

Supplementary material

Table S1. Socioeconomic and built environment variables used in this study.

Domain	Variable Name	Variable Description
Age structure	0–24	% of persons aged 0–24
	25–44	% of persons aged 25–44
	45–64	% of persons aged 45–64
	65+	% of persons aged 65+
Marital status	Unmarried	% of unmarried persons
	Divorced	% of divorced persons
Education	Illiteracy	% of illiterate persons
	Low	% of persons with lower education (high school or less)
	Tech	% of persons who finished technical secondary school
	Univ	% of persons with a bachelor's degree
	Master	% of persons with a master's or PhD
Income source	Labor	% of persons whose main source of income is labor
	Pension	% of persons whose main source of income is a pension
	Supported	% of persons who are supported by other family members
	Other	% of persons whose main income source is insurance, allowances, or properties
Occupation	Managers	% of persons who are heads of government agencies, political parties, or enterprises or are business executives
	Professionals	% of persons working as professionals
	Clerical	% of persons working as office administrative clerks
	Other(skilled)	% of persons working in commerce and service sectors, skilled technicians, farming, forestry, animal husbandry, fishery and water production sectors, and sectors related to manufacturing and transportation.
Housing	<29	% of houses 29 square meters and less
	30–59	% of houses between 39 and 50 square meters
	60–119	% of houses between 60 and 119 square meters
	120+	% of houses 120 square meters or more
Built-environment	Density	Population density (persons per square km)
	NDVI	Neighborhood greenness (NDVI)
	REI	Revised Entropy Index (Land Use mix among Residential Land, Green Land (excluding forests), Public Building Land)
	BAL	Balance Index (Land Use mix between desired and undesired land-use types)

Table S2. NDVI summary statistics (75th percentile, median, mean, 25th percentile, standard deviation) per variable and group.

		Group	75 th	Median	Mean	25 th	StD
Age	0–24	ALL	0.2265	0.2017	0.2118	0.1821	0.0527
		Low-NDVI	0.2286	0.2113	0.2144	0.1967	0.0307
		High-NDVI	0.2542	0.2143	0.2290	0.1902	0.0650
	25–44	ALL	0.3683	0.3154	0.3320	0.2816	0.0710
		Low-NDVI	0.3236	0.3035	0.3103	0.2839	0.0440
		High-NDVI	0.4498	0.3880	0.3871	0.3121	0.0859
	45–64	ALL	0.3752	0.3416	0.3298	0.2971	0.0655
		Low-NDVI	0.3710	0.3542	0.3496	0.3344	0.0357
		High-NDVI	0.3486	0.2894	0.2858	0.2235	0.0815
	65+	ALL	0.1569	0.1265	0.1264	0.0973	0.0470
		Low-NDVI	0.1447	0.1255	0.1256	0.1118	0.0306
		High-NDVI	0.1315	0.1015	0.0981	0.0551	0.0518
Marital Status	Unmarried	ALL	0.2500	0.2171	0.2249	0.1879	0.0676
		Low-NDVI	0.2527	0.2304	0.2314	0.2077	0.0455
		High-NDVI	0.2214	0.1947	0.2021	0.1589	0.0709
	Divorced	ALL	0.0349	0.0244	0.0266	0.0154	0.0175
		Low-NDVI	0.0450	0.0317	0.0338	0.0216	0.0178
		High-NDVI	0.0285	0.0168	0.0194	0.0102	0.0125
Education	Low	ALL	0.7594	0.6708	0.6618	0.5756	0.1439
		Low-NDVI	0.8439	0.7908	0.7583	0.6761	0.1150
		High-NDVI	0.7946	0.6814	0.6793	0.5565	0.1666
	Tech	ALL	0.1585	0.1342	0.1305	0.1079	0.0441
		Low-NDVI	0.1273	0.0962	0.1002	0.0729	0.0384
		High-NDVI	0.1556	0.1286	0.1179	0.0879	0.0563
	Univ	ALL	0.2101	0.1461	0.1580	0.0919	0.0909
		Low-NDVI	0.1544	0.0828	0.1071	0.0550	0.0716
		High-NDVI	0.2130	0.1388	0.1470	0.0661	0.1015
	Master	ALL	0.0367	0.0183	0.0300	0.0079	0.0446
		Low-NDVI	0.0169	0.0067	0.0130	0.0035	0.0158
		High-NDVI	0.0438	0.0203	0.0324	0.0044	0.0383
Source of income	Labor	ALL	0.5998	0.5262	0.5406	0.4633	0.1133
		Low-NDVI	0.5621	0.5147	0.5243	0.4686	0.0896
		High-NDVI	0.6902	0.6098	0.6018	0.5137	0.1317
	Pension	ALL	0.3592	0.3000	0.2805	0.2147	0.1068
		Low-NDVI	0.3442	0.3084	0.2991	0.2662	0.0732
		High-NDVI	0.3100	0.1954	0.2127	0.1156	0.1200
	Supported	ALL	0.1509	0.1262	0.1351	0.1065	0.0590
		Low-NDVI	0.1493	0.1330	0.1323	0.1085	0.0377
		High-NDVI	0.1684	0.1392	0.1451	0.1116	0.0584
	Other	ALL	0.0548	0.0368	0.0438	0.0229	0.0371
		Low-NDVI	0.0556	0.0427	0.0442	0.0296	0.0238
		High-NDVI	0.0487	0.0319	0.0403	0.0178	0.0397
Occupation	Manager	ALL	0.1180	0.0667	0.0852	0.0286	0.0768
		Low-NDVI	0.0899	0.0354	0.0610	0.0125	0.0709
		High-NDVI	0.1293	0.0682	0.0899	0.0279	0.0817
	Professional	ALL	0.2979	0.2308	0.2299	0.1605	0.1034
		Low-NDVI	0.1916	0.1378	0.1455	0.0843	0.0763
		High-NDVI	0.2921	0.2187	0.2110	0.1151	0.1190
	Clerical	ALL	0.2256	0.1754	0.1805	0.1314	0.0738
		Low-NDVI	0.2253	0.1639	0.1755	0.1217	0.0764
		High-NDVI	0.2047	0.1534	0.1546	0.0987	0.0803
	Other	ALL	0.4093	0.3267	0.3393	0.2542	0.1249
		Low-NDVI	0.5683	0.4710	0.4661	0.3667	0.1400
		High-NDVI	0.3768	0.3032	0.3105	0.2263	0.1165
Housing	<29	ALL	0.2997	0.0706	0.1987	0.0214	0.2488
		Low-NDVI	0.6880	0.5368	0.4652	0.2384	0.2585
		High-NDVI	0.3407	0.0415	0.2169	0.0155	0.3051

30–59	ALL	0.5120	0.2920	0.3338	0.1153	0.2523
	Low-NDVI	0.3658	0.2568	0.2749	0.1641	0.1548
	High-NDVI	0.3285	0.1341	0.2148	0.0530	0.2069
60–119	ALL	0.5549	0.3131	0.3493	0.1218	0.2505
	Low-NDVI	0.2506	0.0865	0.1656	0.0309	0.1780
	High-NDVI	0.6453	0.4352	0.4127	0.1480	0.2701
120+	ALL	0.1553	0.0433	0.1183	0.0082	0.1710
	Low-NDVI	0.1293	0.0283	0.0943	0.0073	0.1486
	High-NDVI	0.1942	0.0678	0.1556	0.0168	0.2069

Table S3. P-values for all comparisons.

P-values		NDVI			Density			REI			BAL	
		L-H	L-ALL	H-ALL	L-H	L-ALL	H-ALL	L-H	L-ALL	H-ALL	H-ALL	H-ALL
Age	0–24	0.1289	5.54E-07	9.01E-08	8.76E-32	4.82E-33	1.57E-05	0.0871	0.9092	0.0122	1.48E-04	1.48E-04
	25–44	6.80E-27	3.44E-05	6.36E-25	4.72E-57	2.47E-54	1.65E-19	5.22E-10	5.01E-05	5.69E-06	5.98E-04	5.98E-04
	45–64	2.08E-22	5.14E-05	5.45E-19	2.78E-52	6.73E-51	1.77E-14	0.0270	0.0449	0.3172	6.00E-04	6.00E-04
	65+	2.89E-14	0.7716	1.57E-19	4.51E-58	1.03E-58	2.80E-16	9.50E-09	0.0027	4.96E-07	9.54E-05	9.54E-05
Marital status	Unmarried	1.76E-19	1.66E-05	4.26E-15	1.12E-13	1.60E-08	1.18E-09	1.20E-04	0.0867	3.07E-04	0.8203	0.8203
	Divorced	7.71E-24	9.96E-13	7.61E-14	1.56E-44	1.50E-33	6.74E-21	0.0075	0.2380	0.0164	0.0849	0.0849
Illiteracy	Illiterate	0.0558	0.0544	4.67E-05	4.63E-05	0.8337	4.72E-13	0.0120	0.4047	0.0075	0.6505	0.6505
Education	Low	2.61E-09	9.64E-30	0.1826	0.1528	7.63E-11	3.16E-19	0.4759	0.0159	0.1363	0.3647	0.3647
	Tech	1.08E-07	1.91E-31	0.0026	1.14E-05	1.39E-24	3.51E-16	0.2862	0.0546	0.6354	0.0740	0.0740
	Univ	4.88E-06	1.47E-22	0.0617	0.0349	1.88E-12	2.20E-17	0.7673	0.0470	0.0983	0.4914	0.4914
	Master	4.64E-09	2.81E-25	0.8544	0.2744	4.17E-08	1.10E-17	0.1046	5.38E-04	0.1533	0.5890	0.5890
Source of income	Labor	7.60E-17	0.0253	1.17E-16	1.13E-16	1.58E-10	2.82E-07	2.89E-09	1.53E-05	1.46E-04	0.0504	0.0504
	Pension	1.95E-18	0.0944	2.63E-19	7.92E-21	5.16E-15	7.30E-08	1.38E-14	4.53E-11	7.39E-05	0.0191	0.0191
	Supported	0.0134	0.2089	3.34E-05	0.0263	0.0573	0.2508	4.39E-04	0.0033	0.0638	0.2962	0.2962
	Other	1.51E-06	0.0031	6.70E-04	0.0101	0.1403	0.0319	0.4735	0.2734	0.0184	0.4015	0.4015
Occupation	Manager	1.35E-07	6.44E-11	0.4622	0.3512	4.47E-07	2.40E-07	0.0966	0.0444	0.8457	0.6296	0.6296
	Professional	8.69E-12	6.14E-41	0.0184	1.05E-08	1.65E-29	1.57E-09	0.0010	2.47E-04	0.5180	0.0079	0.0079
	Clerical	0.0033	0.1346	1.02E-07	7.06E-21	2.59E-32	0.8629	0.9200	0.9923	0.8896	0.0230	0.0230
	Other	4.04E-35	1.17E-43	1.93E-04	9.52E-20	1.41E-05	1.35E-20	2.18E-04	0.0078	0.0190	0.1138	0.1138
Housing	<29	2.60E-23	2.34E-50	0.0465	0.0020	3.41E-26	2.92E-15	1.90E-12	3.56E-09	0.0011	0.0057	0.0057
	30–59	9.80E-09	0.0262	3.31E-14	4.76E-48	1.38E-33	9.29E-15	0.0042	0.5057	4.68E-04	0.0429	0.0429
	60–119	2.12E-27	1.88E-35	4.12E-04	7.48E-04	2.18E-12	2.00E-31	8.19E-08	3.11E-06	0.0082	0.2286	0.2286
	120+	3.98E-05	0.0255	9.62E-04	1.45E-28	1.58E-07	7.03E-23	0.0852	0.0106	0.8104	0.0779	0.0779

Table S4. Density summary statistics (75th percentile, median, mean, 25th percentile, standard deviation) per variable and group.

		Group	75th	Median	Mean	25th	StD
Age	0–24	ALL	0.2265	0.2017	0.2118	0.1821	0.0527
		Low-density	0.2829	0.2420	0.2548	0.2077	0.0808
		High-density	0.2123	0.1945	0.1973	0.1768	0.0280
	25–44	ALL	0.3683	0.3154	0.3320	0.2816	0.0710
		Low-density	0.4887	0.4252	0.4210	0.3614	0.0911
		High-density	0.3143	0.2922	0.2925	0.2663	0.0376
	45–64	ALL	0.3752	0.3416	0.3298	0.2971	0.0655
		Low-density	0.3065	0.2518	0.2517	0.1903	0.0818
		High-density	0.3872	0.3608	0.3611	0.3405	0.0373
	65+	ALL	0.1569	0.1265	0.1264	0.0973	0.0470
		Low-density	0.0997	0.0636	0.0725	0.0335	0.0503
		High-density	0.1721	0.1453	0.1491	0.1243	0.0323
Marital Status	Unmarried	ALL	0.2500	0.2171	0.2249	0.1879	0.0676
		Low-density	0.2448	0.1954	0.2161	0.1529	0.1051
		High-density	0.2547	0.2325	0.2353	0.2157	0.0380
	Divorced	ALL	0.0349	0.0244	0.0266	0.0154	0.0175
		Low-density	0.0227	0.0118	0.0184	0.0057	0.0323
		High-density	0.0432	0.0336	0.0350	0.0244	0.0141
Source of income	Labor	ALL	0.5998	0.5262	0.5406	0.4633	0.1133
		Low-density	0.6761	0.5791	0.5884	0.4977	0.1403
		High-density	0.5512	0.4977	0.5064	0.4455	0.0952
	Pension	ALL	0.3592	0.3000	0.2805	0.2147	0.1068
		Low-density	0.3183	0.2278	0.2210	0.1166	0.1247
		High-density	0.3778	0.3320	0.3170	0.2741	0.0881
	Supported	ALL	0.1509	0.1262	0.1351	0.1065	0.0590
		Low-density	0.1640	0.1320	0.1451	0.1053	0.0823
		High-density	0.1486	0.1233	0.1319	0.1069	0.0575
	Other	ALL	0.0548	0.0368	0.0438	0.0229	0.0371
		Low-density	0.0535	0.0336	0.0455	0.0188	0.0459
		High-density	0.0568	0.0411	0.0448	0.0264	0.0286
Occupation	Manager	ALL	0.1180	0.0667	0.0852	0.0286	0.0768
		Low-density	0.1136	0.0332	0.0820	0.0089	0.1119
		High-density	0.0870	0.0463	0.0591	0.0209	0.0493
	Professional	ALL	0.2979	0.2308	0.2299	0.1605	0.1034
		Low-density	0.2366	0.1169	0.1508	0.0426	0.1303
		High-density	0.2551	0.1900	0.1923	0.1154	0.0909
	Clerical	ALL	0.2256	0.1754	0.1805	0.1314	0.0738
		Low-density	0.1746	0.1053	0.1235	0.0600	0.0849
		High-density	0.2162	0.1737	0.1797	0.1336	0.0611
	Other	ALL	0.4093	0.3267	0.3393	0.2542	0.1249
		Low-density	0.3843	0.2918	0.3049	0.2073	0.1507
		High-density	0.5164	0.4019	0.4207	0.3140	0.1320
Housing	<29	ALL	0.2997	0.0706	0.1987	0.0214	0.2488
		Low-density	0.7389	0.3861	0.4165	0.0697	0.3311
		High-density	0.5961	0.2101	0.3217	0.0508	0.2836
	30–59	ALL	0.5120	0.2920	0.3338	0.1153	0.2523
		Low-density	0.2081	0.0920	0.1486	0.0446	0.1559
		High-density	0.6720	0.4464	0.4579	0.2365	0.2454
	60–119	ALL	0.5549	0.3131	0.3493	0.1218	0.2505
		Low-density	0.3987	0.1494	0.2491	0.0504	0.2448
		High-density	0.2532	0.0941	0.1806	0.0311	0.2095
	120+	ALL	0.1553	0.0433	0.1183	0.0082	0.1710
		Low-density	0.2286	0.0816	0.1858	0.0195	0.2408
		High-density	0.0334	0.0096	0.0399	0.0017	0.0856

Table S5. REI summary statistics (75th percentile, median, mean, 25th percentile, standard deviation) per variable and group.

		Group	75th	Median	Mean	25th	StD
Age	0–24	ALL	0.2265	0.2017	0.2118	0.1821	0.0527
		Low-REI	0.2291	0.2005	0.2106	0.1813	0.0449
		High-REI	0.2202	0.1960	0.2118	0.1769	0.0693
	25–44	ALL	0.3683	0.3154	0.3320	0.2816	0.0710
		Low-REI	0.3994	0.3387	0.3490	0.2920	0.0716
		High-REI	0.3377	0.3010	0.3129	0.2727	0.0642
	45–64	ALL	0.3752	0.3416	0.3298	0.2971	0.0655
		Low-REI	0.3702	0.3336	0.3220	0.2792	0.0668
		High-REI	0.3795	0.3429	0.3338	0.3060	0.0666
	65+	ALL	0.1569	0.1265	0.1264	0.0973	0.0470
		Low-REI	0.1544	0.1154	0.1184	0.0840	0.0442
		High-REI	0.1698	0.1394	0.1415	0.1167	0.0488
Source of income	Labor	ALL	0.5998	0.5262	0.5406	0.4633	0.1133
		Low-REI	0.6480	0.5614	0.5694	0.4882	0.1230
		High-REI	0.5698	0.5036	0.5138	0.4427	0.1028
	Pension	ALL	0.3592	0.3000	0.2805	0.2147	0.1068
		Low-REI	0.3244	0.2361	0.2354	0.1508	0.1119
		High-REI	0.3760	0.3210	0.3071	0.2625	0.0956
	Supported	ALL	0.1509	0.1262	0.1351	0.1065	0.0590
		Low-REI	0.1615	0.1337	0.1467	0.1095	0.0782
		High-REI	0.1436	0.1220	0.1318	0.1042	0.0621
	Other	ALL	0.0548	0.0368	0.0438	0.0229	0.0371
		Low-REI	0.0613	0.0381	0.0485	0.0205	0.0426
		High-REI	0.0584	0.0408	0.0474	0.0262	0.0395
Housing	<29	ALL	0.2997	0.0706	0.1987	0.0214	0.2488
		Low-REI	0.1249	0.0351	0.1125	0.0130	0.1724
		High-REI	0.3483	0.1297	0.2255	0.0349	0.2399
	30–59	ALL	0.5120	0.2920	0.3338	0.1153	0.2523
		Low-REI	0.6006	0.2391	0.3394	0.0780	0.2927
		High-REI	0.5097	0.3609	0.3787	0.2139	0.2281
	60–119	ALL	0.5549	0.3131	0.3493	0.1218	0.2505
		Low-REI	0.6629	0.4260	0.4297	0.1844	0.2680
		High-REI	0.4683	0.2400	0.3042	0.1028	0.2339
	120+	ALL	0.1553	0.0433	0.1183	0.0082	0.1710
		Low-REI	0.1687	0.0314	0.1184	0.0016	0.1791
		High-REI	0.1277	0.0455	0.0917	0.0128	0.1228

Table S6. BAL summary statistics (75th percentile, median, mean, 25th percentile, standard deviation) per variable and group.

		Group	75th	Median	Mean	25th	StD
Age	0–24	ALL	0.2366	0.2096	0.2213	0.1882	0.0573
		High-BAL	0.2488	0.2196	0.2315	0.1962	0.0602
	25–44	ALL	0.4017	0.3397	0.3548	0.2994	0.0760
		High-BAL	0.4158	0.3611	0.3705	0.3133	0.0756
	45–64	ALL	0.3686	0.3285	0.3147	0.2720	0.0717
		High-BAL	0.3533	0.3074	0.3000	0.2593	0.0715
	65+	ALL	0.1367	0.1119	0.1092	0.0795	0.0446
		High-BAL	0.1260	0.0979	0.0980	0.0672	0.0432
Housing	<29	ALL	0.2762	0.0658	0.2009	0.0203	0.2617
		High-BAL	0.4242	0.1086	0.2410	0.0279	0.2813
	30–59	ALL	0.4026	0.2072	0.2652	0.0727	0.2271
		High-BAL	0.3646	0.1691	0.2305	0.0624	0.2047
	60–119	ALL	0.6054	0.3961	0.3929	0.1694	0.2492
		High-BAL	0.5769	0.3942	0.3726	0.1329	0.2473
	120+	ALL	0.1963	0.0633	0.1411	0.0130	0.1851
		High-BAL	0.2014	0.0776	0.1559	0.0198	0.1988

Table S7. Percentage of common neighborhoods in groups.

	High density	Low density	High NDVI	Low NDVI
High density	/	/	1.48%	25.18%
Low density	/	/	31.48%	7.77%
High NDVI	1.11%	31.48%	/	/
Low NDVI	25.92%	8.51%	/	/

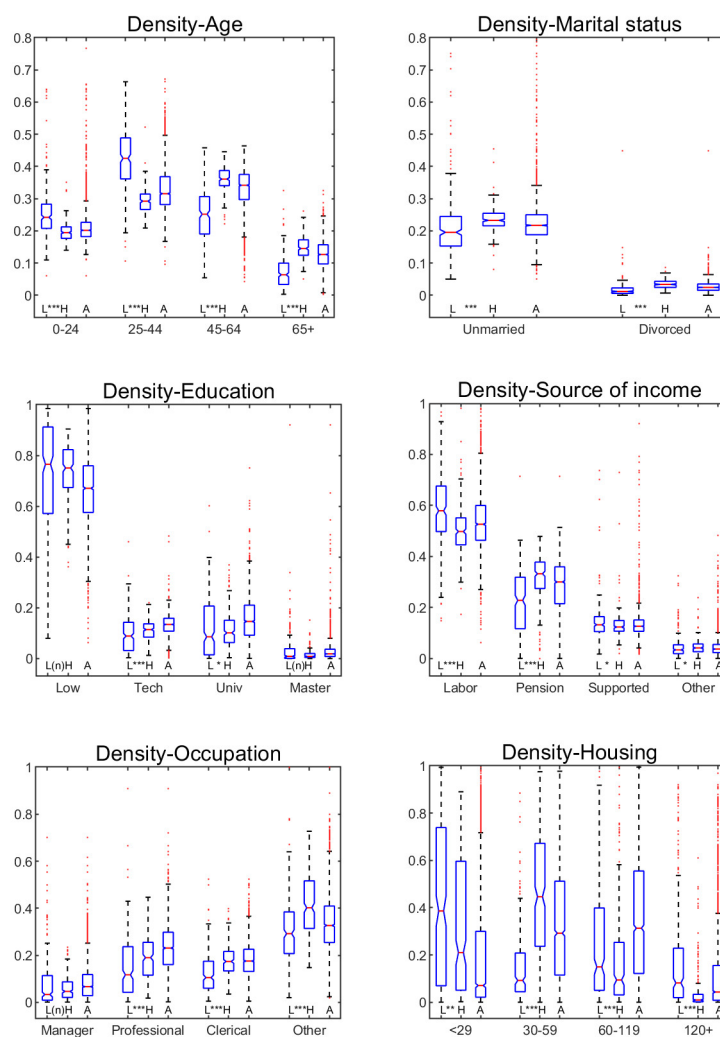


Figure S1. Distributions of Low (L) and High (H) density groups as well as the complete set (A) across age, marital status, education, source of income, occupation, and housing. The Mann–Whitney U-test is used to compare L-H, L-A, and H-A distributions. Horizontal red lines express median values. This graph depicts the results of the Mann–Whitney U-test for the L-H comparison only. P-values across all comparisons are presented in **Table S3**. P-value: $p < 0.001$ ***| $0.001 < p < 0.01$ **| $0.01 < p < 0.05$ *| $p > 0.05$ (n). Results show statistically significant differences between L-H groups for most socio-economic characteristics.

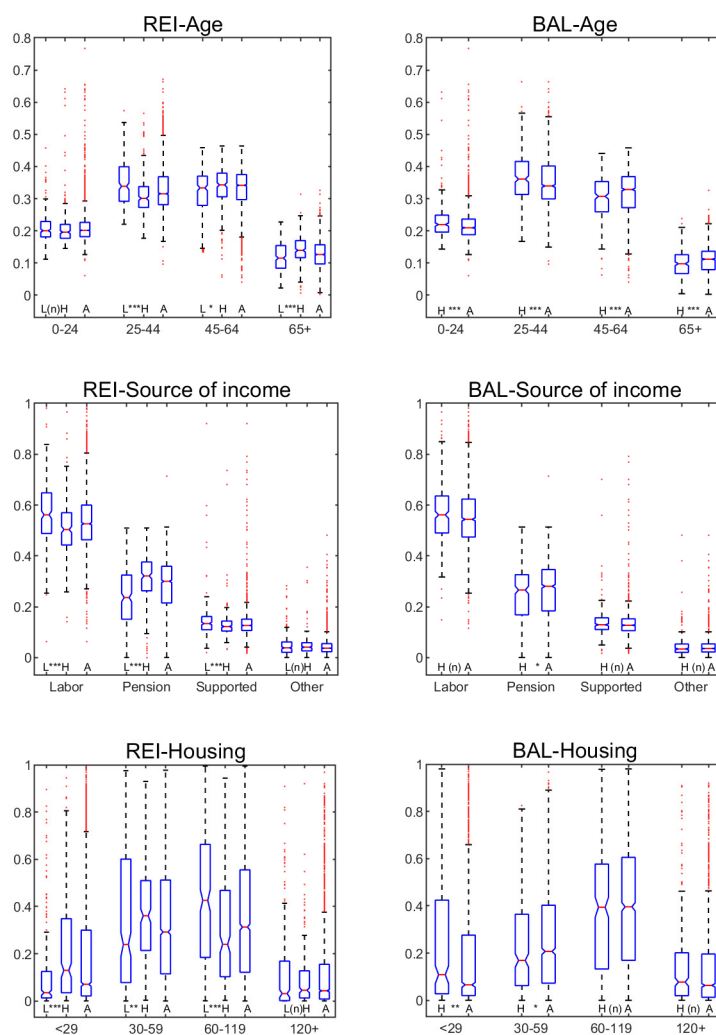


Figure S2. Distributions of Low (L) and High (H) REI and BAL groups as well as the complete set (A) across age, source of income, and housing. The Mann–Whitney U-test is used to compare L-H, L-A, and H-A distributions. Horizontal red lines express median values. This graph depicts the results of the Mann–Whitney U-test for the L-H comparison only. P-values across all comparisons are presented in **Table S3**. P-value: $p < 0.001$ *** | $0.001 < p < 0.01$ ** | $0.01 < p < 0.05$ * | $p > 0.05$ (n). Results show statistically significant differences between L-H groups for most socioeconomic characteristics.