

# Happiness on Tap: Piped Water Adoption in Urban Morocco

Florencia Devoto, Esther Duflo, Pascaline Dupas, William Parienté, and Vincent Pons

## Web Appendix

This web appendix includes additional analysis that are mentioned but not shown in the published paper.

**Appendix A:** Replication of the analysis using non-linear specifications (Probit regressions) for binary outcomes.

**Appendix B:** Analysis of the treatment effects on diarrhea, using alternate measures of diarrhea.

**Appendix C:** Tables testing for heterogeneity in the treatment effects by baseline characteristics.

**Appendix D:** Replication of the analysis without any household-level controls.

**Appendix E:** Replication of the analysis with an additional control for “number of times a male fetched water in the past 3 days” at baseline (given that there is a slight imbalance between treatment and control groups on that baseline characteristic).

## Appendix A. Non-linear Specifications

**Replication of Table A1. Correlates of Home Connection Take-up (among Treatment Group). Probit and Logit Regressions**

	Bought a Home Connection (Probit)	Bought a Home Connection (Logit)
Dummy for Zone 2 Price (6640 MAD)	-0.301 (0.249)	-0.512 (0.416)
Dummy for Zone 3 Price (9370 MAD)	0.169 (0.383)	0.287 (0.643)
Number of households living on the plot	-0.054 (0.084)	-0.087 (0.139)
Main water source = public tap	0.288 (0.163)*	0.478 (0.274)*
Log (Distance to the closest public tap)	0.165 (0.084)*	0.275 (0.147)*
Total number of water fetching trips in the past 3 days	0.077 (0.035)**	0.13 (0.059)**
Share of water fetching trips in the past 3 days done by child (<15 years)	0.158 (0.037)***	0.258 (0.063)***
Household Size	0.151 (0.087)*	0.282 (0.155)*
Asset index	0.077 (0.161)	0.106 (0.274)
Number of adults with an income-generating activity	0.001 (0.013)	0.003 (0.022)
Household Head is Male	0.903 (0.397)**	1,517 (0.768)**
Latitude	6,591 (6.598)	11,063 (10.968)
Longitude	-3.54 (4.299)	-6,179 (7.292)
Observations	430	430
Mean of Dev. Var.	0.687	0.687

*Notes: Sample restricted to households randomly assigned to the treatment group. Coefficient estimated through Probit and Logit regressions. Omitted price category is Zone 1 (3790 MAD).*

*Robust standard errors in parentheses, clustered at the cluster level.*

*\* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%.*

**Replications of Table 2 & 6 : Water quantity and time use - Probit regressions**

	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Water Quantity				Over the past 7 days, did you...							
	HH reports having enough water for bathing	HH reports having enough water for cleaning			...do housework at least once a day?	...watch tv at least once a day?	...visit family members or friends/neighbors at least twice?	...receive the visit of family members or friends/neighbors at least twice?				
<b>Panel A. ITT Estimation</b>												
Treatment	0.73 (0.12)***	0.76 (0.13)***	0.63 (0.12)***	0.65 (0.13)***	0.14 (0.097)	0.164 (0.109)	0.176 (0.096)*	0.206 (0.109)*	0.048 (0.099)	0.07 (0.109)	0.264 (0.107)**	0.162 (0.12)
Primary water source at baseline was an informal pipe linked to neighbor's tap	0.86 (0.19)***	0.96 (0.23)***	0.8 (0.19)***	0.91 (0.24)***	0.15 (0.136)	0.211 (0.191)	0.49 (0.130)***	0.567 (0.183)***	-0.156 (0.137)	-0.099 (0.195)	0.144 (0.145)	-0.14 (0.226)
Treatment X Informal pipe linked to neighbor's tap		-0.29 (0.35)		-0.29 (0.36)		-0.121 (0.243)		-0.155 (0.24)		-0.112 (0.25)		0.491 (0.269)*
Household Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	792	792	791	791	790	790	788	788	791	791	789	789
Mean in Control Group	0.67	0.67	0.71	0.71	0.585	0.585	0.43	0.43	0.319	0.319	0.188	0.188

Notes: Data source: Endline survey conducted in August 2008. Clustered standard errors in parentheses. \*\*\*, \*\*, \* indicate significance at 1, 5 and 10%.

Household controls include: Number of children under 15 at baseline, quintile in asset distribution, quantity of water consumed the week before baseline, and distance to the public tap.

**Replication of Table 5: Perceived Time Availability - Ordered Probit**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	Compared to last year, do you have less/as much as/more time to ...											
	.. do housework?	...watch tv?	...visit your family?	...visit friends/ neighbors?	...receive the visit of your family?	...receive the visit of friends/ neighbors						
Panel A. ITT Estimation												
Treatment	0.215 (0.086)**	0.260 (0.101)***	0.312 (0.086)***	0.397 (0.094)***	0.255 (0.084)***	0.235 (0.095)**	0.203 (0.091)**	0.164 (0.103)	0.177 (0.084)**	0.095 (0.094)	0.045 (0.096)	-0.101 (0.109)
Primary water source at baseline was an informal pipe linked to neighbor's tap	0.072 (0.111)	0.186 (0.144)	0.352 (0.119)***	0.568 (0.154)***	0.281 (0.115)**	0.231 (0.144)	0.035 (0.128)	-0.063 (0.142)	-0.047 (0.121)	-0.256 (0.169)	0.176 (0.133)	-0.184 (0.177)
Treatment X Informal pipe linked to neighbor's tap		-0.223 (0.185)		-0.418 (0.210)**		0.096 (0.206)		0.189 (0.231)		0.406 (0.217)*		0.711 (0.231)***
Household Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	791	791	785	785	790	790	790	790	790	790	788	788

Notes: Clutered standard errors in parentheses. \*\*\*, \*\*, \* indicate significance at 1, 5 and 10%.

Answers to the questions were recoded as follows: less time: 1; same time: 2; more time: 3.

Household controls as in Table 2.

**Replication of Table 7: Labor market and school participation - Probit regressions**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Male Head had an income generating activity in past 30 days	Head had an income generating activity in past 30 days	Replication of Table 7: Female Head had an income generating activity in past 30 days	Replication of Table 7: Female Head had an income generating activity in past 30 days	A child age 5-15 (if any) had an income generating activity in past 30 days	Share of children 5- 15 (if any) who completed the school year	
Panel A. ITT Estimation							
Treatment	-0.02 (0.10)	0.01 (0.11)	-0.15 (0.12)	-0.23 (0.13)*	-0.18 (0.24)	-0.05 (0.20)	0.01 (0.22)
Primary water source at baseline was an informal pipe linked to neighbor's tap	-0.02 (0.13)	0.04 (0.18)	-0.30 (0.17)*	-0.57 (0.27)**	-0.74 (0.41)*	-0.07 (0.27)	0.12 (0.41)
Treatment X Informal pipe linked to neighbor's tap	-0.12 (0.23)			0.49 (0.34)			-0.32 (0.50)
Household Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	793	793	793	793	363	363	363
Mean in Control Group	0.507	0.507	0.144	0.144	0.047	0.876	0.876

Notes: Clustered standard errors in parentheses. \*\*\*, \*\*, \* indicate significance at 1, 5 and 10%. Households controls as in Table 2.

**Replication of Table 8: Social Integration - Probit regressions**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	The respondent is in conflict or disagreement with:											
	Do you belong to a social group or association?		People from his/her family on water matters		People from his/her family on property matters		People from his/her family on heritage matters		Neighbors on water matters		Neighbors on property matters	
Panel A. ITT Estimation												
Treatment	0.37 (0.20)*	0.48 (0.24)**	-0.70 (0.15)***	-0.70 (0.16)***	-0.15 (0.16)	-0.13 (0.17)	-0.16 (0.14)	-0.16 (0.15)	-0.62 (0.16)***	-0.61 (0.17)***	0.36 (0.25)	0.25 (0.27)
Primary water source at baseline was an informal pipe linked to neighbor's tap	-0.19 (0.24)	0.13 (0.35)	-0.38 (0.20)*	-0.40 (0.24)*	-0.34 (0.25)	-0.26 (0.32)	-0.41 (0.20)**	-0.40 (0.26)	-0.58 (0.23)**	-0.54 (0.27)*	-0.22 (0.32)	-3.58 (0.23)***
Treatment X Informal pipe linked to neighbor's tap		-0.54 (0.47)		0.06 (0.40)		-0.18 (0.52)		-0.03 (0.38)		-0.15 (0.48)		3.54 (0.41)***
Household Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	791	791	792	792	792	792	792	792	789	789	791	791

Notes: Clustered standard errors in parentheses. \*\*\*, \*\*, \* indicate significance at 1, 5 and 10%. Households controls as in Table 2.

**Replication of Table 9: Satisfaction and Well-Being - Probit regressions**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	Respondent mentions water as major source of concern		Home is cleaner than a year ago		Water tastes good		Overall, the life of the household has improved compared to a year ago		Overall, the respondent's life has improved compared to a year ago		Respondent rates life satisfaction level $\geq 5$ (on 0-10 scale)	
Panel A. ITT Estimation												
Treatment	-1.07 (0.11)***	-1.16 (0.12)***	0.73 (0.11)***	0.68 (0.12)***	0.19 (0.18)	0.15 (0.20)	0.62 (0.10)***	0.63 (0.12)***	0.78 (0.10)***	0.78 (0.12)***	0.17 (0.11)	0.22 (0.12)*
Primary water source at baseline was an informal pipe linked to neighbor's tap	-0.64 (0.15)***	-0.85 (0.19)***	-0.28 (0.15)*	-0.44 (0.24)*	0.48 (0.23)**	0.38 (0.28)	0.15 (0.14)	0.18 (0.19)	0.05 (0.15)	0.04 (0.20)	0.24 (0.15)	0.39 (0.21)*
Treatment X Informal pipe linked to neighbor's tap		0.49 (0.26)*		0.25 (0.29)		0.21 (0.43)		-0.05 (0.25)		0.03 (0.26)		-0.29 (0.28)
HH controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	792	792	792	792	791	791	792	792	792	792	793	793

Notes: Clustered standard errors in parentheses. \*\*\*, \*\*, \* indicate significance at 1, 5 and 10%. Households controls as in Table 2.

## Appendix B. Other Measures of Diarrhea

### Alternative Impact on child health: Data from Illness Diaries (1 month each)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
	At least one episode of intense diarrhea <sup>†</sup> : Children 0 to 7 years old at baseline									At least one episode of mild diarrhea <sup>‡</sup> : Children 0 to 7 years old at baseline								
	1st follow-up: May 2008			2nd follow-up: August 2008			3rd follow-up: November 2008			1st follow-up: May 2008			2nd follow-up: August 2008			3rd follow-up: November 2008		
<b>Panel A. ITT Estimation</b>																		
Treatment	-0.03 (0.05)	-0.03 (0.06)	-0.05 (0.05)	-0.03 (0.04)	-0.02 (0.05)	-0.03 (0.05)	0.01 (0.05)	-0.03 (0.06)	-0.04 (0.06)	-0.01 (0.05)	-0.03 (0.06)	-0.02 (0.06)	0.01 (0.05)	0.00 (0.06)	0.00 (0.06)	0.02 (0.06)	-0.03 (0.06)	-0.02 (0.06)
Primary water source at baseline was an informal pipe linked to neighbor's tap																		
Connected X Informal pipe linked to neighbor's tap																		
Child Controls (age, gender)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Household Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Control for # of Intense Diarrhea days observed in baseline diary			Yes				Yes		Yes			Yes			Yes			Yes
Observations	470	470	470	473	473	473	458	458	458	470	470	470	473	473	473	458	458	458
Mean in Control Group	0.25	0.25	0.25	0.18	0.18	0.18	0.26	0.26	0.26	0.52	0.52	0.52	0.41	0.41	0.41	0.39	0.39	0.39
<b>Panel B. Instrumental Variable Estimation: "Connected" Instrumented with "Treatment"</b>																		
Connected	-0.05 (0.08)	-0.05 (0.09)	-0.07 (0.08)	-0.04 (0.06)	-0.03 (0.07)	-0.04 (0.07)	0.02 (0.08)	-0.04 (0.09)	-0.06 (0.09)	-0.01 (0.09)	-0.04 (0.10)	-0.03 (0.09)	0.01 (0.08)	0.00 (0.10)	0.01 (0.10)	0.04 (0.09)	-0.05 (0.10)	-0.04 (0.09)
Primary water source at baseline was an informal pipe linked to neighbor's tap																		
Connected X Informal pipe linked to neighbor's tap																		
Child Controls (age, gender)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Household Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Control for # of Intense Diarrhea days observed in baseline diary			Yes			Yes			Yes			Yes			Yes			Yes
Observations	470	470	470	473	473	473	458	458	458	470	470	470	473	473	473	458	458	458

Notes: Data source: Illness Diaries collected at three points in time (May 2008, August 2008 and November 2008).

Clustered standard errors in parentheses. Household controls as in Table 2. All regressions also include a control for the number of days the diary was properly filled.

<sup>†</sup> Intense diarrhea defined as follows: at least three loose stools within 24 hours

<sup>‡</sup> Mild diarrhea defined as follows: at least one loose stool within 24 hours



## Appendix C. Testing for Heterogeneity in Treatment Effects

**Table C1. Heterogeneity in Treatment Effects: Do impacts vary based on the assets of the household?**

	(1) (Table 2)	(2) (Table 2)	(3) (Table 3)	(4) (Table 4)	(5) (Table 5)	(6) (Table 6)	(7) (Table 7)	(8) (Table 7)	(9) (Table 7)	(10) (Table 8)	(11) (Table 9)	(12) (Table 9)	(13) (Table 9)
	First Stage: Connected	HH reports having enough water for bathing	Minutes Spent Fetching Water Over past 3 days	Diarrhea: Average over 3 follow-ups±	Feels that has more time to watch TV	Average effect on 8 leisurely activities (timetable data)	Income generated by Male Head in past 30 days	Share of children 5-15 (if any) who completed the school year	Share of girls 5-15 (if any) who completed the school year	In conflict with people from his/her family on water matters	Overall, the life of the household has improved compared to a year ago	Respondent rates life satisfaction level ≥ 5 (on 0- 10 scale)	Average effect on mental well- being
<b>Panel A. ITT Estimation</b>													
Treatment	0.53 (0.04)***	0.19 (0.050)***	-62.75 (13.870)***	0.06 (0.13)	0.21 (0.055)***	0.120 (0.071) *	-52.8 (86.1)	-0.02 (0.05)	-0.01 (0.07)	-0.09 (0.034)***	0.24 (0.045)***	0.06 (0.05)	0.02 (0.03)
Above median asset index at baseline	-0.06 (0.06)	0.03 (0.07)	-0.69 (20.22)	-0.04 (0.12)	0.00 (0.10)	-0.131 (0.111)	-3.8 (139.3)	-0.14 (0.068)**	-0.14 (0.082)*	0.05 (0.05)	-0.04 (0.07)	-0.08 (0.07)	-0.01 (0.05)
Treatment X Above median asset index at baseline	0.14 (0.05)**	0.01 (0.06)	-7.78 (16.70)	-0.10 (0.14)	-0.10 (0.09)	0.170 (0.157)	117.3 (132.0)	-0.01 (0.07)	-0.01 (0.09)	-0.02 (0.05)	-0.05 (0.07)	0.00 (0.07)	0.06 (0.06)
Household Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	791	790	791	1418	783	757	767	362	245	790	790	791	788
Mean in Control Group	0.10	0.67	81.92	0.25	-0.05	1.25	710.8	0.88	0.87	0.16	0.23	0.69	0.58
<b>Panel B. Instrumental Variable Estimation: "Connected" Instrumented with "Treatment"</b>													
Connected		0.37 (0.085)***	-118.28 (25.538)***	0.11 (0.23)	0.40 (0.104)***	0.194 (0.115) *	-98.4 (161.4)	-0.03 (0.08)	-0.01 (0.13)	-0.18 (0.064)***	0.45 (0.080)***	0.11 (0.09)	0.03 (0.04)
Above median asset index at baseline		0.06 (0.07)	-8.95 (23.13)	-0.01 (0.17)	0.05 (0.11)	-0.184 (0.144)	-24.3 (150.4)	-0.14 (0.076)*	-0.14 (0.10)	0.04 (0.05)	0.01 (0.08)	-0.08 (0.08)	-0.03 (0.06)
Connected X Above median asset index at baseline		-0.07 (0.10)	12.64 (29.09)	-0.16 (0.25)	-0.23 (0.14)	0.352 (0.292)	194.9 (218.3)	-0.01 (0.10)	-0.01 (0.15)	0.00 (0.08)	-0.16 (0.11)	-0.03 (0.12)	0.12 (0.11)
Household Controls		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations		790	791	467	783	757	767	362	245	790	790	791	788

Notes: Clustered standard errors in parentheses. \*\*\*, \*\*, \* indicate significance at 1, 5 and 10%. Household controls include: Number of children under 15 at baseline, quintile in asset distribution, quantity of water consumed the week before baseline and distance to the public tap.

± It includes individual controls (age and gender) as well as a control for the # of intense diarrhea days in baseline diary.

**Table C2. Heterogeneity in Treatment Effects: Do impacts vary based on the size of the household?**

	(1) (Table 2)	(2) (Table 2)	(3) (Table 3)	(4) (Table 4)	(5) (Table 5)	(6) (Table 6)	(7) (Table 7)	(8) (Table 7)	(9) (Table 7)	(10) (Table 8)	(11) (Table 9)	(12) (Table 9)	(13) (Table 9)
	First Stage: Connected	HH reports having enough water for bathing	Minutes Spent Fetching Water Over past 3 days	Diarrhea: Average over 3 follow-ups±	Feels that has more time to watch TV	Average effect on 8 leisurely activities (timetable data)	Income generated by Male Head in past 30 days	Share of children 5-15 (if any) who completed the school year	Share of girls 5-15 (if any) who completed the school year	In conflict with people from his/her family on water matters	Overall, the life of the household has improved compared to a year ago	Respondent rates life satisfaction level ≥ 5 (on 0- 10 scale)	Average effect on mental well- being
<b>Panel A. ITT Estimation</b>													
Treatment	0.55 (0.04)***	0.14 (0.045)***	-55.95 (10.999)***	0.17 (0.17)	0.18 (0.061)***	0.120 (0.071) *	43.6 (80.7)	-0.04 (0.09)	-0.02 (0.11)	-0.11 (0.035)***	0.21 (0.047)***	0.03 (0.05)	0.02 (0.03)
Above median HH size at baseline	-0.02 (0.03)	-0.05 (0.05)	29.53 (16.178)*	-0.01 (0.10)	0.09 (0.07)	-0.131 (0.110)	-187.5 (100.097)*	0.05 (0.07)	0.01 (0.09)	-0.04 (0.04)	-0.03 (0.05)	-0.08 (0.05)	-0.01 (0.05)
Treatment X Above median HH size at baseline	0.10 (0.05)*	0.11 (0.055)**	-22.21 (16.76)	-0.23 (0.18)	-0.03 (0.09)	0.169 (0.157)	-71.7 (128.5)	0.01 (0.09)	0.02 (0.12)	0.00 (0.04)	0.01 (0.06)	0.06 (0.06)	0.06 (0.06)
Household Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	791	790	791	1418	783	757	767	362	245	790	790	791	788
Mean in Control Group	0.10	0.67	81.92	0.254	-0.05	1.25	710.8	0.88	0.87	0.16	0.23	0.69	0.58
<b>Panel B. Instrumental Variable Estimation: "Connected" Instrumented with "Treatment"</b>													
Connected		0.25 (0.076)***	-101.81 (20.040)***	0.31 (0.33)	0.33 (0.113)***	0.193 (0.115) *	77.6 (143.1)	-0.05 (0.13)	-0.03 (0.16)	-0.19 (0.061)***	0.39 (0.084)***	0.05 (0.08)	0.03 (0.04)
Above median HH size at baseline		-0.06 (0.06)	29.16 (18.29)	0.06 (0.15)	0.11 (0.08)	-0.182 (0.142)	-176.5 (113.0)	0.05 (0.08)	0.00 (0.11)	-0.04 (0.04)	-0.02 (0.06)	-0.08 (0.06)	-0.03 (0.06)
Connected X Above median HH size at baseline		0.14 (0.09)	-18.24 (27.05)	-0.39 (0.34)	-0.11 (0.14)	0.350 (0.292)	-120.7 (208.9)	0.02 (0.14)	0.02 (0.18)	0.03 (0.07)	-0.05 (0.11)	0.09 (0.10)	0.12 (0.11)
Household Controls		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations		790	791	467	783	757	767	362	245	790	790	791	788

Notes: Clustered standard errors in parentheses. \*\*\*, \*\*, \* indicate significance at 1, 5 and 10%. Household controls include: Number of children under 15 at baseline, quintile in asset distribution, quantity of water consumed the week before baseline and distance to the public tap.

± It includes individual controls (age and gender) as well as a control for the # of intense diarrhea days in baseline diary.

**Table C3. Heterogeneity in Treatment Effects: Do impacts vary based on the gender composition of the household?**

	(1) (Table 2)	(2) (Table 2)	(3) (Table 3)	(4) (Table 4)	(5) (Table 5)	(6) (Table 6)	(7) (Table 7)	(8) (Table 7)	(9) (Table 7)	(10) (Table 8)	(11) (Table 9)	(12) (Table 9)	(13) (Table 9)
	First Stage: Connected	HH reports having enough water for bathing	Minutes Spent Fetching Water Over past 3 days	Diarrhea: Average over 3 follow-ups±	Feels that has more time to watch TV	Average effect on 8 leisurely activities (timetable data)	Income generated by Male Head in past 30 days	Share of children 5-15 (if any) who completed the school year	Share of girls 5-15 (if any) who completed the school year	In conflict with people from his/her family on water matters	Overall, the life of the household has improved compared to a year ago	Respondent rates life satisfaction level ≥ 5 (on 0- 10 scale)	Average effect on mental well- being
<b>Panel A. ITT Estimation</b>													
Treatment	0.62 (0.04)***	0.17 (0.037)***	-65.25 (9.509)***	-0.02 (0.07)	0.20 (0.056)***	0.116 (0.072)	45.6 (84.7)	0.00 (0.04)	0.02 (0.06)	-0.11 (0.028)***	0.23 (0.043)***	0.05 (0.04)	0.02 (0.03)
More than 50% of female HH members	0.04 (0.04)	-0.08 (0.049)*	8.55 (17.66)	0.03 (0.11)	0.09 (0.07)	-0.129 (0.110)	-14.6 (99.6)	0.04 (0.04)	0.06 (0.06)	0.00 (0.04)	-0.01 (0.05)	0.04 (0.05)	-0.02 (0.05)
Treatment X More than 50% of female members	-0.03 (0.06)	0.08 (0.06)	-6.43 (18.93)	0.07 (0.13)	-0.11 (0.09)	0.172 (0.158)	-109.5 (134.2)	-0.07 (0.06)	-0.05 (0.08)	0.00 (0.04)	-0.03 (0.07)	0.02 (0.06)	0.07 (0.06)
Household Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	784	783	784	1418	776	757	760	362	245	783	783	784	788
Mean in Control Group	0.10	0.67	81.92	0.25	-0.05	1.25	710.8	0.88	0.87	0.16	0.23	0.69	0.58
<b>Panel B. Instrumental Variable Estimation: "Connected" Instrumented with "Treatment"</b>													
Connected		0.28 (0.056)***	-105.43 (15.120)***	-0.03 (0.10)	0.33 (0.090)***	0.184 (0.115)	72.8 (134.9)	0.00 (0.06)	0.03 (0.10)	-0.18 (0.045)***	0.36 (0.065)***	0.08 (0.07)	0.03 (0.04)
More than 50% of female HH members		-0.12 (0.057)**	15.39 (20.98)	0.01 (0.16)	0.10 (0.08)	-0.183 (0.143)	3.8 (118.5)	0.06 (0.05)	0.07 (0.08)	0.01 (0.05)	-0.03 (0.05)	0.03 (0.06)	-0.04 (0.06)
Connected X More than 50% of female members		0.16 (0.093)*	-17.29 (31.76)	0.12 (0.24)	-0.17 (0.15)	pw (0.296) #	-181.8 (224.3)	-0.11 (0.10)	-0.08 (0.13)	-0.01 (0.07)	-0.02 (0.11)	0.04 (0.11)	0.13 (0.11)
Household Controls		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations		783	784	467	776	757	760	362	245	783	783	784	788

Notes: Clustered standard errors in parentheses. \*\*\*, \*\*, \* indicate significance at 1, 5 and 10%. Household controls include: Number of children under 15 at baseline, quintile in asset distribution, quantity of water consumed the week before baseline and distance to the public tap.

± It includes individual controls (age and gender) as well as a control for the # of intense diarrhea days in baseline diary.

**Table C4. Heterogeneity in Treatment Effects: Are the effects larger for those who spent more time fetching water at baseline?**

	(1) (Table 2)	(2) (Table 2)	(3) (Table 3)	(4) (Table 4)	(5) (Table 5)	(6) (Table 6)	(7) (Table 7)	(8) (Table 7)	(9) (Table 7)	(10) (Table 8)	(11) (Table 9)	(12) (Table 9)	(13) (Table 9)
First Stage: Connected	HH reports having enough water for bathing	Minutes Spent Fetching Water Over past 3 days	Diarrhea: Average over 3 follow-ups±	Feels that has more time to watch TV	Average effect on 8 leisurely activities (timetable data)	Income generated by Male Head in past 30 days	Share of children 5-15 (if any) who completed the school year	Share of girls 5-15 (if any) who completed the school year	In conflict with people from his/her family on water matters	Overall, the life of the household has improved compared to a year ago	Respondent rates life satisfaction level ≥ 5 (on 0-10 scale)	Average effect on mental well-being	
<b>Panel A. ITT Estimation</b>													
Treatment	0.53 (0.04)***	0.10 (0.042)**	-32.09 (7.972)***	-0.01 (0.07)	0.12 (0.062)*	0.122 (0.072) *	-67.7 (100.1)	-0.06 (0.04)	-0.06 (0.06)	-0.06 (0.030)**	0.17 (0.049)***	0.06 (0.05)	0.02 (0.03)
Above median baseline time spent fetching water	-0.02 (0.04)	-0.10 (0.055)*	65.53 (15.651)***	0.01 (0.13)	0.01 (0.07)	-0.116 (0.115)	-213.5 (114.723)*	-0.06 (0.05)	-0.10 (0.08)	0.06 (0.05)	-0.02 (0.05)	0.01 (0.05)	-0.02 (0.05)
Treatment X Above median baseline time fetching water	0.14 (0.06)**	0.19 (0.059)***	-66.53 (17.080)***	0.05 (0.14)	0.07 (0.09)	0.172 (0.156)	151.3 (137.1)	0.03 (0.06)	0.05 (0.08)	-0.09 (0.046)*	0.09 (0.07)	-0.02 (0.06)	0.06 (0.06)
Household Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	770	769	770	1418	762	757	746	346	234	769	769	770	788
Mean in Control Group	0.10	0.67	81.92	0.25	-0.05	1.25	710.8	0.88	0.87	0.16	0.23	0.69	0.58
<b>Panel B. Instrumental Variable Estimation: "Connected" Instrumented with "Treatment"</b>													
Connected		0.18 (0.075)**	-61.25 (14.882)***	-0.02 (0.11)	0.23 (0.119)*	0.197 (0.117) *	-123.8 (185.9)	-0.09 (0.07)	-0.10 (0.11)	-0.12 (0.055)**	0.31 (0.089)***	0.12 (0.08)	0.03 (0.05)
Above median baseline time spent fetching water		-0.12 (0.059)*	69.79 (16.962)***	-0.01 (0.18)	0.01 (0.08)	-0.173 (0.143)	-231.6 (126.281)*	-0.06 (0.06)	-0.11 (0.09)	0.06 (0.05)	-0.02 (0.05)	0.02 (0.06)	-0.04 (0.06)
Connected X Above median baseline time fetching water		0.25 (0.095)***	-87.42 (26.390)***	0.09 (0.24)	0.06 (0.15)	0.354 (0.290)	250.5 (234.0)	0.05 (0.09)	0.09 (0.13)	-0.11 (0.08)	0.07 (0.12)	-0.05 (0.11)	0.12 (0.11)
Household Controls		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations		769	770	467	762	757	746	346	234	769	769	770	788

Notes: Clustered standard errors in parentheses. \*\*\*, \*\*, \* indicate significance at 1, 5 and 10%. Household controls include: Number of children under 15 at baseline, quintile in asset distribution, quantity of water consumed the week before baseline and distance to the public tap.

± It includes individual controls (age and gender) as well as a control for the # of intense diarrhea days in baseline diary.

## Appendix D: Analysis Omitting Household-Level Controls

**Replication of Table 2. Impact on Water Quality and Quantity: without HH controls**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	1st Stage		Water Quality				Water Quantity					
	Connected		Number of <i>E Coli</i> detected in drinking water	Chlorine detected in drinking water			HH reports having enough water for bathing	HH reports having enough water for cleaning			Number of baths or showers taken by respondent in the past 7 days	
<b>Panel A. ITT Estimation</b>												
Treatment	0.60	0.62	3.02	3.31	0.14	0.15	0.20	0.17	0.16	0.14	0.30	0.21
	(0.03)***	(0.03)***	(2.98)	(3.26)	(0.06)***	(0.06)***	(0.03)***	(0.04)***	(0.03)***	(0.04)***	(0.16)*	(0.16)
Treatment X Informal pipe linked to neighbor's tap		-0.10		-1.51		-0.05		0.12		0.12		0.43
		(0.08)		(5.56)		(0.11)		(0.03)***		(0.03)***		(0.34)
Household Controls	Yes	Yes	No	No	No	No	No	No	No	No	No	No
Observations	793	793	374	371	374	374	792	792	791	791	789	789
Mean in Control Group	0.10	0.10	10.43	10.43	0.43	0.43	0.67	0.67	0.71	0.71	2.75	2.75
<b>Panel B. Instrumental Variable Estimation: "Connected" Instrumented with "Treatment"</b>												
Connected			4.75	5.16	0.23	0.24	0.32	0.29	0.27	0.23	0.49	0.38
			(4.70)	(5.05)	(0.09)***	(0.09)***	(0.05)***	(0.05)***	(0.05)***	(0.05)***	(0.26)*	(0.26)
Connected X Informal pipe linked to neighbor's tap				-2.44		-0.09		0.18		0.19		0.63
				(7.08)		(0.13)		(0.05)***		(0.05)***		(0.51)
Household Controls			No	No	No	No	No	No	No	No	No	No
Observations			374	371	374	374	792	792	791	791	789	789

*Notes: Data source: Endline survey conducted in August 2008. Clustered standard errors in parentheses. \*\*\*, \*\*, \* indicate significance at 1, 5 and 10%. Columns 3-6: Water quality tests were performed on a random subsample of participating households.*

**Replication of Table 3. Impact on Time and Financial Costs: without HH controls**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
		Number of times a grown-up(>= 15) fetched water in the past 3 days	Number of times a child (< 15) fetched water in the past 3 days		Minutes Spent Fetching Water in the past 3 days		Minutes Spent Socializing while Fetching Water in the past 3 days		Fixed Water Costs paid by Household in past year (dirhams)		Monthly water expenditures (in dirhams)	
<b>Panel A. ITT Estimation</b>												
Treatment	-2.45 (0.31)***	-2.34 (0.31)***	-0.73 (0.24)***	-0.69 (0.25)***	-65.81 (8.88)***	-63.41 (9.10)***	-3.23 (1.64)**	-2.99 (1.67)*	410.71 (42.99)***	439.17 (49.21)***	70.46 (17.82)***	49.91 (13.08)***
Treatment X Informal pipe linked to neighbor's tap		-0.54 (0.19)***		-0.18 (0.07)***		-11.81 (7.79)		-1.15 (0.53)**		-139.94 (78.17)*		101.06 (64.17)
Household Controls	No	No	No	No	No	No	No	No	No	No	No	No
Observations	787	787	455	455	793	793	793	793	793	793	793	793
Mean in Control Group	3.11	3.11	0.86	0.86	81.92	81.92	4.13	4.13	82.51	82.51	78.51	78.51
<b>Panel B. Instrumental Variable Estimation: "Connected" Instrumented with "Treatment"</b>												
Connected	-4.06 (0.50)***	-3.91 (0.50)***	-1.11 (0.37)***	-1.04 (0.37)***	-109.29 (14.67)***	-105.79 (14.67)***	-5.36 (2.71)**	-5.04 (2.74)*	682.03 (56.71)***	715.92 (61.22)***	117.01 (28.27)***	90.21 (20.09)***
Connected X Informal pipe linked to neighbor's tap		-0.82 (0.41)**		-0.35 (0.14)**		-19.35 (13.83)		-1.77 (0.91)*		-187.44 (96.58)*		148.28 (90.72)
Household Controls	No	No	No	No	No	No	No	No	No	No	No	No
Observations	787	787	455	455	793	793	793	793	793	793	793	793

Notes: See Table 2.

**Replication of Table 5. Perceived Time Availability: without HH controls**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	Compared to last year, do you have less/as much as/more time to ...											
	.. do housework?	...watch tv?	...visit your family?	...visit friends/ neighbors?	...receive the visit of your family?	...receive the visit of friends/ neighbors						
<b>Panel A. ITT Estimation</b>												
Treatment	0.11 (0.046)**	0.10 (0.050)**	0.16 (0.045)***	0.14 (0.047)***	0.13 (0.043)***	0.10 (0.047)**	0.07 (0.034)**	0.07 (0.036)*	0.08 (0.041)**	0.07 (0.05)	0.02 (0.03)	0.00 (0.03)
Treatment X Informal pipe linked to neighbor's tap		0.03 (0.07)		0.10 (0.08)		0.14 (0.081)*		0.02 (0.07)		0.08 (0.07)		0.12 (0.052)**
Household Controls	No	No	No	No	No	No	No	No	No	No	No	No
Observations	791	791	785	785	790	790	790	790	790	790	788	788
Mean in Control Group	-0.02	-0.02	-0.05	-0.05	-0.17	-0.17	-0.14	-0.14	-0.09	-0.09	-0.06	-0.06
<b>Panel B. Instrumental Variable Estimation: "Connected" Instrumented with "Treatment"</b>												
Connected	0.18 (0.074)**	0.17 (0.079)**	0.27 (0.075)***	0.24 (0.075)***	0.21 (0.072)***	0.17 (0.075)**	0.12 (0.057)**	0.12 (0.058)**	0.14 (0.068)**	0.12 (0.07)	0.04 (0.05)	0.01 (0.06)
Connected X Informal pipe linked to neighbor's tap		0.05 (0.09)		0.15 (0.12)		0.21 (0.124)*		0.03 (0.10)		0.12 (0.11)		0.18 (0.077)**
Household Controls	No	No	No	No	No	No	No	No	No	No	No	No
Observations	791	791	785	785	790	790	790	790	790	790	788	788

Notes: Clutered standard errors in parentheses. \*\*\*, \*\*, \* indicate significance at 1, 5 and 10%.

Answers to the questions were coded as follows: less time: -1; same time: 0; more time: +1.

All regressions include a dummy for "Informal pipe linked to neighbor's tap".

**Replication of Table 6. Actual Time Use: without HH controls**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Over the past 7 days, did you...								Average effect on 8 leisurely activities (timetable data) <sup>‡</sup>	
	...do housework at least once a day?	...watch tv at least once a day?	...visit family members or friends/neighbors at least twice?	...receive the visit of family members or friends/neighbors at least twice?						
<b>Panel A. ITT Estimation</b>										
Treatment	0.055 (0.037)	0.037 (0.040)	0.062 (0.037)*	0.008 (0.038)	-0.005 (0.038)	0.002 (0.040)	0.076 (0.034)**	0.053 (0.036)	0.148 (0.064)**	0.108 (0.071)
Treatment X Informal pipe linked to neighbor's tap		0.091 (0.057)		0.263 (0.059)***		-0.033 (0.064)		0.116 (0.064)*		0.190 (0.157)
Household Controls	No	No	No	No	No	No	No	No	No	No
Observations	790	790	788	788	791	791	789	789	757	757
Mean in Control Group	0.59	0.59	0.43	0.43	0.32	0.32	0.19	0.19	1.25	1.25
<b>Panel B. Instrumental Variable Estimation: "Connected" Instrumented with "Treatment"</b>										
Connected	0.092 (0.061)	0.068 (0.064)	0.103 (0.061)*	0.034 (0.062)	-0.008 (0.063)	0.000 (0.065)	0.126 (0.058)**	0.096 (0.059)	0.244 (0.107)**	0.174 (0.115)
Connected X Informal pipe linked to neighbor's tap		0.134 (0.080)*		0.382 (0.085)***		-0.048 (0.092)		0.171 (0.095)*		0.378 (0.293)
Household Controls	No	No	No	No	No	No	No	No	No	No
Observations	790	790	788	788	791	791	789	789	757	757

Notes: Clustered standard errors in parentheses. \*\*\*, \*\*, \* indicate significance at 1, 5 and 10%. All regressions include a dummy for "Informal pipe linked to neighbor's tap".

<sup>‡</sup> Across 8 leisurely activities, average number of 30-min periods for which the respondent recalls performing activity. The 8 activities are: watching TV, exercising, being on the phone, going on a walk, praying, visiting other people, receiving other people at home, or "other leisure" (going to coffee shop, beach, etc.).



**Replication of Table 9. Satisfaction and Well-Being: without HH controls**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
	Respondent mentions water as major source of concern	Home is cleaner than a year ago	Water tastes good	Overall, the life of the household has improved compared to a year ago	Overall, the respondent's life has improved compared to a year ago	Respondent rates life satisfaction level $\geq 5$ (on 0-10 scale)	Average effect on mental well-being <sup>±</sup>							
<b>Panel A. ITT Estimation</b>														
Treatment	-0.38 (0.04)***	-0.35 (0.04)***	0.21 (0.03)***	0.21 (0.03)***	0.01 (0.02)	0.00 (0.02)	0.21 (0.04)***	0.19 (0.04)***	0.28 (0.04)***	0.25 (0.04)***	0.05 (0.04)	0.03 (0.04)	0.032 (0.03)	0.018 (0.03)
Treatment X Informal pipe linked to neighbor's tap		-0.16 (0.05)***		-0.02 (0.06)		0.05 (0.04)		0.11 (0.07)*		0.10 (0.07)		0.11 (0.05)**		0.066 (0.06)
HH controls	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Observations	792	792	792	792	791	791	792	792	792	792	793	793	788	788
Mean in Control Group	0.66	0.66	0.13	0.13	0.57	0.57	0.23	0.23	0.24	0.24	0.69	0.69	0.58	0.58
<b>Panel B. Instrumental Variable Estimation: "Connected" Instrumented with "Treatment"</b>														
Connected	-0.64 (0.05)***	-0.59 (0.06)***	0.34 (0.05)***	0.35 (0.05)***	0.01 (0.03)	0.00 (0.03)	0.35 (0.06)***	0.32 (0.06)***	0.46 (0.05)***	0.43 (0.06)***	0.09 (0.06)	0.06 (0.06)	0.053 (0.04)	0.029 (0.04)
Connected X Informal pipe linked to neighbor's tap		-0.24 (0.08)***		-0.02 (0.08)		0.08 (0.05)		0.17 (0.10)*		0.16 (0.09)*		0.16 (0.07)**		0.129 (0.11)
HH controls	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Observations	792	792	792	792	791	791	792	792	792	792	793	793	788	788

Notes: Clustered standard errors in parentheses. \*\*\*, \*\*, \* indicate significance at 1, 5 and 10%. All regressions include a dummy for "Informal pipe linked to neighbor's tap".

± Average effect over three measures (over past 7 days, respondent felt, more often than not, sad / worried / satisfied). Coded so that 1 reflects high well-being and 0 reflects low well-being.

## Appendix E. Robustness to controlling for "number of times a male fetched water"

**Replication of Table 2. Impact on Water Quality and Quantity: controlling for "number of times a male fetched water"**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	1st Stage		Water Quality				Water Quantity					
	Connected		Number of <i>E Coli</i> detected in drinking water	Chlorine detected in drinking water			HH reports having enough water for bathing		HH reports having enough water for cleaning		Number of baths or showers taken by respondent in the past 7 days	
<b>Panel A. ITT Estimation</b>												
Treatment	0.60 (0.03)***	0.62 (0.03)***	2.80 (3.01)	2.55 (3.44)	0.15 (0.06)***	0.18 (0.06)***	0.20 (0.03)***	0.23 (0.04)***	0.19 (0.04)***	0.23 (0.04)***	0.29 (0.16)*	0.24 (0.16)
Treatment X Informal pipe linked to neighbor's tap		-0.10 (0.08)		-2.76 (4.35)		0.13 (0.09)		0.26 (0.05)***		0.26 (0.05)***		-0.22 (0.29)
Household Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	793	793	371	371	374	374	790	790	789	790	787	787
Mean in Control Group	0.10	0.10	10.43	10.43	0.43	0.43	0.67	0.67	0.71	0.67	2.75	2.75
<b>Panel B. Instrumental Variable Estimation: "Connected" Instrumented with "Treatment"</b>												
Connected			4.35 (4.70)	3.95 (5.29)	0.23 (0.09)***	0.27 (0.09)***	0.33 (0.05)***	0.37 (0.06)***	0.27 (0.05)***	0.31 (0.06)***	0.49 (0.26)*	0.39 (0.26)
Connected X Informal pipe linked to neighbor's tap				-3.32 (5.39)		0.15 (0.12)		0.29 (0.06)***		0.25 (0.06)***		-0.32 (0.36)
Household Controls			Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations			371	371	374	374	790	790	789	789	787	787

*Notes: Data source: Endline survey conducted in August 2008. Clustered standard errors in parentheses. \*\*\*, \*\*, \* indicate significance at 1, 5 and 10%.*

*Columns 3-6: Water quality tests were performed on a random subsample of participating households.*

*Household controls include: Number of children under 15 at baseline, quintile in asset distribution, quantity of water consumed the week before baseline, distance to the public tap and number of times a male fetch water in the past 3 days.*

**Replication of Table 3: Impact on Time and Financial Costs: controlling for "number of times a male fetched water"**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	Number of times a grown-up(>= 15) fetched water in the past 3 days		Number of times a child (< 15) fetched water in the past 3 days		Minutes Spent Fetching Water in the past 3 days		Minutes Spent Socializing while Fetching Water in the past 3 days		Fixed Water Costs paid by Household in past year (dirhams)		Monthly water expenditures (in dirhams)	
Panel A. ITT Estimation												
Treatment	-2.46 (0.32)***	-2.87 (0.37)***	-0.71 (0.23)***	-0.93 (0.30)***	-66.60 (8.78)***	-79.54 (10.48)***	-3.21 (1.70)*	-3.99 (2.07)*	409.54 (42.85)***	440.86 (50.77)***	68.38 (17.43)***	66.17 (13.70)***
Treatment X Informal pipe linked to neighbor's tap		-2.36 (0.63)***		-0.89 (0.27)***		-63.59 (13.34)***		-6.05 (2.89)**		-43.21 (53.56)		75.06 (24.58)***
Household Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	785	785	454	454	791	791	791	791	791	791	791	791
Mean in Control Group	3.11	3.11	0.86	0.86	81.92	81.92	4.13	4.13	82.51	82.51	78.51	78.51
Panel B. Instrumental Variable Estimation: "Connected" Instrumented with "Treatment"												
Connected	-4.11 (0.53)***	-4.64 (0.58)***	-1.06 (0.34)***	-1.32 (0.42)***	-111.55 (14.47)***	-128.80 (16.70)***	-5.38 (2.82)*	-6.45 (3.32)*	685.94 (58.01)***	714.21 (66.59)***	114.52 (28.14)***	107.25 (21.06)***
Connected X Informal pipe linked to neighbor's tap		-2.65 (0.80)***		-1.06 (0.32)***		-73.78 (16.41)***		-6.73 (3.18)**		-43.06 (50.49)		65.44 (31.63)**
Household Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	785	785	454	454	791	791	791	791	791	791	791	791

Notes: See Table 2.

**Replication of Table 5: Perceived Time Availability: controlling for "number of times a male fetched water"**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	Compared to last year, do you have less/as much as/more time to ...											
	.. do housework?	...watch tv?	...visit your family?	...visit friends/ neighbors?	...receive the visit of your family?	...receive the visit of friends/ neighbors						
<b>Panel A. ITT Estimation</b>												
Treatment	0.11 (0.046)**	0.13 (0.054)**	0.16 (0.044)***	0.21 (0.048)***	0.13 (0.043)***	0.12 (0.049)**	0.08 (0.034)**	0.06 (0.04)	0.09 (0.041)**	0.05 (0.05)	0.02 (0.03)	-0.03 (0.04)
Treatment X Informal pipe linked to neighbor's tap		0.09 (0.08)		0.30 (0.080)***		0.11 (0.07)		-0.03 (0.06)		-0.14 (0.08)		-0.07 (0.06)
Household Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	789	789	783	783	788	788	788	788	788	788	786	786
Mean in Control Group	-0.02	-0.02	-0.05	-0.05	-0.17	-0.17	-0.14	-0.14	-0.09	-0.09	-0.06	-0.06
<b>Panel B. Instrumental Variable Estimation: "Connected" Instrumented with "Treatment"</b>												
Connected	0.19 (0.075)**	0.22 (0.085)**	0.27 (0.074)***	0.33 (0.078)***	0.22 (0.072)***	0.20 (0.078)**	0.13 (0.057)**	0.10 (0.06)	0.15 (0.069)**	0.08 (0.07)	0.03 (0.06)	-0.05 (0.06)
Connected X Informal pipe linked to neighbor's tap		0.10 (0.09)		0.34 (0.101)***		0.09 (0.09)		-0.06 (0.08)		-0.20 (0.104)*		-0.14 (0.082)*
Household Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	789	789	783	783	788	788	788	788	788	788	786	786

Notes: Clutered standard errors in parentheses. \*\*\*, \*\*, \* indicate significance at 1, 5 and 10%.

Answers to the questions were coded as follows: less time: -1; same time: 0; more time: +1.

Household controls as in Table 2. All regressions include a dummy for "Informal pipe linked to neighbor's tap".

**Replication of Table 6: Actual Time Use: controlling for "number of times a male fetched water"**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Over the past 7 days, did you...								Average effect on 8 leisurely activities (timetable data) <sup>‡</sup>	
	...do housework at least once a day?	...watch tv at least once a day?	...visit family members or friends/neighbors at least twice?	...receive the visit of family members or friends/neighbors at least twice?						
<b>Panel A. ITT Estimation</b>										
Treatment	0.056 (0.036)	0.065 (0.040)	0.059 (0.035)*	0.073 (0.039)*	-0.002 (0.038)	0.003 (0.042)	0.072 (0.035)**	0.035 (0.039)	0.152 (0.064) **	0.116 (0.071)
Treatment X Informal pipe linked to neighbor's tap		0.047 (0.068)		0.220 (0.068)***		-0.039 (0.075)		-0.087 (0.056)		0.174 (0.156)
Household Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	788	788	786	786	789	789	787	787	757	757
Mean in Control Group	0.585	0.585	0.430	0.430	0.319	0.319	0.188	0.188	1.25	1.25
<b>Panel B. Instrumental Variable Estimation: "Connected" Instrumented with "Treatment"</b>										
Connected	0.094 (0.059)	0.106 (0.065)	0.098 (0.058)*	0.117 (0.064)*	-0.003 (0.064)	0.005 (0.068)	0.121 (0.059)**	0.056 (0.064)	0.253 (0.108) **	0.188 (0.116)
Connected X Informal pipe linked to neighbor's tap		0.054 (0.085)		0.232 (0.084)***		-0.033 (0.095)		-0.143 (0.077)*		0.356 (0.291)
Household Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	788	788	786	786	789	789	787	787	757	757

Notes: Clustered standard errors in parentheses. \*\*\*, \*\*, \* indicate significance at 1, 5 and 10%. Households controls as in Table 2. All regressions include a dummy for "Informal pipe linked to neighbor's tap".

<sup>‡</sup> Across 8 leisurely activities, average number of 30-min periods for which the respondent recalls performing activity. The 8 activities are: watching TV, exercising, being on the phone, going on a walk, praying, visiting other people, receiving other people at home, or "other leisure" (going to coffee shop, beach, etc.).

**Replication of Table 9: Satisfaction and Well-Being: controlling for "number of times a male fetched water"**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
	Respondent mentions water as major source of concern		Home is cleaner than a year ago		Water tastes good		Overall, the life of the household has improved compared to a year ago		Overall, the respondent's life has improved compared to a year ago		Respondent rates life satisfaction level $\geq 5$ (on 0-10 scale)		Average effect on mental well-being <sup>±</sup>	
<b>Panel A. ITT Estimation</b>														
Treatment	-0.38 (0.04)***	-0.43 (0.04)***	0.21 (0.03)***	0.20 (0.04)***	0.00 (0.02)	0.00 (0.02)	0.21 (0.04)***	0.21 (0.04)***	0.28 (0.03)***	0.27 (0.04)***	0.05 (0.03)	0.07 (0.04)*	0.032 (0.025)	0.020 (0.028)
Treatment X Informal pipe linked to neighbor's tap		-0.32 (0.07)***		-0.09 (0.04)**		0.06 (0.04)		0.05 (0.07)		0.01 (0.07)		0.12 (0.06)**		0.060 (0.061)
HH controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	790	790	790	790	789	789	790	790	790	790	791	791	788	789
Mean in Control Group	0.66	0.66	0.13	0.13	0.57	0.57	0.23	0.23	0.24	0.24	0.69	0.69	0.58	0.58
<b>Panel B. Instrumental Variable Estimation: "Connected" Instrumented with "Treatment"</b>														
Connected	-0.64 (0.05)***	-0.69 (0.05)***	0.35 (0.05)***	0.32 (0.05)***	0.01 (0.03)	0.00 (0.03)	0.36 (0.06)***	0.34 (0.06)***	0.46 (0.05)***	0.43 (0.06)***	0.09 (0.06)	0.12 (0.06)*	0.054 (0.041)	0.032 (0.045)
Connected X Informal pipe linked to neighbor's tap		-0.34 (0.08)***		-0.12 (0.05)**		0.05 (0.05)		0.02 (0.08)		-0.04 (0.08)		0.14 (0.07)*		0.121 (0.111)
HH controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	790	790	790	790	789	789	790	790	790	790	791	791	788	788

Notes: Clustered standard errors in parentheses. \*\*\*, \*\*, \* indicate significance at 1, 5 and 10%. Households controls as in Table 2. All regressions include a dummy for "Informal pipe linked to neighbor's tap".  
<sup>±</sup> Average effect over three measures (over past 7 days, respondent felt, more often than not, sad / worried / satisfied). Coded so that 1 reflects high well-being and 0 reflects low well-being.