

Appendix D

Table D1

Balancing of Covariates After Matching Within Rural, Urban, Micropolitan and Metropolitan Cell for
Treatment Group 1

(Unemployed and Retired)

	Nearest Neighbor with replacement				Nearest 5 Neighbors with replacement			
	Mean Treated	Mean Control	%bias	P value	Mean Treated	Mean Control	%bias	P value
Age	5.14	5.15	-0.80	0.94	5.14	5.15	-1.10	0.93
Age square	27.08	27.15	-1.00	0.94	27.08	27.17	-1.20	0.92
Gender	1.35	1.33	5.70	0.63	1.35	1.34	2.40	0.84
Education	3.27	3.30	-2.50	0.83	3.27	3.49	-20.60	0.08
Age*Education	16.55	16.32	4.00	0.74	16.55	17.80	-22.00	0.07
Education*Gender	4.31	4.14	8.10	0.51	4.31	4.63	-14.90	0.24
No of Children in Household	0.31	0.31	0.70	0.94	0.31	0.34	-2.60	0.76
Boat Activity	0.43	0.44	-1.30	0.91	0.43	0.45	-3.70	0.75
Hunting	0.04	0.01	11.80	0.15	0.04	0.06	-7.90	0.48
Fishing	0.51	0.40	22.20	0.05	0.51	0.48	5.60	0.63
Total Number of Trips	7.15	7.03	1.10	0.92	7.15	6.83	3.00	0.79
Take overnight Trips	0.38	0.31	13.30	0.23	0.38	0.38	-0.30	0.98
	Radius Matching (caliper =0.5*SD)				Kernel Matching (bandwidth =0.06)			
	Mean Treated	Mean Control	%bias	P value	Mean Treated	Mean Control	%bias	P value
Age	5.11	5.06	5.90	0.63	5.09	5.07	2.80	0.82
Age square	26.71	26.32	5.30	0.67	26.52	26.35	2.40	0.85
Gender	1.33	1.30	6.40	0.59	1.33	1.34	-2.50	0.84
Education	3.29	3.38	-8.80	0.47	3.32	3.44	-11.20	0.35
Age*Education	16.53	16.92	-6.90	0.58	16.63	17.25	-11.00	0.38
Education*Gender	4.28	4.36	-3.90	0.75	4.31	4.55	-11.50	0.37
No of Children in Household	0.33	0.40	-7.00	0.45	0.33	0.37	-3.90	0.67
Boat Activity	0.44	0.46	-3.50	0.77	0.44	0.45	-1.00	0.94
Hunting	0.04	0.05	-6.00	0.60	0.04	0.05	-5.60	0.62
Fishing	0.50	0.48	3.50	0.76	0.49	0.47	4.20	0.72
Total Number of Trips	7.22	7.15	0.60	0.96	7.06	7.05	0.00	1.00
Take overnight Trips	0.39	0.39	-1.30	0.91	0.39	0.38	1.00	0.93

Note: For each matching algorithm, the balancing of covariates is assessed based on two criterions: (a) the difference between mean of treated and matched control group, and (b) standardized mean difference of the covariates between the treatment and control group. The standardized difference of means is calculated as

$\frac{Mean_{Treated} - Mean_{Control}}{\sqrt{\frac{1}{2} * (Variance_{Treated} + Variance_{Control})}}$. A standardized difference of means of 25 is considered large (Rosenbaum and Rubin 1983; Imbens and Woolridge 2009).

Table D2

Balancing of Covariates After Matching Within Rural, Urban, Micropolitan and Metropolitan Cell for Treatment Group 2

(Unemployed)

	Nearest Neighbor with replacement				Nearest 5 Neighbors with replacement			
	Mean Treated	Mean Control	%bias	P value	Mean Treated	Mean Control	%bias	P value
Age	4.70	4.73	-4.20	0.82	4.70	4.72	-2.00	0.91
Age square	22.77	22.97	-2.70	0.88	22.77	22.87	-1.40	0.94
Gender	1.42	1.40	3.60	0.85	1.42	1.41	2.40	0.90
Education	3.23	3.15	8.20	0.65	3.23	3.22	1.70	0.93
Age*Education	15.13	14.75	7.10	0.70	15.13	14.80	6.30	0.74
Education*Gender	4.55	4.25	13.90	0.45	4.55	4.35	9.20	0.64
No of Children in Household	0.52	0.42	9.60	0.53	0.52	0.44	7.00	0.64
Boat Activity	0.42	0.38	6.70	0.71	0.42	0.43	-2.80	0.88
Hunting	0.02	0.00	8.50	0.32	0.02	0.02	-1.70	0.89
Fishing	0.48	0.42	13.30	0.47	0.48	0.48	1.10	0.95
Total Number of Trips	4.78	5.57	-8.80	0.62	4.78	5.25	-5.20	0.74
Take overnight Trips	0.28	0.27	3.50	0.84	0.28	0.32	-7.00	0.69
	Radius Matching (caliper =0.5*SD)				Kernel Matching (bandwidth =0.06)			
	Mean Treated	Mean Control	%bias	P value	Mean Treated	Mean Control	%bias	P value
Age	4.68	4.68	-0.80	0.97	4.70	4.67	3.40	0.86
Age square	22.54	22.60	-0.80	0.97	22.77	22.52	3.30	0.86
Gender	1.41	1.37	7.70	0.69	1.42	1.37	10.40	0.59
Education	3.24	3.21	2.90	0.88	3.23	3.23	0.80	0.97
Age*Education	15.09	14.73	6.70	0.72	15.13	14.81	6.00	0.74
Education*Gender	4.53	4.28	11.60	0.55	4.55	4.30	11.60	0.54
No of Children in Household	0.53	0.55	-2.60	0.87	0.52	0.59	-7.40	0.65
Boat Activity	0.42	0.47	-8.90	0.63	0.42	0.49	-13.90	0.45
Hunting	0.02	0.02	-3.30	0.80	0.02	0.03	-5.40	0.70
Fishing	0.49	0.48	1.60	0.93	0.48	0.49	-1.90	0.92
Total Number of Trips	4.86	4.93	-0.70	0.96	4.78	5.31	-5.90	0.71
Take overnight Trips	0.29	0.32	-5.80	0.75	0.28	0.33	-10.00	0.58

Note: For each matching algorithm, the balancing of covariates is assessed based on two criteria: (a) the difference between mean of treated and matched control group, and (b) standardized mean difference of the covariates between the treatment and control group. The standardized difference of means is calculated as

$$\frac{Mean_{Treated} - Mean_{control}}{\sqrt{\frac{1}{2} * (Variance_{treated} + Variance_{control})}}$$
. A standardized difference of means of 25 is considered large (Rosenbaum and Rubin 1983; Imbens and Woolridge 2009).

Table D3

Balancing of Covariates after Matching Within Rural, Urban, Micropolitan and Metropolitan Cell for Treatment Group 3

(Retired)

	Nearest Neighbor with replacement				Nearest 5 Neighbors with replacement			
	Mean Treated	Mean Control	%bias	P value	Mean Treated	Mean Control	%bias	P value
Age	5.42	5.42	0.00	1.00	5.42	5.41	1.20	0.93
Age square	29.78	29.71	1.00	0.94	29.78	29.66	1.70	0.90
Gender	1.30	1.23	14.90	0.32	1.30	1.27	7.60	0.61
Education	3.34	3.36	-1.00	0.95	3.34	3.47	-11.50	0.46
Age*Education	17.84	17.20	11.20	0.48	17.84	18.17	-5.60	0.73
Education*Gender	4.23	3.99	11.80	0.45	4.23	4.29	-2.50	0.88
No of Children in Household	0.19	0.18	1.20	0.89	0.19	0.18	0.70	0.94
Boat Activity	0.43	0.42	2.20	0.88	0.43	0.44	-0.40	0.98
Hunting	0.06	0.11	-23.40	0.18	0.06	0.06	-0.30	0.98
Fishing	0.52	0.46	13.30	0.37	0.52	0.49	7.10	0.64
Total Number of Trips	8.87	6.23	21.90	0.13	8.87	7.81	8.80	0.57
Take overnight Trips	0.46	0.36	20.00	0.17	0.46	0.38	15.80	0.29
	Radius Matching (caliper =0.5*SD)				Kernel Matching (bandwidth =0.06)			
	Mean Treated	Mean Control	%bias	P value	Mean Treated	Mean Control	%bias	P value
Age	5.43	5.38	6.30	0.65	5.43	5.41	2.70	0.84
Age square	29.83	29.42	6.10	0.68	29.83	29.64	2.90	0.84
Gender	1.30	1.27	8.50	0.58	1.30	1.27	8.40	0.58
Education	3.35	3.48	-12.20	0.43	3.35	3.48	-12.10	0.44
Age*Education	17.88	18.23	-6.20	0.70	17.88	18.16	-4.90	0.76
Education*Gender	4.25	4.31	-2.90	0.86	4.25	4.30	-2.30	0.89
No of Children in Household	0.19	0.26	-7.20	0.47	0.19	0.24	-5.20	0.59
Boat Activity	0.44	0.46	-4.30	0.78	0.44	0.44	-0.50	0.97
Hunting	0.06	0.07	-4.40	0.78	0.06	0.06	-2.60	0.86
Fishing	0.52	0.46	10.50	0.49	0.52	0.46	11.50	0.45

Total Number of Trips	8.43	7.32	9.20	0.53	8.43	7.11	11.00	0.46
Take overnight Trips	0.45	0.41	8.60	0.57	0.45	0.39	12.60	0.40

Note: For each matching algorithm, the balancing of covariates is assessed based on two criteria: (a) the difference between mean of treated and matched control group, and (b) standardized mean difference of the covariates between the treatment and control group. The standardized difference of means is calculated as

$$\frac{Mean_{treated} - Mean_{control}}{\sqrt{\frac{1}{2}(Variance_{treated} + Variance_{control})}}$$
. A standardized difference of means of 25 is considered large (Rosenbaum and Rubin 1983; Imbens and Woolridge 2009).