Social contact
Treatment	0.091**	-0.108**	0.018	0.034	0.117	0.071
	(0.043)	(0.048)	(0.041)	(0.027)	(0.100)	(0.102)
Observations	488	488	488	483	490	474
Control mean	0.210	0.569	0.221	0.072	0.000	0.000
β/control mean	0.433	-0.190	0.081	0.472	.	.
P-value $\beta = 0$	0.036	0.025	0.668	0.206	0.241	0.488

Panel C: Permission to leave the house and to make a purchase, second order attitudes

	Agreement with the following statements		Indices: Second order attitudes towards women working	
	(1) Allowed to leave house w/o permission	(2) Allowed to make purchase w/o permission	(3) Female Social Network	(4) Male Social Network
Treatment	0.043	-0.093**	-0.027	-0.168*
	(0.047)	(0.047)	(0.098)	(0.100)
Observations	488	486	486	487
Control mean	0.344	0.484	0.000	-0.000
β/control mean	0.125	-0.192	.	.
P-value $\beta = 0$	0.364	0.048	0.779	0.094

Notes: Outcome variables are constructed as described in the notes for Table 1 (in paper). Variations in sample size are due to drop-off from telephone survey; order of survey modules was randomized. All estimates include strata fixed effects, SEs are clustered at household level. * $p < 0.1$ ** $p < 0.05$ *** $p < 0.01$.

Table A11—: Reweighted treatment effects on labor market outcomes

Panel A: Unweighted

	(1) Employed	(2) Unemployed	(3) Out of labor force	(4) On the job search
Treatment	0.086**	-0.106**	0.019	0.031
	(0.043)	(0.049)	(0.041)	(0.026)
Observations	488	488	488	483
Control mean	0.210	0.569	0.221	0.072
β/control mean	0.410	-0.186	0.086	0.431
P-value $\beta = 0$	0.045	0.032	0.643	0.236

Panel B: Weighted by baseline education and age

	(1) Employed	(2) Unemployed	(3) Out of labor force	(4) On the job search
Treatment	0.173***	-0.145	-0.028	0.070
	(0.057)	(0.102)	(0.091)	(0.046)
Observations	479	479	479	474
Control mean	0.205	0.574	0.222	0.074
β/control mean	0.844	-0.253	-0.126	0.946
P-value $\beta = 0$	0.003	0.156	0.761	0.129

Panel C: Weighted by baseline labor force participation

	(1) Employed	(2) Unemployed	(3) Out of labor force	(4) On the job search
Treatment	0.148**	-0.218**	0.071	0.021
	(0.058)	(0.091)	(0.088)	(0.020)
Observations	478	478	478	473
Control mean	0.205	0.574	0.222	0.074
β/control mean	0.722	-0.380	0.320	0.284
P-value $\beta = 0$	0.011	0.017	0.420	0.291

Notes: The outcome in Column 4 indicates whether the respondent is employed and applied for at least one job in the previous month (a more general measure of search beyond job applications was not collected for employed respondents). Results for unemployment are similar if we redefine unemployed to include only those who applied for at least one job in the previous month. In Panels B and C we re-estimate our results using survey weights to map to population estimates of education according to age group (Panel B), and labor force participation (Panel C). We generate these weights using administrative data from Saudi Arabia GASTAT (2017) and Saudi Arabia GASTAT (2018), the latter is reported in Table A2. We use LFP, age, and education measured in our sample at baseline. Variations in sample size are due to drop-off from telephone survey; order of survey modules was randomized. All estimates include individual and household controls: age (above median dummy), education level (less than a high school degree), marital status (indicators for married, never-married, and widowed), household size (number of members), number of cars owned (indicators for one car and for more than one car), an indicator for baseline labor force participation, and strata fixed effects. SEs are clustered at household level. We replace missing control values with 0 and include missing dummies for each. * $p < 0.1$ ** $p < 0.05$ *** $p < 0.01$.

Table A12—: Treatment effects on first order beliefs and social contact: indices and components

Panel A: First order beliefs

	Index	Index Components					
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Index: Own attitudes towards women working	Women can be equally good business executives	It's ok for a woman to have priorities outside the home	Children OK if mother works	Ok to put own needs above those of my family	Ideal age for a woman to have her first child	Government should allow a national women's soccer team
Treatment	0.110	-0.020	0.035	-0.014	0.074	0.097	0.023
	(0.097)	(0.047)	(0.047)	(0.049)	(0.047)	(0.294)	(0.046)
Observations	490	487	486	482	490	473	481
Control mean	0.000	0.434	0.392	0.469	0.348	25.090	0.382
β/control mean	.	-0.046	0.089	-0.030	0.213	0.004	0.060
P-value $\beta = 0$	0.259	0.664	0.457	0.771	0.117	0.741	0.621

Panel B: Social Contact

	Index	Index Components	
	(1)	(2)	(3)
	Social contact	Number of people spoken to on phone in past 7 days	Number of different people met in person in past 7 days
Treatment	0.058	0.288	0.841
	(0.111)	(1.314)	(1.454)
Observations	474	471	460
Control mean	0.000	7.358	8.265
β/control mean	.	0.039	0.102
P-value $\beta = 0$	0.602	0.827	0.563

Notes: Respondents were asked to rate their own level of agreement (using a 5 point Likert scale from 'completely disagree' to 'completely agree') for each statement in Panel A, Columns 2-5 and 7. Responses were transformed into binary indicators for above median response and are reported in their respective columns. Respondents were also asked what the ideal age is for a women to have her first child. As reported in Panel B, Columns 2 and 3, respondents were also asked about the number of people they spoke to and met in the previous 7 days. Outcomes in Column 1 are weighted indices of the standardized responses reported in Panel A, Columns 2-7 and Panel B, Columns 2-3, respectively, using the swindex command developed by Schwab et al. (2020). The command uses all available data (hence a higher N in Column 1) and assigns lower weight to index components with missing values. All estimates include individual and household controls: age (above median dummy), education level (less than a high school degree), marital status (indicators for married, never-married, and widowed), household size (number of members), number of cars owned (indicators for one car and for more than one car), an indicator for baseline labor force participation, and strata fixed effects. SEs are clustered at household level. We replace missing control values with 0 and include missing dummies for each. Variations in sample size are due to drop-off from telephone survey; order of survey modules was randomized. * p < 0.1 ** p < 0.05 *** p < 0.01

Table A13—: Treatment Effects on approval of gender policy: index and components

	Index	Index Components	
	(1)	(2)	(3)
	Index: Approval of Gender Policy	Government is working fast enough to give women same rights as men	Feels the impact of changes that government is making to give women same rights
Treatment	-0.087	-0.039	-0.037
	(0.111)	(0.041)	(0.035)
Observations	484	464	484
Control mean	-0.000	0.805	0.877
β/control mean	.	-0.048	-0.042
P-value $\beta = 0$	0.435	0.340	0.296

Notes: Outcomes in Columns 2 and 3 were constructed as follows: respondents were asked to rate their level of agreement (using a 5 point Likert scale from 'completely disagree' to 'completely agree') with the statements "I think the government is working enough/working fast enough to make changes to give women the same rights as men." and "In my day to day life, I feel the impact of the changes that the government is making to give women the same rights as men". Responses to each statement were then transformed into binary indicators for above median responses. The wording of the statement "I think the government is working enough/working fast enough to make changes to give women the same rights as men" was modified after data collection began due to sensitivity of the original wording. It was updated to "I think the pace of social changes that Saudi society has been witnessing is fast enough to give women the same rights as men and doesn't need to move faster." We combine responses from both versions to create the outcome in Column 2, and include an indicator for question version as a control in that model. The outcome in Column 1 is a weighted index of the standardized binary responses to each statement using the swindex command developed by Schwab et al. (2020). All estimates include individual and household controls: age (above median dummy), education level (less than a high school degree), marital status (indicators for married, never-married, and widowed), household size (number of members), number of cars owned (indicators for one car and for more than one car), an indicator for baseline labor force participation, and strata fixed effects. SEs are clustered at household level. We replace missing control values with 0 and include missing dummies for each. Variations in sample size are due to drop-off from telephone survey; order of survey modules was randomized. * $p < 0.1$ ** $p < 0.05$ *** $p < 0.01$

Table A14—: Treatment Effects on civic engagement: index and components

	Index	Index Components				
	(1)	(2)	(3)	(4)	(5)	(6)
	Index: Civic Engagement	Will vote in the next election	Expressed interest in signing up for volunteer program	Expressed interest in signing up for leadership program	Leadership program: Anyone clicked	Leadership program: Number people clicked
Treatment	0.074	-0.006	0.020	0.055	0.037	0.014
	(0.093)	(0.047)	(0.048)	(0.047)	(0.045)	(0.172)
Observations	501	481	501	501	501	501
Control mean	-0.000	0.452	0.644	0.559	0.340	0.585
β/control mean	.	-0.013	0.031	0.098	0.109	0.024
P-value $\beta = 0$	0.426	0.900	0.675	0.242	0.405	0.936

Notes: The outcome in Column 2 is constructed as follows: respondents were asked whether they will vote in the next municipal election (definitely no, probably no, unsure, probably yes, definitely yes, I do not know how to vote, or I do not know about any elections). The last two options were combined with 'definitely no' to create a likert scale. Responses were then transformed into a binary indicator for above median response. Outcomes in Columns 3-4 are indicators for whether the respondent expressed interest in signing up for a given program during the survey. We also sent respondents a text message with a link, tied to their survey ID, to a prompt that provided further information about the program and where to apply. The text message also asked respondents to forward the link to any of their friends or family whom they thought might also be interested in the program. Column 5 is an indicator for whether anyone clicked on the link (respondent or friend), and Column 6 is a measure of the number of people who clicked the link for more information. These outcomes are estimated for all respondents who started the survey, with the outcome for those who did not respond to that question or respond to the invitation coded as zero. The outcome in Column 1 is a weighted index of the standardized binary responses to each question using the swindex command developed by Schwab et al. (2020). All estimates include individual and household controls: age (above median dummy), education level (less than a high school degree), marital status (indicators for married, never-married, and widowed), household size (number of members), number of cars owned (indicators for one car and for more than one car), an indicator for baseline labor force participation, and strata fixed effects. SEs are clustered at household level. We replace missing control values with 0 and include missing dummies for each. Variations in sample size are due to drop-off from telephone survey; order of survey modules was randomized. * $p < 0.1$ ** $p < 0.05$ *** $p < 0.01$

Table A15—: Reweighted treatment effects on spending autonomy

	(1) Unweighted	(2) Weight by education and age	(3) Weighted by baseline labor force participation
Treatment	-0.093*	-0.081	-0.184**
	(0.047)	(0.078)	(0.092)
Observations	486	477	476
Control mean	0.484	0.480	0.480
β/control mean	-0.192	-0.169	-0.383
P-value $\beta = 0$	0.051	0.299	0.045

Notes: The outcome was constructed as follows: respondents were asked to rate their level of agreement (on a 5 point Likert scale) with the statement: "I can make a purchase of 1000 SAR without needing to take permission from any member of my family" (1000 SAR is roughly equivalent to 265 USD, in 2021 dollars). Responses were transformed into a binary indicator for above median response. In Columns 2 and 3 we re-estimate our results using survey weights to map to population estimates of education according to age group (Column 2), and labor force participation (Column 3). We generate these weights as described in Table A11. Variations in sample size are due to drop-off from telephone survey; order of survey modules was randomized. All estimates include individual and household controls: age (above median dummy), education level (less than a high school degree), marital status (indicators for married, never-married, and widowed), household size (number of members), number of cars owned (indicators for one car and for more than one car), an indicator for baseline labor force participation, and strata fixed effects. SEs are clustered at household level. We replace missing control values with 0 and include missing dummies for each. * $p < 0.1$ ** $p < 0.05$ *** $p < 0.01$.

Table A16—: Treatment effects on second order beliefs about respondents' social networks - index components

	Index	Index Components		
	(1)	(2)	(3)	(4)
	Index: Second order attitudes towards women working	Women can be equally good business executives	It's ok for a woman to have priorities outside the home	Children OK if mother works
Panel A: Female Community				
Treatment	-0.046	-0.052	0.023	-0.008
	(0.099)	(0.050)	(0.043)	(0.046)
Observations	486	484	484	480
Control mean	0.000	0.461	0.315	0.328
β/control mean	.	-0.113	0.073	-0.024
P-value $\beta = 0$	0.642	0.296	0.601	0.856
Panel B: Male Family				
Treatment	-0.162	-0.087*	-0.057	0.002
	(0.099)	(0.047)	(0.048)	(0.050)
Observations	487	486	484	483
Control mean	0.000	0.354	0.425	0.427
β/control mean	.	-0.246	-0.134	0.005
P-value $\beta = 0$	0.102	0.063	0.235	0.974
Panel C: Male Community				
Treatment	-0.191*	-0.077	-0.075	-0.052
	(0.102)	(0.050)	(0.050)	(0.050)
Observations	484	483	483	480
Control mean	0.000	0.536	0.456	0.475
β/control mean	.	-0.144	-0.164	-0.109
P-value $\beta = 0$	0.062	0.124	0.132	0.299

Notes: Second order belief outcomes were constructed as follows: respondents were asked to think about each group (male family members, male members of social network, or female members of social network) and report what share of that group they think would 'somewhat' or 'completely' agree with the statement. Responses to each statement were then transformed into binary indicators for above median responses, which are reported in Columns 2-4 of each panel. The outcome in Column 1 of each panel is a weighted index of the standardized binary responses to each statement using the swindex command developed by Schwab et al. (2020). The command uses all available data (hence a higher N in Column 1) and assigns lower weight to index components with missing values. Variations in sample size among Columns 2-4 are due to drop-off from telephone survey; order of survey modules was randomized. All estimates include individual and household controls: age (above median dummy), education level (less than a high school degree), marital status (indicators for married, never-married, and widowed), household size (number of members), number of cars owned (indicators for one car and for more than one car), an indicator for baseline labor force participation, and strata fixed effects. SEs are clustered at household level. We replace missing control values with 0 and include missing dummies for each. * $p < 0.1$ ** $p < 0.05$ *** $p < 0.01$

Table A17—: Robustness of heterogeneity results to treatment interactions with baseline characteristics

	Employed	
	(1)	(2)
β_1: Treatment	0.206***	0.185
	(0.0629)	(0.114)
β_2: Has husband/co-parent	0.151**	0.153*
	(0.0730)	(0.0786)
β_3: Treatment x Has husband/co-parent	-0.217***	-0.265***
	(0.0836)	(0.102)
Observations	484	460
Mean: Control, no husband/co-parent	0.190	0.185
p-val: $\beta_1 + \beta_3 = 0$	0.846	0.614
Treatment x Education		X
Treatment x Age		X
Treatment x Number of children < 18 in household at baseline		X

Notes: Column 2 repeats the estimation in Column 1 but additionally controls for treatment interacted with the respondent's education, age, and the number of children under 18 years old in the household at baseline. 'Has husband/co-parent' is defined as (a) currently married or (b) divorced/separated with children under 18 in the household. Four observations are dropped due to missing baseline marital status. In Column 2 an additional 15 observations are dropped due to missing administrative data on children in the household, and nine additional observations are dropped due to missing education at baseline. This causes a difference in sample size to Table 1 (in paper). Both columns include individual and household controls: age (above median dummy), education level (less than a high school degree), household size (number of members), number of cars owned (indicators for one car and for more than one car), an indicator for baseline labor force participation, and strata fixed effects. SEs are clustered at household level. We replace missing control values with 0 and include missing dummies for each, except for the interaction controls. Marital status dummies are not included as a control in this table because they are highly collinear with "has husband/co-parent". However, results are similar if we include individual indicators as controls for: married; single; and widowed (divorced/separated is the reference group). * p < 0.1 ** p < 0.05 *** p < 0.01

Appendix B: Additional Details and Specifications from Pre-Analysis Plan

We registered the outcome variables presented in the paper in a Pre-Analysis Plan; the full PAP document is ungated on the AEA RCT Registry (AEARCTR-0005551). In this appendix, we present additional details related to the PAP.

First stage PAP with interim follow-up data and cross-randomized subsidy information

We registered a first stage PAP and carried out an interim follow-up telephone survey immediately following the training, between January and early December of 2020. This survey collected key initial outcomes, to evaluate short-term impacts on take-up of the training course, completion of the training course, issuing the driving license and driving. However, the team faced differential attrition in this interim follow-up survey. Thus, the paper presents outcomes from the main follow-up survey, following the second stage of the PAP. For completeness, we present here the estimates registered in the first stage of the PAP.

In addition to our main treatment, we also cross-randomized a light-touch information treatment informing respondents of the availability of a government subsidy for ride-hailing costs (Uber). This subsidy was available for women with three or fewer years of experience, employed in the private sector at a salary up to SAR 8,000 (USD 2,133). This subsidy was worth 80% of the total cost of each commute to and from work in the Riyadh area, up to a cap of SAR 800 per month, for up to one year. Women would be eligible to apply for the subsidy after taking up employment in a private sector firm, and eligible to receive it for up to one year. Survey data indicate that 88% of our sample would potentially be eligible for the subsidy (at a current job or if they took up employment), based on their experience and salary history; this intervention was intended to make eligible respondents aware of the program. 58% of respondents were not yet aware of

the program at the time of the information treatment. The cross-randomization allows us to test for substitution or complementarity between driving and other forms of transport to work.

Tables B7 - B8 present the results from the *first stage* of the PAP using the interim follow-up survey, and incorporating the interacted specification outlined in the first stage PAP.

Consistent with the main follow-up results in Table 1 (in paper), we find strong effects of the driver's training treatment on completion of the official Saudi driver's training and receipt of license (Table B7). Treated women are significantly more likely to have driven in the previous month, and they are driving more often.

Providing information to respondents about the availability of the subsidy program might be expected to lead to a substitution effect, as women plan around using cheap ride-hailing rather than driving themselves to work. (Table A5 shows that a quarter of trips reported by women in the control group were taken on ride-hailing.)

However, at the interim follow-up we find little evidence that the subsidy information shifted outcomes of interest, in particular respondents' expectations over ride-hailing costs as a result of the subsidy, which is the most immediate outcome that the information treatment should have affected to have any impact on downstream outcomes (Table B7, Panel A, Column 3), driving takeup, or other measures. This could occur because respondents did not understand or remember the message, or because they did not believe they would in fact be eligible.

In addition, at the time of the short-term interim follow-up, 1-3 months after treatment, we did not detect treatment effects of either the main driving treatment or the subsidy information on job search outcomes (Table B8). It is likely that the impacts of treatment on employment occurred over a longer time horizon and

were thus only detected in our main follow-up survey, 1.5-2 years after treatment.

Thus, because of limited evidence of effects on both immediate outcomes (expected commute costs) or downstream outcomes at the time of our short-term interim follow-up survey, we registered our second stage pre-analysis plan with a simple specification testing for effects of the main driver's training treatment, as shown in the draft, rather than the cross-randomized treatment.

Going *beyond* the pre-specified estimates, we further confirm that our main results are unchanged in a fully interacted model with the ride-hailing subsidy (Table B9).

Outcome variables

There are two types of changes in our analysis relative to the PAP.

First, labor market outcomes were a key outcome area in both the preliminary ("stage 1") and the final analysis plan, and thus were selected for inclusion in the streamlined instrument we were able to deploy over the phone during the pandemic (Appendix D). We anticipated that the opportunity to drive would lead women to increase labor supply; that this would first be evident in their job search activity as a proximate outcome; and eventually might perhaps be observable downstream in their employment outcomes. In particular, we anticipated that the downstream outcome of employment might be slow or uncertain to change over the time frame of our study not only because of the many possible labor demand side constraints (such as employer discrimination), but also because of COVID-related disruptions to the labor market at the time we deployed our follow-up survey. Thus our pre-analysis plan specified job search outcomes. In fact, the main margin of effects we find is the downstream effect - from unemployed searching into employment; in other words, despite the pandemic, by the time our

follow-up survey was collected, many treated women had found jobs and stopped searching. Ideally, we would have liked to collect full histories of job search and employment to capture both effects, but this was unfortunately not feasible within the constraints of the short survey time we had available on the phone during the pandemic.

As a further check on the results given this change, we also incorporate Anderson (2008) False Discovery Rate correction across the employment outcomes. These results are shown in Tables B1 - B3; in each case we correct the analysis for the three outcomes shown within each statistical test. Note that "out of the labor force" is excluded from the set of outcomes for correction because it is a linear combination of the first two outcomes (i.e. all women who are not employed or unemployed are out of the labor force.) The employment and unemployment results remain significant at the 10% level in the correction. [1] Moreover, the key dimensions of heterogeneous treatment effects also survive this correction; in particular the treatment effects on employment and unemployment for women without a husband/co-parent (Table B3, Panel A) remain significant at the 1% and 5% level respectively.

Second, in the paper we present the two specified intra-household response outcomes, on the ability to leave the house to meet friends without permission and the ability to make purchases without permission, without modification. However, while they were originally grouped together in the PAP, we observed that they move in opposite directions. Thus we also present FDR corrected versions of these analyses in Tables B4 - B6. The correction here adjusts for the two individual outcomes in each statistical test. In the overall sample (Table B4), the negative

[1] The result for on the job search is actually significant in the FDR-corrected version; as described by Anderson (2008), "Sharpened FDR q-vals can be LESS than unadjusted p-vals when many hypotheses are rejected, because if you have many true rejections, then you can tolerate several false rejections too."

effect on a woman's spending autonomy is just short of significance at conventional levels after FDR adjustment (p = 0.051, q = 0.115). In the heterogeneous treatment analyses (Tables B5 - B6), all the patterns of heterogeneity survive the correction: older and less educated women, and those with a husband/co-parent experience a decrease in autonomy to make purchases, all statistically significant at the 1% level after the FDR correction.

Table B1—: Treatment effects on labor market outcomes with Anderson (2008) False Discovery Rate adjustment

	(1) Employed	(2) Unemployed	(3) On the job search
Treatment	0.086**	-0.106**	0.031
	(0.043)	(0.049)	(0.026)
Observations	488	488	483
Control mean	0.210	0.569	0.072
β/control mean	0.410	-0.186	0.431
P-value $\beta = 0$	0.045	0.032	0.236
FDR Q-value $\beta = 0$	0.073	0.073	0.086

Notes: The outcome in Column 3 indicates whether the respondent is employed and applied for at least one job in the previous month (a more general measure of search beyond job applications was not collected for employed respondents); five individuals responded to work status but not to the applications measure, leading to the variation in sample size between columns. Order of survey modules was randomized. All estimates include individual and household controls: age (above median dummy), education level (less than a high school degree), marital status (indicators for married, never-married, and widowed), household size (number of members), number of cars owned (indicators for one car and for more than one car), an indicator for baseline labor force participation, and strata fixed effects. SEs are clustered at household level. We replace missing control values with 0 and include missing dummies for each. * p < 0.1 ** p < 0.05 *** p < 0.01.

Table B2—: Labor market outcomes: Heterogeneous treatment effects with Anderson (2008) FDR adjustment

Panel A

	(1) Employed	(2) Unemployed	(3) On the job search
β_1: Treatment	0.141**	-0.136**	0.053
	(0.063)	(0.068)	(0.046)
β_2: Above median age	-0.024	-0.069	-0.066
	(0.074)	(0.086)	(0.047)
β_3: Treatment x Above median age	-0.103	0.057	-0.041
	(0.081)	(0.093)	(0.054)
$\beta_1 + \beta_3$	0.038	-0.079	0.012
	(0.055)	(0.067)	(0.028)
Observations	488	488	483
Mean: Control, Below median age	0.247	0.565	0.107
P-value $\beta_1 = 0$	0.026	0.046	0.249
FDR Q-value $\beta_1 = 0$	0.075	0.075	0.091
P-value $\beta_1 + \beta_3 = 0$	0.490	0.241	0.672
FDR Q-value $\beta_1 + \beta_3 = 0$	1.000	1.000	1.000

Panel B

	(1)	(2)	(3)
β_1: Treatment	0.078	-0.088	0.031
	(0.055)	(0.058)	(0.037)
β_2: Less than HS	-0.104*	0.040	0.003
	(0.059)	(0.083)	(0.038)
β_3: Treatment x Less than HS	0.038	-0.063	0.005
	(0.078)	(0.099)	(0.053)
$\beta_1 + \beta_3$	0.116*	-0.151*	0.036
	(0.060)	(0.084)	(0.037)
Observations	479	479	474
Mean: Control, Completed HS	0.265	0.549	0.098
P-value $\beta_1 = 0$	0.154	0.131	0.401
FDR Q-value $\beta_1 = 0$	0.302	0.302	0.302
P-value $\beta_1 + \beta_3 = 0$	0.054	0.075	0.334
FDR Q-value $\beta_1 + \beta_3 = 0$	0.127	0.127	0.127

Panel C

	(1)	(2)	(3)
β_1: Treatment	-0.033	-0.033	0.010
	(0.070)	(0.082)	(0.050)
β_5: Treatment x Married	0.141	-0.190	0.035
	(0.112)	(0.131)	(0.056)
β_6: Treatment x Never-married	0.184*	-0.020	0.011
	(0.105)	(0.115)	(0.072)
β_7: Treatment x Widowed	0.294**	-0.267*	0.102
	(0.135)	(0.161)	(0.086)
Observations	484	484	479
Mean: Control, divorced	0.250	0.484	0.111
Mean: Control, married	0.171	0.714	0.000
Mean: Control, never-married	0.246	0.474	0.105
Mean: Control, widowed	0.080	0.800	0.000
P-value: $\beta_1 = 0$	0.641	0.690	0.847
FDR Q-value: $\beta_1 = 0$	1.000	1.000	1.000
P-value: $\beta_1 + \beta_5 = 0$	0.217	0.032	0.101
FDR Q-value: $\beta_1 + \beta_5 = 0$	0.170	0.106	0.113
P-value: $\beta_1 + \beta_6 = 0$	0.052	0.525	0.697
FDR Q-value: $\beta_1 + \beta_6 = 0$	0.187	0.868	0.868
P-value: $\beta_1 + \beta_7 = 0$	0.023	0.031	0.106
FDR Q-value: $\beta_1 + \beta_7 = 0$	0.050	0.050	0.050

Notes: Variations in sample size are due to drop-off from telephone survey; order of survey modules was randomized. Outcomes are defined as described in Table 1 (in paper). All estimates include individual and household controls: age (above median dummy), education level (less than a high school degree), marital status (indicators for married, never-married, and widowed), household size (number of members), number of cars owned (indicators for one car and for more than one car), an indicator for baseline labor force participation, and strata fixed effects. SEs are clustered at household level. We replace missing control values with 0 and include missing dummies for each, except for the interaction control. As such, some Ns are lower relative to Table 1. 10 respondents are missing values for education level at baseline, with some overlap in respondents who are also missing values for outcomes. Four respondents are missing values marital status. We include multiple hypothesis tests by calculating the False Discovery Rate (FDR) q-values following Anderson (2008). * $p < 0.1$ ** $p < 0.05$ *** $p < 0.01$.

Table B3—: Labor market outcomes: Heterogeneous treatment effects with Anderson (2008) FDR adjustment, continued

Panel A

	(1) Employed	(2) Unemployed	(3) On the job search
β_1: Treatment	0.206***	-0.146**	0.059
	(0.063)	(0.071)	(0.042)
β_2: Has husband/co-parent	0.151**	-0.026	0.028
	(0.073)	(0.088)	(0.047)
β_3: Treatment x Has husband/co-parent	-0.217***	0.062	-0.054
	(0.084)	(0.097)	(0.054)
$\beta_1 + \beta_3$	-0.011	-0.084	0.005
	(0.056)	(0.067)	(0.034)
Observations	484	484	479
Mean: Control, No husband/co-parent	0.190	0.583	0.071
P-value $\beta_1 = 0$	0.001	0.040	0.160
FDR Q-value $\beta_1 = 0$	0.004	0.042	0.064
P-value $\beta_1 + \beta_3 = 0$	0.846	0.212	0.882
FDR Q-value $\beta_1 + \beta_3 = 0$	1.000	1.000	1.000

Panel B

	(1)	(2)	(3)
β_1: Treatment	0.164**	-0.247**	0.038
	(0.072)	(0.117)	(0.038)
β_2: In LF at BL	0.139**	-0.016	0.081**
	(0.058)	(0.104)	(0.034)
β_3: Treatment x In LF at BL	-0.092	0.168	-0.008
	(0.086)	(0.128)	(0.050)
$\beta_1 + \beta_3$	0.072	-0.080	0.030
	(0.048)	(0.053)	(0.031)
Observations	487	487	482
Mean: Control, Out of LF at BL	0.037	0.593	0.000
P-value $\beta_1 = 0$	0.024	0.036	0.314
FDR Q-value $\beta_1 = 0$	0.057	0.057	0.117
P-value $\beta_1 + \beta_3 = 0$	0.137	0.135	0.330
FDR Q-value $\beta_1 + \beta_3 = 0$	0.260	0.260	0.260

Notes: Variations in sample size are due to drop-off from telephone survey; order of survey modules was randomized. Outcomes are defined as described in Table 1 (in paper). All estimates include individual and household controls: age (above median dummy), education level (less than a high school degree), household size (number of members), number of cars owned (indicators for one car and for more than one car), an indicator for baseline labor force participation, and strata fixed effects. SEs are clustered at household level. We replace missing control values with 0 and include missing dummies for each, except for the interaction control. As such, Ns are lower relative to Table 1. Four respondents are missing values for marital status (and therefore missing values for whether they have a husband or co-parent), and one respondent is missing a value for labor force participation at baseline. We include multiple hypothesis tests by calculating the False Discovery Rate (FDR) q-values following Anderson (2008). * p < 0.1 ** p < 0.05 *** p < 0.01.

Table B4—: Treatment effects on intra-household responses with Anderson (2008) False Discovery Rate adjustment

	(1) Allowed to leave house w/o permission	(2) Allowed to make purchase w/o permission
Treatment	0.057	-0.093*
	(0.045)	(0.047)
Observations	488	486
Control mean	0.344	0.484
β/control mean	0.166	-0.192
P-value $\beta = 0$	0.207	0.051
FDR Q-value $\beta = 0$	0.116	0.115

Notes: Outcomes were constructed as follows: respondents were asked to rate their level of agreement (on a 5 point Likert scale) with the following statements: "If I wanted to meet with a friend outside of my home, I could do so without seeking approval / permission from anyone in my household first" and "I can make a purchase of 1000 SAR without needing to take permission from any member of my family" (1000 SAR is roughly equivalent to 265 USD, in 2021 dollars). Responses were transformed into binary indicators for above median response. Variations in sample size are due to drop-off from telephone survey; order of survey modules was randomized. All estimates include individual and household controls: age (above median dummy), education level (less than a high school degree), marital status (indicators for married, never-married, and widowed), household size (number of members), number of cars owned (indicators for one car and for more than one car), an indicator for baseline labor force participation, and strata fixed effects. SEs are clustered at household level. We replace missing control values with 0 and include missing dummies for each. We include multiple hypothesis tests by calculating the False Discovery Rate (FDR) q-values following Anderson (2008). * $p < 0.1$ ** $p < 0.05$ *** $p < 0.01$.

Table B5—: Heterogeneous treatment effects on intra-household responses with Anderson (2008) False Discovery Rate adjustment

Panel A

	(1) Allowed to leave house w/o permission	(2) Allowed to make purchase w/o permission
β_1: Treatment	-0.002	0.038
	(0.064)	(0.070)
β_2: Above median age	0.171**	0.279***
	(0.082)	(0.091)
β_3: Treatment x Above median age	0.110	-0.245***
	(0.088)	(0.092)
$\beta_1 + \beta_3$	0.108*	-0.207***
	(0.062)	(0.062)
Observations	488	486
Mean: Control, Below median age	0.224	0.329
P-value $\beta_1 = 0$	0.977	0.588
FDR Q-value $\beta_1 = 0$	1.000	1.000
P-value $\beta_1 + \beta_3 = 0$	0.081	0.001
FDR Q-value $\beta_1 + \beta_3 = 0$	0.043	0.002

Panel B

	(1)	(2)
β_1: Treatment	0.021	-0.024
	(0.057)	(0.059)
β_2: Less than HS	-0.164**	0.063
	(0.080)	(0.080)
β_3: Treatment x Less than HS	0.081	-0.191**
	(0.091)	(0.094)
$\beta_1 + \beta_3$	0.102	-0.215***
	(0.072)	(0.075)
Observations	479	477
Mean: Control, Completed HS	0.360	0.451
P-value $\beta_1 = 0$	0.709	0.686
FDR Q-value $\beta_1 = 0$	1.000	1.000
P-value $\beta_1 + \beta_3 = 0$	0.156	0.004
FDR Q-value $\beta_1 + \beta_3 = 0$	0.085	0.010

Panel C

	(1)	(2)
β_1: Treatment	-0.005	-0.220***
	(0.078)	(0.072)
β_5: Treatment x Married	0.153	0.050
	(0.123)	(0.131)
β_6: Treatment x Never-married	0.040	0.345***
	(0.104)	(0.108)
β_7: Treatment x Widowed	0.163	0.031
	(0.157)	(0.161)
Observations	484	482
Mean: Control, divorced	0.540	0.597
Mean: Control, married	0.194	0.472
Mean: Control, never-married	0.190	0.293
Mean: Control, widowed	0.423	0.654
P-value: $\beta_1 = 0$	0.948	0.002
FDR Q-value: $\beta_1 = 0$	0.901	0.005
P-value: $\beta_1 + \beta_5 = 0$	0.114	0.117
FDR Q-value: $\beta_1 + \beta_5 = 0$	0.133	0.133
P-value: $\beta_1 + \beta_6 = 0$	0.632	0.140
FDR Q-value: $\beta_1 + \beta_6 = 0$	0.463	0.388
P-value: $\beta_1 + \beta_7 = 0$	0.245	0.189
FDR Q-value: $\beta_1 + \beta_7 = 0$	0.324	0.324

Notes: Variations in sample size are due to drop-off from telephone survey; order of survey modules was randomized. Outcomes are defined as described in Table 1 (in paper). All estimates include individual and household controls: age (above median dummy), education level (less than a high school degree), marital status (indicators for married, never-married, and widowed), household size (number of members), number of cars owned (indicators for one car and for more than one car), an indicator for baseline labor force participation, and strata fixed effects. SEs are clustered at household level. We replace missing control values with 0 and include missing dummies for each, except for the interaction control. As such, some Ns are lower relative to Table 1. 10 respondents are missing values for education level at baseline, with some overlap in respondents who are also missing values for outcomes. Four respondents are missing values marital status. We include multiple hypothesis tests by calculating the False Discovery Rate (FDR) q-values following Anderson (2008). * $p < 0.1$ ** $p < 0.05$ *** $p < 0.01$.

Table B6—: Heterogeneous treatment effects on intra-household responses with Anderson (2008) False Discovery Rate adjustment, continued

Panel A

	(1) Allowed to leave house w/o permission	(2) Allowed to make purchase w/o permission
β_1: Treatment	0.060	0.012
	(0.064)	(0.070)
β_2: Has husband/co-parent	0.051	0.167*
	(0.083)	(0.085)
β_3: Treatment x Has husband/co-parent	-0.015	-0.197**
	(0.089)	(0.092)
$\beta_1 + \beta_3$	0.045	-0.184***
	(0.063)	(0.062)
Observations	484	482
Mean: Control, No husband/co-parent	0.267	0.419
P-value $\beta_1 = 0$	0.354	0.863
FDR Q-value $\beta_1 = 0$	1.000	1.000
P-value $\beta_1 + \beta_3 = 0$	0.477	0.003
FDR Q-value $\beta_1 + \beta_3 = 0$	0.314	0.007

Panel B

	(1)	(2)
β_1: Treatment	0.078	-0.187
	(0.101)	(0.120)
β_2: In LF at BL	0.082	-0.053
	(0.088)	(0.106)
β_3: Treatment x In LF at BL	-0.025	0.112
	(0.113)	(0.127)
$\beta_1 + \beta_3$	0.053	-0.075
	(0.050)	(0.050)
Observations	487	485
Mean: Control, Out of LF at BL	0.357	0.536
P-value $\beta_1 = 0$	0.438	0.118
FDR Q-value $\beta_1 = 0$	0.311	0.311
P-value $\beta_1 + \beta_3 = 0$	0.292	0.137
FDR Q-value $\beta_1 + \beta_3 = 0$	0.378	0.378

Notes: Variations in sample size are due to drop-off from telephone survey; order of survey modules was randomized. Outcomes are defined as described in Table 1. All estimates include individual and household controls: age (above median dummy), education level (less than a high school degree), household size (number of members), number of cars owned (indicators for one car and for more than one car), an indicator for baseline labor force participation, and strata fixed effects. SEs are clustered at household level. We replace missing control values with 0 and include missing dummies for each, except for the interaction control. As such, Ns are lower relative to Table 1. Four respondents are missing values for marital status (and therefore missing values for whether they have a husband or co-parent), and one respondent is missing a value for labor force participation at baseline. We include multiple hypothesis tests by calculating the False Discovery Rate (FDR) q-values following Anderson (2008). * $p < 0.1$ ** $p < 0.05$ *** $p < 0.01$.

Finally, for the main follow-up survey, we pre-registered variables based on a full length survey. However, initial waves of the follow-up survey faced substantial attrition. Therefore, to combat attrition, we completed the main follow-up survey with a substantially shorter survey instrument. A smaller number of indicators in each pre-registered outcome family was collected. The following variables were cut from the completed shorter version of the main follow-up survey and thus excluded from the analysis:

- Stated first-order attitudes on the following statements:
  - "The government should make all laws apply to men and women the same way."
  - "Women can be good politicians and should be encouraged to stand in elections."
  - "As citizens it is our responsibility to hold leaders accountable for their decisions."
  - "As Muslims, we should be more active in examining the guidance of Imams and cultivate our own understanding of Islam."
- Stated first- and second-order attitudes on the statement "A university education is more important for a boy than for a girl".
- Education and work aspirations for daughter / granddaughter
- Interactions with other people via text and social media
- Group membership (savings groups, volunteering, hobby/recreational groups, parent/school associations, religious groups) and attendance

Additional details on specifications

The PAP indicated we would incorporate fixed effects at the level of the randomization stratum. Randomization was stratified within the six recruitment cohorts; within these it was further stratified by age group, car ownership, and self-assessed likelihood of driving into a total of 52 strata. However, because of the small sample size, this resulted in a substantial number of singletons. In addition, some strata are very small, such that there are further singletons in interaction specifications. Therefore, our preferred specification employs fixed effects for the larger group within which randomization was stratified, the recruitment cohort. Table B10 shows that our main results are unchanged when we incorporate fixed effects for the smaller strata.

Finally, the pre-analysis plan also details an additional 2SLS specification in which treatment assignment would be used to instrument for takeup of a driver's license. Further consideration suggests that the assumptions required for this instrument to be valid may be too strong in this experiment; thus we have not presented such estimates. Of course, as with all 2SLS estimation, this would simply rescale our ITT estimates to account for incomplete takeup of the intervention.

Table B7—: PAP Part I specifications: Treatment effects on driving training, license, expected commute cost, and mobility measured in interim follow-up

Panel A: Driver's Training, License, Expected Commute Cost, and Driving Frequency

	(1)	(2)	(3)	(4)	(5)	(6)
	Started driver's training	Received license	Expected cost of commute on e-hailing including any discount	Drove in the previous month	Driving frequency: estimated number of trips per month	Expected likelihood of driving in the future
β_1: Driving training	0.700***	0.406***	3.147	0.308***	0.817***	0.090
	(0.043)	(0.051)	(3.155)	(0.070)	(0.193)	(0.065)
β_2: Rideshare subsidy	0.052	0.022	-4.387	-0.017	0.016	0.102
	(0.042)	(0.043)	(3.320)	(0.075)	(0.211)	(0.075)
β_3: Driving training x Rideshare subsidy	0.012	0.116	0.153	-0.007	0.006	-0.108
	(0.068)	(0.075)	(4.099)	(0.098)	(0.286)	(0.089)
Observations	395	395	314	394	394	394
Control Group Mean	0.058	0.022	34.714	0.168	0.445	0.803

Panel B: Trips Taken in Previous 24 Hours

			Type of trip taken in previous 24 hours			
	(1)	(2)	(3)	(4)	(5)	(6)
	Drove yesterday	Trip taken within last 24 hours	Without any family member accompanying	Visit relatives	Visit friends	Any destination other than work/ study commute
β_1: Driving training	0.006	0.001	0.040	-0.020	0.019	0.062
	(0.025)	(0.079)	(0.068)	(0.052)	(0.036)	(0.081)
β_2: Rideshare subsidy	-0.015	0.092	0.097	-0.008	-0.013	0.148*
	(0.020)	(0.086)	(0.083)	(0.057)	(0.034)	(0.083)
β_3: Driving training x Rideshare subsidy	0.049	-0.072	-0.034	0.031	0.017	-0.084
	(0.031)	(0.109)	(0.100)	(0.067)	(0.048)	(0.102)
Observations	410	391	390	389	390	390
Control Group Mean	0.007	0.635	0.270	0.096	0.051	0.679

Notes: The outcome in Panel A, Column 6 was constructed as follows: respondents who reported not driving in the previous month were asked "will you drive in the future? How likely are you to drive?" with a Likert response scale. This was also coded as "likely" if the respondent reported driving in the previous month. Responses were transformed into a binary indicator for above median response. All outcomes reported in this table were collected during the interim follow-up. Variations in sample size are due to drop-off from telephone survey. All estimates include individual and household controls: age (above median dummy), education level (less than a high school degree), marital status (indicators for married, never-married, and widowed), household size (number of members), number of cars owned (indicators for one car and for more than one car), an indicator for baseline labor force participation, and strata fixed effects. SEs are clustered at household level. We replace missing control values with 0 and include missing dummies for each. * $p < 0.1$ ** $p < 0.05$ *** $p < 0.01$

Table B8—: PAP Part I specifications: Treatment effects on job search measured in interim follow-up

Panel A

	(1) Looking for a job	(2) Attended a career fair in last 3 months	(3) Proportion of job search activities taken in the last month	(4) Travel to search (visited a job center or employers in person)	(5) Self-reported reservation wage
β_1: Driving training	-0.021	-0.069	-2.658	-0.022	-134.357
	(0.072)	(0.042)	(4.059)	(0.076)	(238.433)
β_2: Rideshare subsidy	0.041	-0.036	-1.270	-0.076	-71.200
	(0.078)	(0.049)	(4.640)	(0.086)	(264.220)
β_3: Driving training x Rideshare subsidy	-0.008	0.131**	1.440	0.129	-40.885
	(0.097)	(0.058)	(5.504)	(0.104)	(333.091)
Observations	405	404	405	405	289
Control Group Mean	0.746	0.106	28.991	0.359	3717.308

Panel B

	(1) Job applications	(2) Interview invitations	(3) Interviews attended	(4) Willing to take a job for 3000 SAR 15 minutes away	(5) Willing to take a job for 3000 SAR 30 minutes away
β_1: Driving training	0.171	-0.006	-0.009	0.020	-0.092
	(0.461)	(0.056)	(0.053)	(0.084)	(0.080)
β_2: Rideshare subsidy	0.560	0.030	0.003	0.061	0.018
	(0.636)	(0.062)	(0.060)	(0.094)	(0.091)
β_3: Driving training x Rideshare subsidy	-0.419	0.031	0.026	-0.053	-0.019
	(0.826)	(0.078)	(0.074)	(0.114)	(0.111)
Observations	405	405	405	394	394
Control Group Mean	1.894	0.155	0.141	0.474	0.328

Notes: All outcomes reported in this table were collected during the interim follow-up. Variations in sample size are due to drop-off from telephone survey. All estimates include individual and household controls: age (above median dummy), education level (less than a high school degree), marital status (indicators for married, never-married, and widowed), household size (number of members), number of cars owned (indicators for one car and for more than one car), an indicator for baseline labor force participation, and strata fixed effects. SEs are clustered at household level. We replace missing control values with 0 and include missing dummies for each. * $p < 0.1$ ** $p < 0.05$ *** $p < 0.01$

Table B9—: Robustness to fully interacting ride-hailing subsidy and driver's training: Treatment effects on individual outcomes and intra-household responses

Panel A: Driving and independent Mobility

	(1) Started driver's training	(2) Received license	(3) Any driving in past month	(4) Number of times left house in last 7 days	(5) Share of trips made without male chaperone	(6) Always travels with male chaperone
β_1: Driving training	0.620***	0.397***	0.186***	0.829	0.087	-0.087
	(0.056)	(0.058)	(0.072)	(0.700)	(0.067)	(0.073)
β_2: Rideshare subsidy	0.089	0.048	0.039	0.467	0.004	-0.010
	(0.063)	(0.055)	(0.073)	(0.689)	(0.072)	(0.078)
β_3: Driving training x Rideshare subsidy	0.005	0.064	0.036	-0.144	0.001	-0.008
	(0.079)	(0.077)	(0.094)	(1.023)	(0.089)	(0.096)
Observations	467	467	489	470	461	461
Control Group Mean	0.192	0.102	0.335	5.200	0.433	0.491
P-val: $\beta_1 + \beta_3 = 0$	0.000	0.000	0.000	0.326	0.142	0.130
P-val: $\beta_2 + \beta_3 = 0$	0.044	0.041	0.209	0.645	0.931	0.746

Panel B: Labor, individual attitudes, and social interactions

	(1) Employed	(2) Unemployed	(3) Out of labor force	(4) On the job search	(5) Index: Own attitudes towards women working	(6) Index: Social contact
β_1: Driving training	0.139**	-0.143*	0.004	0.060	0.133	-0.075
	(0.061)	(0.075)	(0.063)	(0.040)	(0.132)	(0.176)
β_2: Rideshare subsidy	0.063	-0.020	-0.044	-0.003	0.140	-0.053
	(0.063)	(0.078)	(0.064)	(0.038)	(0.150)	(0.156)
β_3: Driving training x Rideshare subsidy	-0.099	0.072	0.026	-0.057	-0.033	0.258
	(0.082)	(0.097)	(0.082)	(0.052)	(0.186)	(0.202)
Observations	488	488	488	483	490	474
Control Group Mean	0.210	0.569	0.221	0.072	0.000	0.000
P-val: $\beta_1 + \beta_3 = 0$	0.495	0.266	0.574	0.933	0.461	0.142
P-val: $\beta_2 + \beta_3 = 0$	0.511	0.372	0.739	0.088	0.331	0.086

Panel C: Permission to leave the house and to make a purchase, second order attitudes

	Agreement with the following statements		Indices: Second order attitudes towards women working	
	(1) Allowed to leave house w/o permission	(2) Allowed to make purchase w/o permission	(3) Female Social Network	(4) Male Social Network
β_1: Driving training	0.139**	-0.033	-0.066	-0.057
	(0.066)	(0.070)	(0.142)	(0.141)
β_2: Rideshare subsidy	0.088	0.092	0.049	0.235
	(0.069)	(0.076)	(0.150)	(0.156)
β_3: Driving training x Rideshare subsidy	-0.153*	-0.108	0.043	-0.262
	(0.087)	(0.094)	(0.197)	(0.197)
Observations	488	486	486	487
Control Group Mean	0.344	0.484	0.000	-0.000
P-val: $\beta_1 + \beta_3 = 0$	0.803	0.026	0.871	0.020
P-val: $\beta_2 + \beta_3 = 0$	0.241	0.780	0.468	0.819

Notes: Outcome variables are constructed as described in the notes for Table 1 (in paper). Variations in sample size are due to drop-off from telephone survey; order of survey modules was randomized. All estimates include individual and household controls: age (above median dummy), education level (less than a high school degree), marital status (indicators for married, never-married, and widowed), household size (number of members), number of cars owned (indicators for one car and for more than one car), an indicator for baseline labor force participation, and strata fixed effects. SEs are clustered at household level. We replace missing control values with 0 and include missing dummies for each. * $p < 0.1$ ** $p < 0.05$ *** $p < 0.01$

Table B10—: Robustness to fixed effects for sub-strata: Treatment effects on individual outcomes and intra-household responses

Panel A: Driving and independent Mobility

	(1) Started driver's training	(2) Received license	(3) Any driving in past month	(4) Number of times left house in last 7 days	(5) Share of trips made without male chaperone	(6) Always travels with male chaperone
Treatment	0.599***	0.419***	0.186***	0.710	0.093*	-0.090*
	(0.042)	(0.041)	(0.049)	(0.513)	(0.047)	(0.051)
Observations	454	454	478	460	450	450
Control mean	0.195	0.104	0.339	5.173	0.429	0.494
β/control mean	3.072	4.029	0.549	0.137	0.217	-0.182
P-value $\beta = 0$	0.000	0.000	0.000	0.167	0.050	0.076

Panel B: Labor, individual attitudes, and social interactions

	(1) Employed	(2) Unemployed	(3) Out of labor force	(4) On the job search	(5) Index: Own attitudes towards women working	(6) Index: Social contact
Treatment	0.083*	-0.109**	0.026	0.033	0.070	0.031
	(0.043)	(0.051)	(0.042)	(0.026)	(0.100)	(0.122)
Observations	476	476	476	472	479	465
Control mean	0.208	0.567	0.225	0.068	-0.004	0.007
β/control mean	0.399	-0.192	0.116	0.485	-17.500	4.429
P-value $\beta = 0$	0.055	0.034	0.540	0.208	0.483	0.799

Panel C: Permission to leave the house and to make a purchase, second order attitudes

	Agreement with the following statements		Indices: Second order attitudes towards women working	
	(1) Allowed to leave house w/o permission	(2) Allowed to make purchase w/o permission	(3) Female Social Network	(4) Male Social Network
Treatment	0.056	-0.094*	-0.056	-0.206**
	(0.048)	(0.049)	(0.102)	(0.105)
Observations	477	475	475	476
Control mean	0.350	0.480	-0.013	-0.014
β/control mean	0.160	-0.196	4.308	14.714
P-value $\beta = 0$	0.242	0.057	0.581	0.050

Notes: Outcome variables are constructed as described in the notes for Table 1 (in paper). Variations in sample size are due to drop-off from telephone survey; order of survey modules was randomized. All estimates include individual and household controls: age (above median dummy), education level (less than a high school degree), marital status (indicators for married, never-married, and widowed), household size (number of members), number of cars owned (indicators for one car and for more than one car), an indicator for baseline labor force participation, and fixed effects for substrata (as described in Section 3, Footnote 11). SEs are clustered at household level. We replace missing control values with 0 and include missing dummies for each. * $p < 0.1$ ** $p < 0.05$ *** $p < 0.01$

Appendix C: Key variable definitions

Variable	Definition
Started driver's training	Indicator for whether the respondent started (but not necessarily completed) a driver's training course.
Received license	Indicator for whether the respondent received a license.
Any driving in past month	Indicator for whether respondent reported driving at all in the past month.
Number of times left house in last 7 days	Number of times respondent reported leaving the house in the previous 7 days.
Share of trips made without a chaperone	Referring to the number of times respondent left the house in last 7 days, how many were not accompanied by a mahram (chaperone). We then construct this as a share of total trips taken in past 7 days. This was coded to 0 if no trips were taken.
Always travels with male chaperone	Indicator for whether no trips were made in the last 7 days without a chaperone.
Employed	Indicator for whether respondent is employed (and either looking for a different/additional job or not looking).
Unemployed	Indicator for whether respondent is not employed and is looking for a job.
Out of labor force	Indicator for whether respondent is not employed and not looking for a job, or is a student and not currently looking for a job.
On the job search	Indicator for whether respondent is employed and has applied to at least one job in past month.

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Variable	Definition
Index: Own attitudes towards women working	Index (using swindex command developed by Schwab et al. (2020)) of the following standardized responses: • *Women can be equally good business executives*: We asked respondents to rate their agreement/disagreement (Completely disagree, Somewhat disagree, Neither agree nor disagree, Somewhat agree, or Completely agree) with the statement "On the whole men make better business executives than women do." Using the reverse order of the Likert, responses were transformed into a binary indicator for above median response. • *It's ok for a woman to have priorities outside the home*: We asked respondents to rate their agreement/disagreement (Completely disagree, Somewhat disagree, Neither agree nor disagree, Somewhat agree, or Completely agree) with the statement "A woman's priority should be in the home and with her family." Using the reverse order of the Likert, responses were transformed into a binary indicator for above median response. • *Children OK if mother works*: We asked respondents to rate their agreement/disagreement (Completely disagree, Somewhat disagree, Neither agree nor disagree, Somewhat agree, or Completely agree) with the statement "When a mother works for pay the children suffer." Using the reverse order of the Likert, responses were transformed into a binary indicator for above median response.

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Variable	Definition
	• *OK to put own needs above those of my family*: We asked respondents to rate their agreement/disagreement (Completely disagree, Somewhat disagree, Neither agree nor disagree, Somewhat agree, or Completely agree) with the statement "I think it's ok to sometimes put my own needs above those of my family." Responses were transformed into a binary indicator for above median response.
	• *Ideal age for a woman to have her first child*: Age reported by respondent as the ideal age for a woman to have her first child.
	• *Government should allow a national women's soccer team*: We asked respondents to rate their agreement/disagreement (Completely disagree, Somewhat disagree, Neither agree nor disagree, Somewhat agree, or Completely agree) with the statement "The Saudi government should allow a national women's soccer team." Responses were transformed into a binary indicator for above median response.

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Variable	Definition
Index: Social contact	Index (using `swindex` command developed by Schwab et al. (2020)) of the following standardized responses: • *Number of people spoken to on phone in past 7 days*: Respondents were asked to think about interactions they had in the past 7 days with people other than those the respondent lives with and report how many different people they spoke with on the phone. • *Number of different people met in person in past 7 days*: Respondents were asked to think about interactions they had in the past 7 days with people other than those the respondent lives with and report how many different people they met in person.
Allowed to leave house without permission	We asked respondents to rate their agreement/disagreement (Completely disagree, Somewhat disagree, Neither agree nor disagree, Somewhat agree, or Completely agree) with the statement "If I wanted to meet with a friend outside of my home I could do so without seeking approval/permission from anyone in my household first." Responses were transformed into a binary indicator for above median response.
Allowed to make purchase without permission	We asked respondents to rate their agreement/disagreement (Completely disagree, Somewhat disagree, Neither agree nor disagree, Somewhat agree, or Completely agree) with the statement "I can make a purchase of 1,000 SAR without needing to take permission from any member of my family (example: father, husband, brother)." Responses were transformed into a binary indicator for above median response.

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Variable	Definition
Index: Female Social Network	Index (using `swindex` command developed by Schwab et al. (2020)) of the following standardized binary responses. We asked respondents to think about the women in their community and report how many of them (None of them, A minority, About half, A majority, All of them) would respond 'Somewhat agree' or 'Completely agree' with the following statements: • *Women can be equally good business executives*: As defined above but with a different reference group. • *It's OK for a woman to have priorities outside the home*: As defined above but with a different reference group. • *Children OK if mother works*: As defined above but with a different reference group. Responses were transformed into binary indicators for above median response. This index is also referred to as *Index: Female Community* in Table A16, for naming consistency within that table.
Index: Male Social Network	Index (using `swindex` command developed by Schwab et al. (2020)) of the standardized binary responses as defined for *Index: Female Social Network*, but with a different reference group (responses referring to male family and male community).
Index: Male Family	Index generated as described above, but the reference group is only male family.
Index: Male Community	Index generated as described above, but the reference group is only male community.

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Variable	Definition
Has husband/co-parent	Indicator for whether respondent is married or divorced/separated with at least one child (under 18 years) living in the home. Divorced/separated women missing a value for children in the home were also coded as having a husband co-parent (this is due to incomplete baseline administrative data and imputed under the assumption that most divorced/separated women in Saudi have at least one child).

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Variable	Definition
Index: Approval of Gender Policy	Index (using `swindex` command developed by Schwab et al. (2020)) of the following standardized responses: • *Government is working fast enough to give women same rights as men*: We asked respondents to rate their agreement/disagreement (Completely disagree, Somewhat disagree, Neither agree nor disagree, Somewhat agree, or Completely agree) with the statement "I think the gov is working enough/working fast enough to make changes to give women the same rights as men." Responses were transformed into a binary indicator for above median response. *Note: This question was reworded partway through the endline data collection due to issues with sensitivity of phrasing. It was reworded as follows:* We asked respondents to rate their agreement/disagreement (Completely agree with Statement A, Mostly agree with Statement A, Neutral between Statement A and Statement B, Mostly agree with Statement B, or Completely agree with Statement B) with the following: Statement A: "I think the pace of social changes that Saudi society has been witnessing is fast enough to give women the same rights as men and doesn't need to move faster Statement B: I prefer to see faster changes in Saudi society to give women the same rights as men. Responses were transformed into a binary indicator for above median response.

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Variable	Definition
	• *Feels the impact of changes that government is making to give women same rights*: We asked respondents to rate their agreement/disagreement (Completely disagree, Somewhat disagree, Neither agree nor disagree, Somewhat agree, or Completely agree) with the statement "In my day to day life, I feel the impact of the changes that the gov is making to give women the same rights as men." Responses were transformed into a binary indicator for above median response.

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Variable	Definition
Index: Civil Engagement	Index (using `swindex` command developed by Schwab et al. (2020)) of the following standardized responses: • *Will vote in next election*: Respondents reported whether they will vote in the next municipal election. We coded these as follows: 1 – 'Definitely no', 'I do not know how to vote', 'I do not know about any elections'; 2 – 'Probably no'; 3 – 'Unsure'; 4 – 'Probably yes'; and 5 – 'Definitely yes'. Responses were transformed into a binary indicator for above median response. • *Expressed interest in signing up for volunteer program*: Respondents were told about a volunteering program through AlNahda, called Qudra, and asked if they were interested in signing up for the program at this time. Indicator for whether respondent replied 'Yes'. All endline respondents were sent a reminder about the program via Whatsapp, and expressed interest was also included in this indicator. • *Expressed interest in signing up for leadership program*: Respondents were told about a leadership program through AlNahda, called Himma, and asked if they were interested in signing up for the program at this time. Indicator for whether respondent replied 'Yes'. All endline respondents were sent a reminder about the program via Whatsapp, and expressed interest was also included in this indicator.

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Variable	Definition
	• *Leadership program: Anyone clicked*: Respondents who expressed interest in the leadership program, Himma, were sent a separate survey link with additional information about the program. Respondents were also asked to share the link with anyone they thought might be interested in the program. Indicator for whether anyone (respondent or friend) clicked on the link.
	• *Leadership program: Number people clicked*: Number of people who clicked on the link describe above.

Appendix D: Questionnaire

Consent

C2: Hello, and thank you for agreeing to complete our survey!

This is part of a follow up to a survey we interviewed you for last year. We are studying women's mobility, labor force participation, and other similar outcomes for women in Saudi. The research is carried out by researchers at AlNahda Society and at Duke University in the United States.

We would like to ask you a few questions about yourself, your household, and your general local travel behavior. This survey will take approximately 10 minutes to complete. For your participation in this survey, you will receive a gift card in the amount of 75 riyals, which can be used at Noon or Almazraa markets.

Please be assured that all your answers will be kept anonymous and confidential. Also, taking part in this survey is completely voluntary, and you may withdraw from participation at any point and skip any question you do not wish to answer. If you would like, we can send you more information about this project via email at any time.

For further questions or concerns, please contact: *[Alnahda partner contact info omitted]*

Additionally, the Campus Institutional Review Board at Duke University can be reached at: campusirb@duke.edu. Our study protocol is: 2019-0505.

Would you like to participate in this study?

☐ Yes

☐ No

Skip To: End of Survey if response is "No"

Mobility and Networks

M1: Have you done the official Saudi driving training?

- ☐ Yes and completed successfully
- ☐ Yes but failed the theoretical test
- ☐ Yes but failed the practical test
- ☐ Yes but stopped the training for other reasons. Please explain: _____
- ☐ No, trained outside of driving school
- ☐ No
- ☐ I prefer not to answer this question
- ☐ Call ended / connection lost / respondent hung up the phone

M2: Did you receive the driving license?

- ☐ Yes
- ☐ No
- ☐ I prefer not to answer this question
- ☐ Call ended / connection lost / respondent hung up the phone

M3: How many times did you drive in the last month?

- ☐ None
- ☐ Less than once a week
- ☐ About once a week
- ☐ A few times a week
- ☐ Almost every day
- ☐ I prefer not to answer this question

M4: Now I'd like you to think about the times you left your house in the past seven days, for things like work, meeting with family or friends, running errands/doing shopping for the household or yourself, going out for a meal or some other kind of entertainment, or accompanying someone somewhere (such as dropping someone off). How many trips did you make in the past one week?

☐ Number of times: _____

☐ I prefer not to answer this question

Skip To: N1 if response to this question is 0 or "I prefer not to answer"

M9: You said you went out $\{M4ChoiceTextEntryValue\}$ **time(s) in the last seven days. How many of these trips were not accompanied by a mahrem?**

☐ None (all of my trips were accompanied by a mahrem)

☐ Number of trips: _____

☐ I prefer not to answer this question

N1: Please think about all the interactions you've had over the past week with people other than the people you live with and work with. This could include inviting friends over; asking someone for help or advice; giving someone help; things like that.

About how many different people did you talk to on the phone in the last week? (Don't include people who live with you.)

☐ Number: _____

☐ I prefer not to answer this question

N3: Please think about all the people you've met in person with over the past week other than the people you live with. This could include inviting friends over; asking someone for help or advice; giving someone help; meeting friends for a meal or an activity.

About how many different people did you meet in person in the last week? (Don't include people who live with you.)

☐ Number: _____

☐ I prefer not to answer this question

Employment

E1: Are you currently employed and/or are you currently looking for a job?

- ☐ Yes, I am employed and open to looking for a different or additional job
- ☐ Yes, I am employed but not looking for a different job
- ☐ No, I am not employed and I am looking for a job
- ☐ No, I am a student and I plan to work after graduation
- ☐ No, I am a student and I'm not looking for a job
- ☐ No, I am not employed and I'm not looking for a job
- ☐ I prefer not to answer this question

Display This Question:
If Are you currently employed and/or are you currently looking for a job? = Yes, I am employed and open to looking for a different or additional job
Or Are you currently employed and/or are you currently looking for a job? = No, I am not employed and I am looking for a job
Or Are you currently employed and/or are you currently looking for a job? = No, I am a student and I plan to work after graduation

E4: How many jobs did you apply to in the last month?

- ☐ None
- ☐ Number of jobs: _____
- ☐ I prefer not to answer this question

Gender Attitudes and Political Attitudes / Civic Engagement

G1: For the following statements please think about your own experiences and rate your level of agreement or disagreement (Completely disagree, Somewhat disagree, Neither agree nor disagree, Somewhat agree, or Completely agree):

1) I think it's ok to sometimes put my own needs above those of my family.

- ☐ Completely disagree
- ☐ Somewhat disagree
- ☐ Neither agree nor disagree
- ☐ Somewhat agree
- ☐ Completely agree

2) If I wanted to meet with a friend outside of my home I could do so without seeking approval / permission from anyone in my household first.

- ☐ Completely disagree
- ☐ Somewhat disagree
- ☐ Neither agree nor disagree
- ☐ Somewhat agree
- ☐ Completely agree

3) I can make a purchase of 1000 SAR without needing to take permission from any member of my family (example - father, husband, brother).

- ☐ Completely disagree
- ☐ Somewhat disagree
- ☐ Neither agree nor disagree
- ☐ Somewhat agree
- ☐ Completely agree

Now I'm going to ask questions about attitudes on four topics. I will ask first about your own beliefs, then what male members of your family believe, and what you think other women and men in your community believe.

G5: Please rate your agreement or disagreement with the following statement (Completely disagree, Somewhat disagree, Neither agree nor disagree, Somewhat agree, or Completely agree): "On the whole men make better business executives than women do."

- ☐ Completely disagree
- ☐ Somewhat disagree
- ☐ Neither agree nor disagree
- ☐ Somewhat agree
- ☐ Completely agree

G6: For the statement:

"On the whole men make better business executives than women do."

1) Please think about the men in your family, how many of them would respond 'Somewhat agree' or 'Completely agree'?

   - ☐ None of them
   - ☐ A minority
   - ☐ About half
   - ☐ A majority
   - ☐ All of them

2) Now please think about the women in your community. How many of them would respond 'Somewhat agree' or 'Completely agree'?

   - ☐ None of them
   - ☐ A minority
   - ☐ About half
   - ☐ A majority
   - ☐ All of them

3) And finally, please think about the men in your community. How many of them would respond 'Somewhat agree' or 'Completely agree'?

- ☐ None of them
- ☐ A minority
- ☐ About half
- ☐ A majority
- ☐ All of them

G7: Please rate your agreement or disagreement with the following statement (Completely disagree, Somewhat disagree, Neither agree nor disagree, Somewhat agree, or Completely agree):

"A woman's priority should be in the home and with her family."

- ☐ Completely disagree
- ☐ Somewhat disagree
- ☐ Neither agree nor disagree
- ☐ Somewhat agree
- ☐ Completely agree

G8: For the statement:

"A woman's priority should be in the home and with her family."

1) Please think about the men in your family, how many of them would respond 'Somewhat agree' or 'Completely agree'?
   - ☐ None of them
   - ☐ A minority
   - ☐ About half
   - ☐ A majority
   - ☐ All of them

2) Now please think about the women in your community. How many of them would respond 'Somewhat agree' or 'Completely agree'?
   - ☐ None of them
   - ☐ A minority
   - ☐ About half
   - ☐ A majority
   - ☐ All of them

3) And finally, please think about the men in your community. How many of them would respond 'Somewhat agree' or 'Completely agree'?

- [ ] None of them
- [ ] A minority
- [ ] About half
- [ ] A majority
- [ ] All of them

G9: Please rate your agreement or disagreement with the following statement (Completely disagree, Somewhat disagree, Neither agree nor disagree, Somewhat agree, or Completely agree):

"When a mother works for pay the children suffer."

- ☐ Completely disagree
- ☐ Somewhat disagree
- ☐ Neither agree nor disagree
- ☐ Somewhat agree
- ☐ Completely agree

G10: For the statement:

"When a mother works for pay the children suffer."

1) Please think about the men in your family, how many of them would respond 'Somewhat agree' or 'Completely agree'?
   - ☐ None of them
   - ☐ A minority
   - ☐ About half
   - ☐ A majority
   - ☐ All of them

2) Now please think about the women in your community. How many of them would respond 'Somewhat agree' or 'Completely agree'?
   - ☐ None of them
   - ☐ A minority
   - ☐ About half
   - ☐ A majority
   - ☐ All of them

3) And finally, please think about the men in your community. How many of them would respond 'Somewhat agree' or 'Completely agree'?
   - ☐ None of them

- ☐ A minority
- ☐ About half
- ☐ A majority
- ☐ All of them

G13: In your opinion, what is the ideal age for a woman to have her first child?

- ☐ Age
- ☐ Prefer not to answer

P1: For the following statements, please rate your level of agreement or disagreement (Completely disagree, Somewhat disagree, Neither agree nor disagree, Somewhat agree, or Completely agree):

1) I think the gov is working enough/working fast enough to make changes to give women the same rights as men.

   [NOTE: This question was reworded partway through endline data collection due to issues with sensitivity of phrasing. It was re-worded as follows:]

   Some people agree with [Statement A] while others agree with [Statement B]. Which do you agree with most?

   Statement A: I think the pace of social changes that Saudi society has been witnessing is fast enough to give women the same rights as men and doesn't need to move faster.

   Statement B: I prefer to see faster changes in Saudi society to give women the same rights as men.

   - ☐ Completely agree with Statement A
   - ☐ Mostly agree with Statement A
   - ☐ Neither agree nor disagree
   - ☐ Neutral between Statement A and Statement B
   - ☐ Mostly agree with Statement B
   - ☐ Completely agree with Statement B
   - ☐ Refuse to answer

2) In my day to day life, I feel the impact of the changes that the gov is making to give women the same rights as men

- ☐ Completely disagree
- ☐ Somewhat disagree
- ☐ Neither agree nor disagree
- ☐ Somewhat agree
- ☐ Completely agree

3) The Saudi government should allow a national women's soccer team

- ☐ Completely disagree
- ☐ Somewhat disagree
- ☐ Neither agree nor disagree
- ☐ Somewhat agree
- ☐ Completely agree

Q134: Would you prefer even slower gender reforms than are currently taking place?

- ☐ Yes, I would like these social changes to move slower
- ☐ No, I do not want these social changes to move any slower
- ☐ Refuse to answer

P3: Will you vote in the next municipal election?

- ☐ Definitely no
- ☐ Probably no
- ☐ Unsure
- ☐ Probably yes
- ☐ Definitely yes
- ☐ I do not know how to vote
- ☐ I do not know about any elections