

Economic Inequality and Depressive Symptoms: An Individual versus Aggregate level analysis using Mexican survey data

Supplementary Electronic Material

Appendix A: DEPRESSIVE SYMPTOMS INSTRUMENT

Information regarding depressive symptoms was collected as part of the survey using the reduced version of the widely used Centre for Epidemiologic Studies Depression Scale (CES-D), validated for Mexico, and whose questions read as follow:

Figure A1. Depressive symptoms questions as they appeared in the questionnaire

II. DEPRESIÓN

A continuación le mencionaré sentimientos o conductas que usted haya podido experimentar. Por favor, dígame con qué frecuencia se ha sentido así durante la ÚLTIMA SEMANA.

| 2.01 | | | | |
|--|---------------------------------------|--|---|---|
| Durante la última semana... | | | | |
| ENTREVISTADOR: LEA LAS OPCIONES DE RESPUESTA PARA CADA PREGUNTA Y ANOTE SÓLO UNA | | | | |
| | Rara vez o nunca (menos de un día) | Pocas veces o alguna vez (1 - 2 días) | Un número de veces considerable (3 - 4 días) | Todo el tiempo o la mayoría del tiempo (5 - 7 días) |
| a) ¿se sentía como si no pudiera quitarse de encima la tristeza? | a201_a | 2 | 3 | 4 |
| b) ¿le costaba concentrarse en lo que estaba haciendo? | a201_b | 2 | 3 | 4 |
| c) ¿se sintió deprimido/a? | a201_c | 2 | 3 | 4 |
| d) ¿le parecía que todo lo que hacía era un esfuerzo? | a201_d | 2 | 3 | 4 |
| e) ¿no durmió bien? | a201_e | 2 | 3 | 4 |
| f) ¿disfrutó de la vida? | a201_f | 2 | 3 | 4 |
| g) ¿se sintió triste? | a201_g | 2 | 3 | 4 |

CUALQUIER
OPCIÓN
PASE A 2.02

Our translation of the above Spanish text:

“I will read feelings or conducts that you might have experimented. Please, tell me the frequency to which you have felt this in the LAST WEEK:

- You felt overwhelmed by sadness
- It was hard for you to concentrate in what I was doing
- You felt depressed
- It felt like everything you did was a major effort
- You did not sleep well
- You felt you enjoyed life
- You felt sad”

Appendix B: DERIVATION OF OUR ASSET INDEX THROUGH PRINCIPAL COMPONENT ANALYSIS

We model absolute wealth as quartiles of an asset index built through PCA using the rich information on assets possession and quality contained in the survey. Since customary PCA in the presence of numerous binary and cardinal variables (as in our data) may produce incorrect results (Kolenikov and Angeles 2009; Howe et al. 2012), we adopt the methodology proposed by Kolenikov and Angeles (2009) and run PCA using polychoric correlations. The tables below provide information regarding the construction of the asset index.

Indicators Used to Construct Asset Index and Weights Produced by PCA

| Indicator | Description | Measurement Type | Categories | Weight Produced by PCA | | | |
|-----------------|------------------------|------------------|-------------------|------------------------|-------------|-----------|-----------|
| wall | Main Material of walls | Categorical | Waste / Rubbish | -0.519897 | | | |
| | | | Cardboard | -0.447112 | | | |
| | | | Asbestos | -0.392333 | | | |
| | | | Bamboo/Palm | -0.354359 | | | |
| | | | Mud | -0.335058 | | | |
| | | | Wood | -0.271810 | | | |
| | | | Adobe | -0.196361 | | | |
| | | | Stone/brick | 0.043297 | | | |
| | | | Earthen | -0.405640 | | | |
| | | | floor | Main Material of floor | Categorical | Cement | -0.084464 |
| Titled/Wooden | 0.200031 | | | | | | |
| Waste / Rubbish | -0.542463 | | | | | | |
| roof | Main Material of roof | Categorical | | | | Cardboard | -0.388435 |
| | | | Metallic Sheeting | -0.230421 | | | |
| | | | Asbestos | -0.144841 | | | |
| | | | Bamboo/Palm | -0.123205 | | | |
| | | | Wood | -0.108482 | | | |
| | | | Earthen | -0.094848 | | | |
| | | | Tiled | -0.087643 | | | |
| | | | Concrete | 0.086410 | | | |
| | | | kitchen | Independent Kitchen | Binary | No | -0.209200 |
| | | | | | | Yes | 0.028389 |
| room | Number of Rooms | Count | | 0.149054 | | | |
| electri | Electric Power | Binary | No | -0.434158 | | | |
| | | | Yes | 0.010178 | | | |
| water | Water Source | Categorical | Mains inside | 0.106606 | | | |
| | | | Mains outside | -0.125085 | | | |

| | | | | |
|------------|-------------------------------|-------------|--------------------|-----------|
| | | | Public hydrant | -0.221008 |
| | | | Other House | -0.232282 |
| | | | Water pipe | -0.248469 |
| sewage | Waste disposal | Categorical | Dwell, river, lake | -0.335705 |
| | | | Mains | 0.093212 |
| | | | Septic | -0.141988 |
| | | | Ravine | -0.239378 |
| | | | River, Lake | -0.244539 |
| combustion | Type of fuel | Categorical | No sewage | -0.321830 |
| | | | Gas tank | 0.071834 |
| | | | Natural gas | -0.135708 |
| | | | Wood | -0.228368 |
| | | | Coal | -0.385054 |
| rubbish | Rubbish Disposal | Categorical | Electricity | -0.402787 |
| | | | Other | -0.476754 |
| | | | Collected | 0.064575 |
| | | | Public area | -0.112264 |
| | | | Public Container | -0.127265 |
| | | | Burnt | -0.207659 |
| | | | Bury | -0.333376 |
| heat | Heating | Binary | Street | -0.352484 |
| | | | Ravine | -0.370694 |
| | | | River, Lake | -0.428607 |
| bulb | Number of Bulbs | Count | No | -0.010792 |
| | | | Yes | 0.160503 |
| sanitation | Private-Flush Toilet in house | Binary | No | 0.180272 |
| | | | Yes | -0.185733 |
| h60101 | Other Property Ownership | Binary | Yes | 0.150005 |
| | | | No | -0.006266 |
| h60102 | Automobile | Binary | Yes | 0.040635 |
| | | | No | -0.070335 |
| h60103 | Van/Pick up | Binary | Yes | 0.217372 |
| | | | No | -0.037145 |
| h60104 | Motorcycle | Binary | Yes | 0.134830 |
| | | | No | -0.005224 |
| h60105 | Boat / Trajinera | Binary | Yes | 0.099967 |
| | | | No | 0.000174 |
| h60106 | Television | Binary | Yes | -0.012057 |
| | | | No | -0.373232 |
| h60107 | Cable TV | Binary | Yes | 0.028456 |
| | | | No | -0.083285 |
| h60108 | Radio | Binary | Yes | 0.171998 |
| | | | No | -0.053974 |

| | | | |
|--------|---------------------|-----|-----------|
| | | Yes | 0.048774 |
| | | No | -0.097571 |
| h60109 | Music system | Yes | 0.122251 |
| | | No | -0.295532 |
| h60110 | Iron | Yes | 0.060723 |
| | | No | -0.300585 |
| h60111 | Food processor | Yes | 0.055300 |
| | | No | -0.329142 |
| h60112 | Refrigerator | Yes | 0.063081 |
| | | No | -0.355153 |
| h60113 | Gas stove | Yes | 0.055571 |
| | | No | -0.000500 |
| h60114 | Other stove | Yes | 0.006298 |
| | | No | -0.199982 |
| h60115 | Washer/tumble Dryer | Yes | 0.112716 |
| | | No | -0.114742 |
| h60116 | Water heater | Yes | 0.207308 |
| | | No | -0.083285 |
| h60117 | Computer / Notebook | Yes | 0.261892 |
| | | No | -0.066320 |
| h60118 | Internet / WiFi | Yes | 0.304679 |
| | | No | -0.124738 |
| h60119 | Microwave | Yes | 0.192950 |
| | | No | -0.108426 |
| h60120 | Landline | Yes | 0.205613 |
| | | No | -0.121921 |
| h60121 | Water tank | Yes | 0.114623 |
| | | No | -0.030712 |
| h60122 | Other Water tank | Yes | 0.165364 |
| | | No | -0.285739 |
| h60123 | Electricity Meter | Yes | 0.029783 |
| | | No | -0.170461 |
| h60124 | Mobile Phone | Yes | 0.094838 |
| | | No | -0.034449 |
| h60125 | Air Conditioning | Yes | 0.225565 |

Note. First Component Eigen Value = 15.00 with 40% of the variance reproduced.

Polychoric Correlations to Use with Principal Components Analysis

| | Walls | Floors | Roof | Kitchen | N of Rooms | Electricity | Water Source | Sewage | Fuel | Rubbish Disposal | Heating | N of Bulbs | Sanitation Type | Other Property Ownership | Automobile | Van/Pick up | Motorcycle |
|--------------------------|---------|---------|---------|---------|------------|-------------|--------------|---------|---------|------------------|---------|------------|-----------------|--------------------------|------------|-------------|------------|
| Walls | | | | | | | | | | | | | | | | | |
| Floors | 0.5625 | | | | | | | | | | | | | | | | |
| Roof | 0.6781 | 0.6151 | | | | | | | | | | | | | | | |
| Kitchen | -0.2534 | -0.3787 | -0.2958 | | | | | | | | | | | | | | |
| N of Rooms | 0.3573 | 0.4442 | 0.3952 | 0.0000 | | | | | | | | | | | | | |
| Electricity | -0.4445 | -0.4603 | -0.3517 | 0.3521 | -0.4026 | | | | | | | | | | | | |
| Water Source | -0.4543 | -0.5650 | -0.5126 | 0.3270 | 0.0000 | 0.4753 | | | | | | | | | | | |
| Sewage | -0.4683 | -0.4907 | -0.4891 | 0.2432 | -0.3419 | 0.5022 | 0.6210 | | | | | | | | | | |
| Fuel | -0.4734 | -0.4719 | -0.4828 | 0.2824 | -0.3289 | 0.4590 | 0.5335 | 0.5922 | | | | | | | | | |
| Rubbish Disposal | -0.4643 | -0.4234 | -0.4417 | 0.1321 | -0.2450 | 0.4563 | 0.5294 | 0.6513 | 0.6176 | | | | | | | | |
| Heating | -0.0175 | -0.2145 | 0.0042 | 0.1813 | -0.2202 | -0.0116 | 0.2873 | 0.2244 | 0.1034 | 0.1236 | | | | | | | |
| N of Bulbs | 0.5366 | 0.5474 | 0.5646 | -0.5847 | 0.5787 | -0.6054 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | -0.2022 | | | | | | |
| Sanitation Type | 0.4840 | 0.6480 | 0.5873 | -0.4050 | 0.4762 | -0.4996 | -0.7161 | -0.6742 | -0.5814 | -0.5285 | -0.3684 | 0.6505 | | | | | |
| Other Property Ownership | -0.0481 | 0.0751 | 0.0012 | -0.1006 | 0.1430 | 0.0233 | 0.0055 | 0.0562 | 0.0707 | 0.1005 | -0.1347 | 0.1404 | 0.0607 | | | | |
| Automobile | 0.3408 | 0.4509 | 0.3709 | -0.3028 | 0.3743 | -0.3439 | -0.4503 | -0.3706 | -0.4058 | -0.3425 | -0.3421 | 0.4492 | 0.5292 | 0.1777 | | | |
| Van/Pick up | 0.1253 | 0.2170 | 0.1840 | -0.2327 | 0.2971 | -0.2190 | -0.1697 | -0.0638 | -0.2133 | -0.0661 | -0.2253 | 0.2523 | 0.2814 | 0.2475 | 0.1104 | | |
| Motorcycle | 0.1282 | 0.1099 | 0.0810 | -0.0612 | 0.0923 | -0.1868 | -0.0608 | 0.0220 | -0.1050 | 0.0000 | 0.0035 | 0.1030 | 0.0927 | 0.1322 | 0.1392 | 0.2075 | |
| Boat / Trajinera | -0.0973 | -0.0589 | -0.1084 | 0.0486 | -0.0013 | -0.0350 | 0.1336 | 0.1797 | 0.0792 | 0.2171 | 0.0710 | 0.0395 | -0.0715 | 0.1132 | 0.0967 | 0.1780 | 0.3765 |
| Television | 0.4498 | 0.4248 | 0.4206 | -0.3041 | 0.3803 | -0.7255 | -0.4399 | -0.4715 | -0.5516 | -0.4748 | -0.0705 | 0.5419 | 0.4893 | -0.0217 | 0.4248 | 0.3436 | 0.1957 |
| Cable TV | 0.2866 | 0.4268 | 0.3110 | -0.2422 | 0.3098 | -0.4376 | -0.3786 | -0.2666 | -0.3351 | -0.2697 | -0.1991 | 0.4266 | 0.4324 | 0.1376 | 0.4590 | 0.2583 | 0.2035 |
| Radio | 0.1101 | 0.1104 | 0.1265 | -0.1680 | 0.1741 | -0.2078 | -0.1492 | -0.1485 | -0.1462 | -0.1370 | -0.1212 | 0.1684 | 0.1545 | 0.0331 | 0.1318 | 0.0814 | -0.0111 |
| Music system | 0.2984 | 0.3577 | 0.2950 | -0.2411 | 0.3124 | -0.4216 | -0.3023 | -0.2892 | -0.3173 | -0.2634 | -0.1091 | 0.3764 | 0.3437 | 0.0917 | 0.3205 | 0.1716 | 0.1798 |
| Iron | 0.4305 | 0.4539 | 0.4241 | -0.3638 | 0.4637 | -0.6000 | -0.4449 | -0.4399 | -0.5374 | -0.4390 | -0.1836 | 0.6200 | 0.5148 | 0.0277 | 0.4403 | 0.3127 | 0.1516 |
| Food processor | 0.4063 | 0.4225 | 0.3786 | -0.3862 | 0.4708 | -0.6097 | -0.4147 | -0.4543 | -0.5344 | -0.4273 | -0.1286 | 0.6314 | 0.4920 | 0.0222 | 0.4207 | 0.3056 | 0.1213 |
| Refrigerator | 0.4328 | 0.5052 | 0.4247 | -0.3783 | 0.4814 | -0.6525 | -0.4945 | -0.4608 | -0.5933 | -0.4438 | -0.2464 | 0.6852 | 0.6066 | 0.0090 | 0.5368 | 0.4014 | 0.2140 |
| Gas stove | 0.5225 | 0.5249 | 0.5090 | -0.3736 | 0.4471 | -0.5370 | -0.5475 | -0.5955 | -0.8634 | -0.6230 | -0.2173 | 0.5918 | 0.6341 | -0.0604 | 0.5240 | 0.3662 | 0.1545 |
| Other stove | -0.0364 | 0.0269 | -0.0359 | -0.0061 | 0.0447 | 0.0826 | -0.0187 | 0.0271 | 0.2205 | 0.0627 | -0.1734 | 0.0760 | 0.0103 | 0.1088 | 0.0596 | 0.0569 | 0.0048 |
| Washer/tumble Dryer | 0.3643 | 0.4541 | 0.3663 | -0.3470 | 0.4448 | -0.5199 | -0.4400 | -0.3829 | -0.5102 | -0.3663 | -0.2846 | 0.5727 | 0.5317 | 0.0770 | 0.4998 | 0.3690 | 0.2260 |
| Water heater | 0.3436 | 0.5547 | 0.5039 | -0.4341 | 0.4981 | -0.4273 | -0.5820 | -0.5577 | -0.4843 | -0.4341 | -0.4392 | 0.5597 | 0.7184 | 0.1135 | 0.5017 | 0.3055 | 0.0254 |
| Computer / Notebook | 0.4240 | 0.5403 | 0.4676 | -0.3337 | 0.4394 | -0.4162 | -0.5356 | -0.4721 | -0.4226 | -0.4479 | -0.2989 | 0.5523 | 0.5854 | 0.1930 | 0.5910 | 0.2769 | 0.1577 |
| Internet / WiFi | 0.4399 | 0.5591 | 0.4861 | -0.3451 | 0.4362 | -0.4321 | -0.5808 | -0.5236 | -0.4110 | -0.4900 | -0.2951 | 0.5270 | 0.6060 | 0.1857 | 0.5873 | 0.2669 | 0.1272 |
| Microwave | 0.3465 | 0.5114 | 0.3936 | -0.3487 | 0.4342 | -0.4774 | -0.4966 | -0.4407 | -0.4936 | -0.4056 | -0.3934 | 0.5507 | 0.5861 | 0.1069 | 0.5195 | 0.3157 | 0.1369 |
| Landline | 0.3640 | 0.5040 | 0.4440 | -0.3748 | 0.4928 | -0.4423 | -0.5033 | -0.4861 | -0.4287 | -0.4140 | -0.2601 | 0.5393 | 0.5659 | 0.1021 | 0.4532 | 0.2755 | 0.0489 |
| Water tank | 0.3518 | 0.4714 | 0.4892 | -0.3103 | 0.3424 | -0.2985 | -0.3858 | -0.3504 | -0.3872 | -0.3012 | 0.0760 | 0.4361 | 0.5616 | 0.0748 | 0.2921 | 0.2139 | 0.1025 |
| Other Water tank | 0.3161 | 0.3249 | 0.3618 | -0.2213 | 0.2568 | -0.1717 | -0.2502 | -0.2796 | -0.2773 | -0.2442 | 0.0175 | 0.2925 | 0.2660 | 0.0885 | 0.2649 | 0.1201 | 0.0709 |
| Electricity Meter | 0.3627 | 0.4007 | 0.3623 | -0.3758 | 0.3730 | -0.7935 | -0.4176 | -0.3947 | -0.3428 | -0.3229 | -0.1313 | 0.4942 | 0.4814 | 0.0684 | 0.3269 | 0.2260 | 0.0666 |
| Mobile Phone | 0.3578 | 0.3876 | 0.3311 | -0.1683 | 0.3038 | -0.4228 | -0.3727 | -0.3664 | -0.4796 | -0.4064 | -0.1985 | 0.4844 | 0.4319 | 0.0888 | 0.4888 | 0.2432 | 0.2247 |
| Air Conditioning | 0.3154 | 0.3627 | 0.3012 | -0.2278 | 0.2368 | -0.3342 | -0.4259 | -0.2874 | -0.3226 | -0.3443 | -0.4493 | 0.2746 | 0.5023 | 0.0929 | 0.4577 | 0.2600 | 0.1204 |

Polychoric Correlations to Use with Principal Components Analysis (cont)

| | Boat / Trajinera | Television | Cable TV | Radio | Music system | Iron | Food processor | Refrigerat or | Gas stove | Other stove | Washer/tu mble Dryer | Water heater | Computer / Notebook | Internet / WiFi | Microwav e | Landline | Water tank | Other Water tank | Electricity Meter | Mobile Phone |
|---------------------|---------------------|------------|----------|--------|-----------------|---------|-------------------|------------------|-----------|----------------|----------------------------|-----------------|---------------------------|--------------------|---------------|----------|---------------|------------------------|----------------------|-----------------|
| Television | -0.0164 | | | | | | | | | | | | | | | | | | | |
| Cable TV | 0.1367 | 0.5867 | | | | | | | | | | | | | | | | | | |
| Radio | -0.0462 | 0.2386 | 0.0489 | | | | | | | | | | | | | | | | | |
| Music system | 0.0436 | 0.4869 | 0.3440 | 0.0984 | | | | | | | | | | | | | | | | |
| Iron | -0.0230 | 0.6638 | 0.4030 | 0.2590 | 0.4318 | | | | | | | | | | | | | | | |
| Food processor | -0.0330 | 0.6719 | 0.3794 | 0.2611 | 0.4344 | 0.7456 | | | | | | | | | | | | | | |
| Refrigerator | 0.0723 | 0.7046 | 0.5032 | 0.2044 | 0.4541 | 0.6768 | 0.7123 | | | | | | | | | | | | | |
| Gas stove | -0.0608 | 0.7101 | 0.4228 | 0.2248 | 0.4220 | 0.6886 | 0.7138 | 0.7636 | | | | | | | | | | | | |
| Other stove | 0.0964 | -0.0880 | 0.0728 | 0.0819 | 0.0725 | -0.0430 | -0.0355 | -0.0370 | -0.2361 | | | | | | | | | | | |
| Washer/tumble Dryer | 0.0749 | 0.5907 | 0.4569 | 0.1522 | 0.4072 | 0.5873 | 0.5961 | 0.6950 | 0.6592 | -0.0150 | | | | | | | | | | |
| Water heater | -0.0825 | 0.4613 | 0.3743 | 0.2414 | 0.3523 | 0.5418 | 0.5348 | 0.5647 | 0.6544 | 0.0927 | 0.5130 | | | | | | | | | |
| Computer / Notebook | 0.0349 | 0.4518 | 0.5431 | 0.1395 | 0.4033 | 0.5646 | 0.5071 | 0.5851 | 0.5637 | 0.1329 | 0.5671 | 0.5815 | | | | | | | | |
| Internet / WiFi | 0.0491 | 0.4282 | 0.6038 | 0.1582 | 0.3987 | 0.5574 | 0.5132 | 0.6199 | 0.5760 | 0.1513 | 0.5748 | 0.6018 | 0.9734 | | | | | | | |
| Microwave | 0.0011 | 0.5220 | 0.4604 | 0.1805 | 0.4011 | 0.5610 | 0.5495 | 0.6782 | 0.6427 | 0.0838 | 0.6118 | 0.5943 | 0.6254 | 0.6457 | | | | | | |
| Landline | -0.0048 | 0.4872 | 0.4381 | 0.1802 | 0.3362 | 0.5303 | 0.5845 | 0.6117 | 0.6001 | 0.0433 | 0.5483 | 0.6129 | 0.6631 | 0.7840 | 0.5851 | | | | | |
| Water tank | -0.0534 | 0.4066 | 0.3161 | 0.1294 | 0.2947 | 0.4254 | 0.4299 | 0.4209 | 0.4458 | 0.0116 | 0.3567 | 0.5909 | 0.3927 | 0.3919 | 0.3712 | 0.4404 | | | | |
| Other Water tank | 0.0386 | 0.2407 | 0.2188 | 0.1629 | 0.2392 | 0.2917 | 0.3051 | 0.2659 | 0.2983 | 0.1087 | 0.2266 | 0.3974 | 0.3615 | 0.3870 | 0.2758 | 0.3753 | 0.4370 | | | |
| Electricity Meter | -0.0744 | 0.5104 | 0.3131 | 0.1536 | 0.2546 | 0.4582 | 0.4638 | 0.5222 | 0.4622 | -0.0389 | 0.4096 | 0.4356 | 0.4051 | 0.4446 | 0.3911 | 0.4430 | 0.3530 | 0.1899 | | |
| Mobile Phone | 0.0751 | 0.5215 | 0.3939 | 0.0844 | 0.3856 | 0.4718 | 0.4383 | 0.5078 | 0.5641 | 0.0168 | 0.4698 | 0.3660 | 0.6131 | 0.5932 | 0.4890 | 0.2516 | 0.2805 | 0.2238 | 0.3318 | |
| Air Conditioning | 0.1034 | 0.3697 | 0.3822 | 0.0453 | 0.2038 | 0.3439 | 0.2584 | 0.5477 | 0.4683 | 0.1471 | 0.4521 | 0.2827 | 0.4477 | 0.4655 | 0.4813 | 0.3489 | 0.0309 | -0.0397 | 0.3575 | 0.4179 |

Pearson Correlations

| | Walls | Floors | Roof | Kitchen | N of Rooms | Electricity | Water Source | Sewage | Fuel | Rubbish Disposal | Heating | N of Bulbs | Sanitation Type | Other Property Ownership | Automobile | Van/Pick up | Motorcycle |
|--------------------------|---------|---------|---------|---------|------------|-------------|--------------|---------|---------|------------------|---------|------------|-----------------|--------------------------|------------|-------------|------------|
| Walls | | | | | | | | | | | | | | | | | |
| Floors | 0.2910 | | | | | | | | | | | | | | | | |
| Roof | 0.4307 | 0.4020 | | | | | | | | | | | | | | | |
| Kitchen | -0.1388 | -0.1885 | -0.1583 | | | | | | | | | | | | | | |
| N of Rooms | 0.2109 | 0.3619 | 0.2820 | -0.3606 | | | | | | | | | | | | | |
| Electricity | -0.1518 | -0.1214 | -0.1116 | 0.0996 | -0.1012 | | | | | | | | | | | | |
| Water Source | -0.2526 | -0.3128 | -0.3299 | 0.1416 | -0.2383 | 0.1750 | | | | | | | | | | | |
| Sewage | -0.2525 | -0.2954 | -0.3137 | 0.1294 | -0.2276 | 0.1859 | 0.3838 | | | | | | | | | | |
| Fuel | -0.2651 | -0.2985 | -0.3402 | 0.1514 | -0.2272 | 0.1447 | 0.3394 | 0.3995 | | | | | | | | | |
| Rubbish Disposal | -0.2444 | -0.2649 | -0.3114 | 0.0649 | -0.1653 | 0.1488 | 0.3590 | 0.4380 | 0.4505 | | | | | | | | |
| Heating | -0.0194 | -0.0917 | -0.0025 | 0.0468 | -0.1258 | -0.0019 | 0.0757 | 0.0624 | 0.0456 | 0.0446 | | | | | | | |
| N of Bulbs | 0.2089 | 0.4101 | 0.3164 | -0.2239 | 0.5787 | -0.1391 | -0.2562 | -0.2562 | -0.2493 | -0.2164 | -0.1496 | | | | | | |
| Sanitation Type | 0.2389 | 0.4389 | 0.3999 | -0.1984 | 0.3612 | -0.1133 | -0.4143 | -0.4097 | -0.3753 | -0.3301 | -0.1395 | 0.4042 | | | | | |
| Other Property Ownership | -0.0130 | 0.0404 | 0.0006 | -0.0354 | 0.0944 | 0.0047 | 0.0072 | 0.0207 | 0.0340 | 0.0493 | -0.0481 | 0.1076 | 0.0300 | | | | |
| Automobile | 0.1221 | 0.2799 | 0.1967 | -0.1149 | 0.2837 | -0.0561 | -0.1899 | -0.1723 | -0.1991 | -0.1678 | -0.1493 | 0.3536 | 0.3043 | 0.0866 | | | |
| Van/Pick up | 0.0663 | 0.1269 | 0.0995 | -0.0880 | 0.2186 | -0.0391 | -0.0744 | -0.0456 | -0.1045 | -0.0372 | -0.0924 | 0.2007 | 0.1567 | 0.1221 | 0.0586 | | |
| Motorcycle | 0.0264 | 0.0404 | 0.0236 | -0.0156 | 0.0429 | -0.0183 | -0.0159 | -0.0074 | -0.0311 | -0.0012 | 0.0008 | 0.0595 | 0.0327 | 0.0419 | 0.0491 | 0.0750 | |
| Boat / Trajinera | -0.0330 | -0.0111 | -0.0251 | 0.0072 | -0.0003 | -0.0023 | 0.0327 | 0.0236 | 0.0153 | 0.0440 | 0.0072 | 0.0114 | -0.0131 | 0.0188 | 0.0174 | 0.0336 | 0.0789 |
| Television | 0.2164 | 0.1878 | 0.2142 | -0.1250 | 0.1792 | -0.2995 | -0.2237 | -0.2509 | -0.2929 | -0.2458 | -0.0176 | 0.1879 | 0.2048 | -0.0073 | 0.1235 | 0.1011 | 0.0357 |
| Cable TV | 0.1170 | 0.2783 | 0.1794 | -0.1042 | 0.2397 | -0.0747 | -0.1791 | -0.1539 | -0.1824 | -0.1489 | -0.0830 | 0.3204 | 0.2668 | 0.0683 | 0.2816 | 0.1476 | 0.0749 |
| Radio | 0.0583 | 0.0734 | 0.0819 | -0.0813 | 0.1328 | -0.0514 | -0.0772 | -0.0801 | -0.0905 | -0.0822 | -0.0490 | 0.1265 | 0.0985 | 0.0165 | 0.0763 | 0.0459 | -0.0040 |
| Music system | 0.1357 | 0.2395 | 0.1823 | -0.1127 | 0.2402 | -0.0874 | -0.1576 | -0.1666 | -0.1881 | -0.1551 | -0.0447 | 0.2721 | 0.2208 | 0.0459 | 0.1901 | 0.0977 | 0.0649 |
| Iron | 0.2358 | 0.2529 | 0.2606 | -0.1808 | 0.2749 | -0.1926 | -0.2451 | -0.2667 | -0.3404 | -0.2661 | -0.0548 | 0.2710 | 0.2867 | 0.0115 | 0.1816 | 0.1309 | 0.0402 |
| Food processor | 0.2157 | 0.2303 | 0.2266 | -0.1923 | 0.2723 | -0.2007 | -0.2184 | -0.2770 | -0.3335 | -0.2540 | -0.0391 | 0.2651 | 0.2664 | 0.0091 | 0.1690 | 0.1243 | 0.0321 |
| Refrigerator | 0.2330 | 0.2752 | 0.2604 | -0.1883 | 0.2848 | -0.2158 | -0.2661 | -0.2863 | -0.3830 | -0.2678 | -0.0681 | 0.2912 | 0.3336 | 0.0037 | 0.2045 | 0.1570 | 0.0523 |
| Gas stove | 0.2882 | 0.2739 | 0.3138 | -0.1816 | 0.2521 | -0.1746 | -0.3139 | -0.3620 | -0.6417 | -0.4025 | -0.0579 | 0.2509 | 0.3289 | -0.0249 | 0.1865 | 0.1368 | 0.0377 |
| Other stove | -0.0036 | 0.0117 | -0.0138 | -0.0019 | 0.0235 | 0.0153 | -0.0046 | 0.0167 | 0.1074 | 0.0253 | -0.0554 | 0.0500 | 0.0042 | 0.0385 | 0.0231 | 0.0216 | 0.0011 |
| Washer/tumble Dryer | 0.1865 | 0.2961 | 0.2390 | -0.1749 | 0.3226 | -0.1305 | -0.2467 | -0.2465 | -0.3302 | -0.2292 | -0.1028 | 0.3287 | 0.3500 | 0.0369 | 0.2679 | 0.1936 | 0.0725 |
| Water heater | 0.1614 | 0.3707 | 0.2996 | -0.1790 | 0.3892 | -0.0776 | -0.2814 | -0.2781 | -0.2693 | -0.2361 | -0.1900 | 0.4059 | 0.4721 | 0.0564 | 0.3112 | 0.1770 | 0.0089 |
| Computer / Notebook | 0.1405 | 0.3388 | 0.2375 | -0.1237 | 0.3370 | -0.0615 | -0.2152 | -0.2103 | -0.2073 | -0.2090 | -0.1280 | 0.4299 | 0.3353 | 0.0944 | 0.3737 | 0.1542 | 0.0561 |
| Internet / WiFi | 0.1246 | 0.3267 | 0.2173 | -0.1123 | 0.3226 | -0.0529 | -0.2004 | -0.1969 | -0.1814 | -0.1954 | -0.1236 | 0.4262 | 0.3111 | 0.0864 | 0.3567 | 0.1411 | 0.0425 |
| Microwave | 0.1577 | 0.3438 | 0.2426 | -0.1538 | 0.3395 | -0.0874 | -0.2462 | -0.2380 | -0.2812 | -0.2296 | -0.1663 | 0.3892 | 0.3837 | 0.0534 | 0.3218 | 0.1833 | 0.0496 |
| Landline | 0.1579 | 0.3344 | 0.2608 | -0.1563 | 0.3829 | -0.0776 | -0.2378 | -0.2484 | -0.2379 | -0.2235 | -0.1099 | 0.3966 | 0.3589 | 0.0505 | 0.2778 | 0.1585 | 0.0173 |
| Water tank | 0.1745 | 0.3196 | 0.3195 | -0.1494 | 0.2644 | -0.0715 | -0.2063 | -0.2193 | -0.2310 | -0.1844 | 0.0310 | 0.2936 | 0.3785 | 0.0373 | 0.1701 | 0.1207 | 0.0364 |
| Other Water tank | 0.0975 | 0.1790 | 0.1627 | -0.0752 | 0.1800 | -0.0286 | -0.0883 | -0.1173 | -0.1184 | -0.1066 | 0.0058 | 0.2353 | 0.1356 | 0.0380 | 0.1383 | 0.0583 | 0.0221 |
| Electricity Meter | 0.1887 | 0.1910 | 0.1923 | -0.1726 | 0.1963 | -0.3228 | -0.2243 | -0.2141 | -0.1769 | -0.1665 | -0.0337 | 0.1948 | 0.2228 | 0.0234 | 0.1147 | 0.0809 | 0.0159 |
| Mobile Phone | 0.1664 | 0.2530 | 0.2131 | -0.0821 | 0.2213 | -0.1092 | -0.2125 | -0.2282 | -0.3094 | -0.2568 | -0.0741 | 0.2806 | 0.2785 | 0.0425 | 0.2617 | 0.1296 | 0.0719 |
| Air Conditioning | 0.0873 | 0.1915 | 0.1339 | -0.0723 | 0.1544 | -0.0407 | -0.1422 | -0.1152 | -0.1333 | -0.1335 | -0.2032 | 0.2232 | 0.2345 | 0.0384 | 0.2480 | 0.1287 | 0.0377 |

Pearson Correlations (cont)

| | Boat / Trajinera | Television | Cable TV | Radio | Music system | Iron | Food processor | Refrigerator | Gas stove | Other stove | Washer/tum- ble Dryer | Water heater | Computer / Notebook | Internet / WiFi | Microwave | Landline | Water tank | Other Water tank | Electricity Meter | Mobile Phone | |
|---------------------|---------------------|------------|----------|--------|-----------------|---------|-------------------|--------------|-----------|-------------|--------------------------|-----------------|------------------------|--------------------|-----------|----------|------------|---------------------|----------------------|-----------------|--|
| Television | -0.0021 | | | | | | | | | | | | | | | | | | | | |
| Cable TV | 0.0256 | 0.1734 | | | | | | | | | | | | | | | | | | | |
| Radio | -0.0085 | 0.1006 | 0.0299 | | | | | | | | | | | | | | | | | | |
| Music system | 0.0080 | 0.1825 | 0.2157 | 0.0624 | | | | | | | | | | | | | | | | | |
| Iron | -0.0037 | 0.3553 | 0.1890 | 0.1406 | 0.2241 | | | | | | | | | | | | | | | | |
| Food processor | -0.0052 | 0.3643 | 0.1736 | 0.1384 | 0.2189 | 0.4861 | | | | | | | | | | | | | | | |
| Refrigerator | 0.0101 | 0.3892 | 0.2231 | 0.1092 | 0.2308 | 0.4227 | 0.4523 | | | | | | | | | | | | | | |
| Gas stove | -0.0096 | 0.3995 | 0.1813 | 0.1148 | 0.2037 | 0.4249 | 0.4469 | 0.4967 | | | | | | | | | | | | | |
| Other stove | 0.0136 | -0.0265 | 0.0296 | 0.0336 | 0.0300 | -0.0155 | -0.0125 | -0.0131 | -0.0934 | | | | | | | | | | | | |
| Washer/tumble Dryer | 0.0129 | 0.2652 | 0.2686 | 0.0952 | 0.2557 | 0.3460 | 0.3434 | 0.4133 | 0.3694 | -0.0061 | | | | | | | | | | | |
| Water heater | -0.0140 | 0.1569 | 0.2348 | 0.1504 | 0.2238 | 0.2520 | 0.2405 | 0.2545 | 0.2620 | 0.0382 | 0.3092 | | | | | | | | | | |
| Computer / Notebook | 0.0060 | 0.1274 | 0.3408 | 0.0806 | 0.2410 | 0.2155 | 0.1927 | 0.2144 | 0.1935 | 0.0534 | 0.2995 | 0.3680 | | | | | | | | | |
| Internet / WiFi | 0.0080 | 0.1065 | 0.3639 | 0.0850 | 0.2212 | 0.1840 | 0.1681 | 0.1880 | 0.1669 | 0.0586 | 0.2689 | 0.3581 | 0.7867 | | | | | | | | |
| Microwave | 0.0002 | 0.1801 | 0.2951 | 0.1136 | 0.2595 | 0.2711 | 0.2572 | 0.3074 | 0.2741 | 0.0347 | 0.3816 | 0.3979 | 0.3968 | 0.3803 | | | | | | | |
| Landline | -0.0009 | 0.1604 | 0.2782 | 0.1114 | 0.2123 | 0.2441 | 0.2536 | 0.2660 | 0.2434 | 0.0176 | 0.3278 | 0.4110 | 0.4323 | 0.4959 | 0.3896 | | | | | | |
| Water tank | -0.0098 | 0.1672 | 0.1956 | 0.0826 | 0.1894 | 0.2311 | 0.2274 | 0.2248 | 0.2261 | 0.0048 | 0.2268 | 0.3857 | 0.2289 | 0.2105 | 0.2376 | 0.2788 | | | | | |
| Other Water tank | 0.0061 | 0.0680 | 0.1155 | 0.0844 | 0.1264 | 0.1097 | 0.1100 | 0.0996 | 0.1026 | 0.0399 | 0.1106 | 0.2182 | 0.1955 | 0.2051 | 0.1474 | 0.2054 | 0.2249 | | | | |
| Electricity Meter | -0.0111 | 0.2419 | 0.1235 | 0.0708 | 0.1127 | 0.2317 | 0.2340 | 0.2733 | 0.2303 | -0.0121 | 0.1988 | 0.1683 | 0.1340 | 0.1236 | 0.1604 | 0.1681 | 0.1609 | 0.0623 | | | |
| Mobile Phone | 0.0129 | 0.2345 | 0.2312 | 0.0525 | 0.2413 | 0.2711 | 0.2447 | 0.2900 | 0.3114 | 0.0068 | 0.3044 | 0.2194 | 0.3200 | 0.2746 | 0.3011 | 0.1499 | 0.1768 | 0.1090 | 0.1593 | | |
| Air Conditioning | 0.0170 | 0.0849 | 0.2012 | 0.0225 | 0.1026 | 0.1168 | 0.0902 | 0.1520 | 0.1294 | 0.0536 | 0.1956 | 0.1452 | 0.2416 | 0.2493 | 0.2527 | 0.1818 | 0.0153 | -0.0158 | 0.0941 | 0.1824 | |

Appendix C: CONCEPTUAL AND EMPIRICAL DETAILS ABOUT OF OUR ECONOMIC STATUS INDICATORS

ABSOLUTE WEALTH

Asset indices derived through principal component analysis (PCA) are continuous indicators which are widely used to measure standards of living (e.g. Jean et al 2016; Boerma, et al 2018; Heft-Neal et al 2018; Cao et al 2019; Watmough et al 2019), in particular when information on income is unavailable (as in our case) or not reliable. The use of wealth to derive indicators of economic status in our paper is not only due to the unavailability of income, but it is also supported by the considerations that:

- i) information on assets is more reliable than information on income/expenditures in developing countries contexts (due to large informal economy, under-reporting, seasonality, etc.) – see Deaton (2000) and Filmer and Pritchett (2001);
- ii) wealth is useful to examine socioeconomic inequalities in health – e.g. wealth provides better information on the ability to face health shocks (Pollack et al (2007));
- iii) wealth is particularly relevant given our paper's specific purposes: wealth has been argued to be more able than income to capture psychosocial mechanisms of economic inequality given the greater visibility of assets compared to income (Heffetz 2011; Sweet 2011; Hicks and Hicks 2014) – the importance of visibility of assets for the effects of inequality to be exerted has also been experimentally shown by Nishi et al (2015).

RELATIVE DEPRIVATION

We use the wealth information to derive relative deprivation indices because as mentioned the visible character of assets makes wealth particularly suitable for the construction of indices of relative economic status (e.g. Heffetz 2011; Hicks and Hicks 2014). We employ linear as well as non-linear (concave) indices available from the relative deprivation literature (Yitzhaki 1979; Esposito 2010), which differ in the functional form adopted by the index and in particular in the assumptions regarding the sensitivity to other's wealth. The Yitzhaki (1979) index of relative deprivation is based on the difference between individual i 's achievement and the achievements of better-off individuals in her reference group. Denoting individual i 's and individual j 's levels of wealth with y_i and y_j , respectively, for an increasingly ordered wealth vector $y = (y_1, \dots, y_N)$, the Yitzhaki index reads as

$$RDY(y_i, y_j) = \sum_{j=i+1}^N \frac{y_j - y_i}{N},$$

while the Esposito index (which we use below in one of the robustness checks below) replaces the linear functional form with a hyperbolic function

$$RDE(y_i, y_j) = \sum_{j=i+1}^N \frac{1 - ((y_i)^\beta / (y_j)^\beta)}{N}, \beta > 0.$$

Results do not change depending on the functional form used. N is the size of the reference group.

The reference group is chosen following a criterion of geographic proximity (individuals living in the same municipality, yielding a total of 712 reference groups). Geographical proximity has indeed proved useful for the study of relative deprivation in Mexico (Esposito and Villaseñor 2019) and concurs with Deaton's (2001) view that "people almost certainly compare themselves to their immediate geographical neighbours" (p. 21). Robustness checks are carried out with indices derived using reference groups based on additional demographic characteristics – results are also in this case confirmed and are available upon request.

RELATIVE AFFLUENCE

The Yitzhaki index of relative affluence reads as

$$RAY(y_i, y_j) = \sum_{j=1}^{i-1} \frac{y_i - y_j}{N}.$$

No other functional forms have been employed in the literature for indices of relative affluence (Esposito 2018).

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Appendix D: FULL REGRESSION OUTPUT SHOWING ALL COVARIATES

| | State Inequality | | | | | | | | | |
|---------------------------|--------------------|---------------|--------------------|---------------|--------------------|---------------|--------------------|---------------|--------------------|---------------|
| | (1) | | (2) | | (3) | | (4) | | (5) | |
| | Beta | 95% CI | Beta | 95% CI | Beta | 95% CI | Beta | 95% CI | Beta | 95% CI |
| Poorest Quartile | 0.543 (0.0000) | [0.35,0.74] | 0.592 (0.0000) | [0.39,0.79] | 0.431 (0.0001) | [0.22,0.64] | 0.418 (0.0001) | [0.21,0.63] | 0.412 (0.0002) | [0.20,0.63] |
| 2 nd Quartile | 0.610 (0.0000) | [0.46,0.76] | 0.562 (0.0000) | [0.40,0.73] | 0.506 (0.0000) | [0.34,0.67] | 0.455 (0.0000) | [0.28,0.63] | 0.483 (0.0000) | [0.31,0.66] |
| 3 rd Quartile | 0.349 (0.0000) | [0.22,0.48] | 0.271 (0.0002) | [0.13,0.41] | 0.268 (0.0002) | [0.13,0.41] | 0.224 (0.0026) | [0.08,0.37] | 0.255 (0.0005) | [0.11,0.40] |
| Rel Deprivation | 0.173 (0.0000) | [0.11,0.24] | | | 0.137 (0.0001) | [0.07,0.21] | 0.120 (0.0009) | [0.05,0.19] | 0.216 (0.0115) | [0.05,0.38] |
| Rel Affluence | | | -0.162 (0.0000) | [-0.24,-0.09] | -0.102 (0.0123) | [-0.18,-0.02] | -0.367 (0.0003) | [-0.56,-0.17] | -0.109 (0.0080) | [-0.19,-0.03] |
| Gini | 2.340 (0.5260) | [-4.89,9.57] | 2.635 (0.4329) | [-3.95,9.22] | 2.439 (0.3767) | [-2.97,7.85] | 1.119 (0.5998) | [-3.06,5.30] | 2.831 (0.2616) | [-2.11,7.77] |
| Rel DeprivationGini | | | | | | | -0.450 (0.3036) | [-1.31,0.41] | | |
| Rel AffluenceGini | | | | | | | | | 1.342 (0.0048) | [0.41,2.27] |
| HH Size | 0.031 (0.0133) | [0.01,0.06] | 0.030 (0.0179) | [0.01,0.05] | 0.034 (0.0073) | [0.01,0.06] | 0.036 (0.0046) | [0.01,0.06] | 0.035 (0.0062) | [0.01,0.06] |
| Female | 1.681 (0.0000) | [1.56,1.80] | 1.690 (0.0000) | [1.57,1.81] | 1.682 (0.0000) | [1.57,1.80] | 1.681 (0.0000) | [1.56,1.80] | 1.682 (0.0000) | [1.56,1.80] |
| Age | 0.114 (0.0000) | [0.10,0.13] | 0.114 (0.0000) | [0.10,0.13] | 0.114 (0.0000) | [0.10,0.13] | 0.114 (0.0000) | [0.10,0.13] | 0.114 (0.0000) | [0.10,0.13] |
| Age 2 | -0.001 (0.0000) | [-0.00,-0.00] | -0.001 (0.0000) | [-0.00,-0.00] | -0.001 (0.0000) | [-0.00,-0.00] | -0.001 (0.0000) | [-0.00,-0.00] | -0.001 (0.0000) | [-0.00,-0.00] |
| Married | -0.394 (0.0000) | [-0.49,-0.30] | -0.400 (0.0000) | [-0.49,-0.31] | -0.384 (0.0000) | [-0.48,-0.29] | -0.373 (0.0000) | [-0.47,-0.28] | -0.381 (0.0000) | [-0.47,-0.29] |
| No education / Primary | -0.379 (0.0000) | [-0.49,-0.27] | -0.375 (0.0000) | [-0.49,-0.26] | -0.380 (0.0000) | [-0.49,-0.27] | -0.387 (0.0000) | [-0.50,-0.27] | -0.382 (0.0000) | [-0.50,-0.27] |
| Secondary | -0.902 (0.0000) | [-1.03,-0.77] | -0.883 (0.0000) | [-1.02,-0.75] | -0.892 (0.0000) | [-1.02,-0.76] | -0.901 (0.0000) | [-1.03,-0.77] | -0.895 (0.0000) | [-1.03,-0.76] |
| Not Employed | 0.630 (0.0000) | [0.41,0.85] | 0.638 (0.0000) | [0.42,0.86] | 0.635 (0.0000) | [0.41,0.85] | 0.637 (0.0000) | [0.42,0.86] | 0.636 (0.0000) | [0.42,0.86] |
| Retired | -0.112 (0.3718) | [-0.36,0.13] | -0.112 (0.3705) | [-0.36,0.13] | -0.113 (0.3651) | [-0.36,0.13] | -0.127 (0.3118) | [-0.37,0.12] | -0.118 (0.3466) | [-0.36,0.13] |
| Student | 0.455 (0.0067) | [0.13,0.78] | 0.451 (0.0072) | [0.12,0.78] | 0.462 (0.0059) | [0.13,0.79] | 0.467 (0.0054) | [0.14,0.80] | 0.463 (0.0058) | [0.13,0.79] |
| House Work | -0.042 (0.4957) | [-0.16,0.08] | -0.051 (0.3980) | [-0.17,0.07] | -0.043 (0.4780) | [-0.16,0.08] | -0.045 (0.4613) | [-0.16,0.07] | -0.043 (0.4773) | [-0.16,0.08] |
| Other Act | 0.521 (0.0002) | [0.25,0.80] | 0.522 (0.0002) | [0.25,0.80] | 0.524 (0.0002) | [0.25,0.80] | 0.524 (0.0002) | [0.25,0.80] | 0.523 (0.0002) | [0.25,0.80] |
| Social Programme | 0.006 (0.9263) | [-0.11,0.12] | -0.014 (0.8197) | [-0.13,0.10] | 0.007 (0.9047) | [-0.11,0.12] | 0.016 (0.7944) | [-0.10,0.13] | 0.010 (0.8626) | [-0.11,0.13] |
| Chronic Health Problem | 1.184 (0.0000) | [1.06,1.31] | 1.187 (0.0000) | [1.06,1.32] | 1.191 (0.0000) | [1.06,1.32] | 1.198 (0.0000) | [1.07,1.33] | 1.192 (0.0000) | [1.06,1.32] |
| Victim of Violence | 2.433 (0.0000) | [2.14,2.73] | 2.446 (0.0000) | [2.15,2.74] | 2.438 (0.0000) | [2.14,2.73] | 2.451 (0.0000) | [2.16,2.75] | 2.441 (0.0000) | [2.15,2.74] |
| Limitations in Activities | 1.083 (0.0000) | [0.99,1.18] | 1.087 (0.0000) | [0.99,1.18] | 1.087 (0.0000) | [0.99,1.18] | 1.093 (0.0000) | [1.00,1.19] | 1.088 (0.0000) | [0.99,1.18] |
| Drinks Yearly | 0.189 (0.0005) | [0.08,0.30] | 0.192 (0.0004) | [0.08,0.30] | 0.190 (0.0005) | [0.08,0.30] | 0.190 (0.0005) | [0.08,0.30] | 0.190 (0.0005) | [0.08,0.30] |
| Drinks Monthly | 0.186 (0.0053) | [0.06,0.32] | 0.188 (0.0049) | [0.06,0.32] | 0.186 (0.0053) | [0.06,0.32] | 0.186 (0.0054) | [0.05,0.32] | 0.187 (0.0052) | [0.06,0.32] |
| Drinks Weekly/Daily | 0.422 | [0.26,0.58] | 0.431 | [0.27,0.59] | 0.427 | [0.27,0.59] | 0.430 | [0.27,0.59] | 0.428 | [0.27,0.59] |

| | | | | | | | | | | |
|---------------|--------------------------------|--------------|--------------------------------|--------------|--------------------------------|--------------|--------------------------------|---------------|--------------------------------|--------------|
| Has Insurance | (0.0000) -0.027 (0.6208) | [-0.14,0.08] | (0.0000) -0.042 (0.4493) | [-0.15,0.07] | (0.0000) -0.032 (0.5603) | [-0.14,0.08] | (0.0000) -0.039 (0.4836) | [-0.15,0.07] | (0.0000) -0.034 (0.5409) | [-0.14,0.07] |
| Hospitals/Pop | (0.2049) -0.090 (0.2049) | [-0.23,0.05] | (0.1965) -0.084 (0.1965) | [-0.21,0.04] | (0.1004) -0.088 (0.1004) | [-0.19,0.02] | (0.0321) -0.086 (0.0321) | [-0.17,-0.01] | (0.0710) -0.087 (0.0710) | [-0.18,0.01] |
| Mean Wealth | (0.3061) 0.180 (0.3061) | [-0.16,0.53] | (0.1940) 0.208 (0.1940) | [-0.11,0.52] | (0.1805) 0.177 (0.1805) | [-0.08,0.43] | (0.0825) 0.173 (0.0825) | [-0.02,0.37] | (0.1397) 0.176 (0.1397) | [-0.06,0.41] |
| Constant | (0.2683) -1.916 (0.2683) | [-5.31,1.48] | (0.2498) -1.818 (0.2498) | [-4.91,1.28] | (0.1833) -1.736 (0.1833) | [-4.29,0.82] | (0.1609) -1.408 (0.1609) | [-3.38,0.56] | (0.1328) -1.778 (0.1328) | [-4.10,0.54] |
| Observations | 44,324 | | 44,324 | | 44,324 | | 44,324 | | 44,324 | |
| Overall-R2 | 0.0881 | | 0.0880 | | 0.0882 | | 0.0884 | | 0.0883 | |
| Between-R2 | 0.3099 | | 0.3199 | | 0.3203 | | 0.3355 | | 0.3188 | |
| Within-R2 | 0.0867 | | 0.0865 | | 0.0868 | | 0.0870 | | 0.0868 | |

Municipal Inequality

| | (6) | | (7) | | (8) | | (9) | | (10) | |
|--------------------------|--------------------|---------------|--------------------|---------------|--------------------|---------------|--------------------|---------------|--------------------|---------------|
| | Beta | 95% CI | Beta | 95% CI | Beta | 95% CI | Beta | 95% CI | Beta | 95% CI |
| Poorest Quartile | 0.681 (0.0000) | [0.42,0.94] | 0.748 (0.0000) | [0.49,1.00] | 0.504 (0.0013) | [0.20,0.81] | 0.455 (0.0040) | [0.15,0.76] | 0.389 (0.0177) | [0.07,0.71] |
| 2 nd Quartile | 0.652 (0.0000) | [0.48,0.82] | 0.627 (0.0000) | [0.43,0.83] | 0.516 (0.0000) | [0.30,0.73] | 0.413 (0.0003) | [0.19,0.64] | 0.397 (0.0009) | [0.16,0.63] |
| 3 rd Quartile | 0.360 (0.0000) | [0.23,0.49] | 0.306 (0.0001) | [0.15,0.46] | 0.266 (0.0011) | [0.11,0.42] | 0.175 (0.0421) | [0.01,0.34] | 0.193 (0.0251) | [0.02,0.36] |
| Rel Deprivation | 0.135 (0.0014) | [0.05,0.22] | | | 0.119 (0.0054) | [0.04,0.20] | 0.095 (0.0297) | [0.01,0.18] | 0.297 (0.0004) | [0.13,0.46] |
| Rel Affluence | | | -0.122 (0.0086) | [-0.21,-0.03] | -0.098 (0.0366) | [-0.19,-0.01] | -0.385 (0.0002) | [-0.59,-0.18] | -0.142 (0.0048) | [-0.24,-0.04] |
| Gini | -0.707 (0.6798) | [-4.07,2.65] | -0.099 (0.9542) | [-3.47,3.27] | -0.371 (0.8294) | [-3.74,3.00] | -1.904 (0.2873) | [-5.41,1.60] | 0.984 (0.5861) | [-2.56,4.53] |
| Rel DeprivationGini | | | | | | | -1.282 (0.0140) | [-2.30,-0.26] | | |
| Rel AffluenceGini | | | | | | | | | 1.641 (0.0016) | [0.62,2.66] |
| HH Size | 0.038 (0.0024) | [0.01,0.06] | 0.037 (0.0032) | [0.01,0.06] | 0.039 (0.0019) | [0.01,0.06] | 0.039 (0.0018) | [0.01,0.06] | 0.040 (0.0018) | [0.01,0.06] |
| Female | 1.664 (0.0000) | [1.55,1.78] | 1.667 (0.0000) | [1.55,1.78] | 1.668 (0.0000) | [1.55,1.79] | 1.669 (0.0000) | [1.55,1.79] | 1.670 (0.0000) | [1.55,1.79] |
| Age | 0.113 (0.0000) | [0.10,0.13] | 0.112 (0.0000) | [0.10,0.13] | 0.113 (0.0000) | [0.10,0.13] | 0.113 (0.0000) | [0.10,0.13] | 0.113 (0.0000) | [0.10,0.13] |
| Age 2 | -0.001 (0.0000) | [-0.00,-0.00] | -0.001 (0.0000) | [-0.00,-0.00] | -0.001 (0.0000) | [-0.00,-0.00] | -0.001 (0.0000) | [-0.00,-0.00] | -0.001 (0.0000) | [-0.00,-0.00] |
| Married | -0.397 (0.0000) | [-0.49,-0.30] | -0.400 (0.0000) | [-0.49,-0.31] | -0.394 (0.0000) | [-0.49,-0.30] | -0.391 (0.0000) | [-0.48,-0.30] | -0.392 (0.0000) | [-0.48,-0.30] |
| No education / Primary | -0.384 (0.0000) | [-0.50,-0.27] | -0.385 (0.0000) | [-0.50,-0.27] | -0.380 (0.0000) | [-0.49,-0.27] | -0.381 (0.0000) | [-0.49,-0.27] | -0.381 (0.0000) | [-0.49,-0.27] |
| Secondary | -0.888 (0.0000) | [-1.02,-0.75] | -0.879 (0.0000) | [-1.01,-0.74] | -0.870 (0.0000) | [-1.00,-0.74] | -0.863 (0.0000) | [-1.00,-0.73] | -0.866 (0.0000) | [-1.00,-0.73] |
| Not Employed | 0.580 (0.0000) | [0.36,0.80] | 0.584 (0.0000) | [0.37,0.80] | 0.581 (0.0000) | [0.36,0.80] | 0.581 (0.0000) | [0.36,0.80] | 0.581 (0.0000) | [0.36,0.80] |
| Retired | -0.117 (0.3467) | [-0.36,0.13] | -0.119 (0.3372) | [-0.36,0.12] | -0.112 (0.3667) | [-0.36,0.13] | -0.112 (0.3686) | [-0.35,0.13] | -0.111 (0.3693) | [-0.35,0.13] |
| Student | 0.433 (0.0092) | [0.11,0.76] | 0.428 (0.0101) | [0.10,0.75] | 0.439 (0.0083) | [0.11,0.77] | 0.448 (0.0071) | [0.12,0.77] | 0.442 (0.0079) | [0.12,0.77] |
| House Work | -0.033 (0.5832) | [-0.15,0.09] | -0.039 (0.5196) | [-0.16,0.08] | -0.036 (0.5567) | [-0.15,0.08] | -0.035 (0.5603) | [-0.15,0.08] | -0.035 (0.5601) | [-0.15,0.08] |
| Other Act | 0.511 (0.0003) | [0.24,0.79] | 0.513 (0.0002) | [0.24,0.79] | 0.512 (0.0003) | [0.24,0.79] | 0.513 (0.0002) | [0.24,0.79] | 0.512 (0.0003) | [0.24,0.79] |
| Social Programme | 0.006 (0.9162) | [-0.11,0.12] | 0.000 (0.9994) | [-0.12,0.12] | 0.001 (0.9817) | [-0.12,0.12] | 0.006 (0.9213) | [-0.11,0.12] | 0.004 (0.9502) | [-0.11,0.12] |
| Chronic Health Problem | 1.185 | [1.06,1.31] | 1.186 | [1.06,1.31] | 1.186 | [1.06,1.31] | 1.184 | [1.06,1.31] | 1.184 | [1.06,1.31] |

| | | | | | | | | | | |
|---------------------------|-------------------------------|--------------|-------------------------------|--------------|-------------------------------|--------------|-------------------------------|--------------|-------------------------------|--------------|
| Victim of Violence | (0.0000) 2.384 (0.0000) | [2.09,2.68] | (0.0000) 2.393 (0.0000) | [2.10,2.69] | (0.0000) 2.388 (0.0000) | [2.10,2.68] | (0.0000) 2.389 (0.0000) | [2.10,2.68] | (0.0000) 2.385 (0.0000) | [2.09,2.68] |
| Limitations in Activities | 1.100 (0.0000) | [1.01,1.19] | 1.101 (0.0000) | [1.01,1.19] | 1.099 (0.0000) | [1.01,1.19] | 1.097 (0.0000) | [1.00,1.19] | 1.097 (0.0000) | [1.00,1.19] |
| Drinks Yearly | 0.178 (0.0011) | [0.07,0.28] | 0.178 (0.0011) | [0.07,0.28] | 0.179 (0.0010) | [0.07,0.29] | 0.178 (0.0011) | [0.07,0.28] | 0.179 (0.0010) | [0.07,0.29] |
| Drinks Monthly | 0.187 (0.0049) | [0.06,0.32] | 0.188 (0.0048) | [0.06,0.32] | 0.190 (0.0043) | [0.06,0.32] | 0.193 (0.0037) | [0.06,0.32] | 0.194 (0.0036) | [0.06,0.32] |
| Drinks Weekly/Daily | 0.403 (0.0000) | [0.24,0.56] | 0.409 (0.0000) | [0.25,0.57] | 0.410 (0.0000) | [0.25,0.57] | 0.412 (0.0000) | [0.25,0.57] | 0.411 (0.0000) | [0.25,0.57] |
| Has Insurance | -0.041 (0.4517) | [-0.15,0.07] | -0.050 (0.3662) | [-0.16,0.06] | -0.042 (0.4423) | [-0.15,0.07] | -0.045 (0.4127) | [-0.15,0.06] | -0.044 (0.4201) | [-0.15,0.06] |
| Hospitals/Pop | -0.017 (0.3586) | [-0.05,0.02] | -0.018 (0.3471) | [-0.06,0.02] | -0.017 (0.3656) | [-0.05,0.02] | -0.018 (0.3446) | [-0.06,0.02] | -0.016 (0.3954) | [-0.05,0.02] |
| Mean Wealth | 0.078 (0.2673) | [-0.06,0.22] | 0.116 (0.0926) | [-0.02,0.25] | 0.068 (0.3392) | [-0.07,0.21] | 0.063 (0.3727) | [-0.08,0.20] | 0.067 (0.3455) | [-0.07,0.21] |
| Constant | -0.860 (0.2367) | [-2.28,0.56] | -0.951 (0.1905) | [-2.37,0.47] | -0.661 (0.3672) | [-2.10,0.78] | -0.291 (0.6949) | [-1.75,1.16] | -0.730 (0.3199) | [-2.17,0.71] |
| Observations | 44,324 | | 44,324 | | 44,324 | | 44,324 | | 44,324 | |
| Overall-R2 | 0.0875 | | 0.0874 | | 0.0876 | | 0.0878 | | 0.0876 | |
| Between-R2 | 0.0942 | | 0.0894 | | 0.0951 | | 0.0941 | | 0.0915 | |
| Within-R2 | 0.0864 | | 0.0864 | | 0.0865 | | 0.0867 | | 0.0867 | |

For models 1-5 the second level is the State. For models 6-10 the second level is the Municipality. P-values in parenthesis.

FULL REGRESSION OUTPUT for Table 1: Multilevel linear regression models on depressive symptoms

Appendix E: FULL PREDICTION POINTS FROM MODELS 5 AND 10 IN TABLE 2

| Point Predictions at | Model 5 | | Model 10 | |
|--------------------------|------------|--------------|------------|--------------|
| | Prediction | 95% CI | Prediction | 95% CI |
| Relative Deprivation = 0 | 3.57 | [3.49,3.65] | 3.63 | [3.49,3.78] |
| Relative Deprivation = 1 | 3.69 | [3.63,3.75] | 3.73 | [3.60,3.86] |
| Relative Deprivation = 2 | 3.81 | [3.71,3.91] | 3.82 | [3.65,3.99] |
| Relative Deprivation = 3 | 3.93 | [3.77,4.09] | 3.92 | [3.69,4.15] |
| Relative Deprivation = 4 | 4.05 | [3.82,4.28] | 4.01 | [3.71,4.32] |
| Relative Deprivation = 5 | 4.17 | [3.87,4.47] | 4.11 | [3.72,4.49] |
| Relative Deprivation = 6 | 4.29 | [3.92,4.65] | 4.20 | [3.74,4.67] |
| Relative Deprivation = 7 | 4.50 | [4.01, 4.99] | 4.37 | [3.76, 4.98] |

Average Marginal Predictions for different values of Relative Deprivation from Models 5 and 10

| Point Predictions at | Gini = 0 | | Gini = 0.5 | |
|------------------------|------------|-------------|------------|-------------|
| | Prediction | 95% CI | Prediction | 95% CI |
| Relative Affluence = 0 | 3.71 | [3.37,4.05] | 4.16 | [2.81,5.51] |
| Relative Affluence = 1 | 3.48 | [3.15,3.80] | 4.46 | [3.14,5.78] |
| Relative Affluence = 2 | 3.24 | [2.89,3.59] | 4.76 | [3.41,6.12] |
| Relative Affluence = 3 | 3.01 | [2.60,3.42] | 5.07 | [3.62,6.52] |
| Relative Affluence = 4 | 2.78 | [2.29,3.27] | 5.37 | [3.78,6.97] |
| Relative Affluence = 5 | 2.55 | [1.96,3.13] | 5.68 | [3.90,7.45] |
| Relative Affluence = 6 | 2.31 | [1.63,3.00] | 5.98 | [4.00,7.97] |
| Relative Affluence = 7 | 2.08 | [1.29,2.87] | 6.29 | [4.07,8.50] |

Average Marginal Predictions for different values of Relative Affluence from Model 5

| Point Predictions at | Gini = 0 | | Gini = 0.5 | |
|------------------------|------------|-------------|------------|-------------|
| | Prediction | 95% CI | Prediction | 95% CI |
| Relative Affluence = 0 | 3.95 | [3.73,4.17] | 3.19 | [1.96,4.42] |
| Relative Affluence = 1 | 3.73 | [3.53,3.93] | 3.62 | [2.44,4.80] |
| Relative Affluence = 2 | 3.51 | [3.27,3.75] | 4.06 | [2.83,5.29] |
| Relative Affluence = 3 | 3.29 | [2.96,3.61] | 4.49 | [3.13,5.86] |
| Relative Affluence = 4 | 3.07 | [2.64,3.49] | 4.93 | [3.37,6.49] |
| Relative Affluence = 5 | 2.85 | [2.31,3.38] | 5.37 | [3.56,7.17] |
| Relative Affluence = 6 | 2.63 | [1.98,3.27] | 5.80 | [3.72,7.88] |
| Relative Affluence = 7 | 2.40 | [1.64,3.17] | 6.24 | [3.86,8.61] |

Average Marginal Predictions for different values of Relative Affluence from Model 10

Appendix F: ROBUSTNESS CHECKS

We carry out a number of robustness checks (all of them multilevel models at State and Municipal levels). For each of them, rationale and empirical evidence are provided below – in all cases our results are confirmed.

1) Alternative outcome variable and regression model

While our main outcome measure is convenient for estimation purposes, it introduces an assumption of cardinality. We therefore test the robustness of our results by estimating Poisson multilevel regression models where the dependent variable is a count measure ranging from 0 to 7 indicating the number of items where the depression symptom has occurred more than once a week.

| | MUNICIPAL LEVEL | | | | | | STATE LEVEL | | | | | | | | | | | |
|---------------------------|-----------------|---------------|---------|--------|---------------|---------|-------------|---------------|---------|--------|---------------|---------|--------|---------------|---------|--------|---------------|---------|
| | (1) | | (2) | | (3) | | (4) | | (5) | | (6) | | | | | | | |
| | Beta | 95% CI | P-Value | Beta | 95% CI | P-Value | Beta | 95% CI | P-Value | Beta | 95% CI | P-Value | Beta | 95% CI | P-Value | Beta | 95% CI | P-Value |
| Poorest Quartile | 0.219 | [0.16,0.28] | 0.0000 | 0.146 | [0.07,0.22] | 0.0001 | 0.116 | [0.04,0.19] | 0.0022 | 0.157 | [0.11,0.20] | 0.0000 | 0.117 | [0.07,0.17] | 0.0000 | 0.110 | [0.06,0.16] | 0.0000 |
| 2 nd Quartile | 0.207 | [0.17,0.25] | 0.0000 | 0.150 | [0.10,0.20] | 0.0000 | 0.109 | [0.05,0.16] | 0.0001 | 0.189 | [0.16,0.22] | 0.0000 | 0.151 | [0.11,0.19] | 0.0000 | 0.137 | [0.10,0.18] | 0.0000 |
| 3 rd Quartile | 0.116 | [0.08,0.15] | 0.0000 | 0.077 | [0.04,0.12] | 0.0001 | 0.044 | [0.00,0.09] | 0.0377 | 0.113 | [0.08,0.14] | 0.0000 | 0.084 | [0.05,0.12] | 0.0000 | 0.072 | [0.04,0.11] | 0.0000 |
| Rel Deprivation | 0.035 | [0.02,0.05] | 0.0002 | 0.029 | [0.01,0.05] | 0.0019 | 0.023 | [0.00,0.04] | 0.0157 | 0.053 | [0.04,0.07] | 0.0000 | 0.042 | [0.03,0.06] | 0.0000 | 0.039 | [0.02,0.05] | 0.0000 |
| Rel Affluence | | | | -0.041 | [-0.06,-0.02] | 0.0005 | -0.137 | [-0.19,-0.09] | 0.0000 | | | | -0.037 | [-0.06,-0.02] | 0.0002 | -0.103 | [-0.15,-0.05] | 0.0000 |
| Gini | -0.305 | [-1.50,0.89] | 0.6186 | -0.191 | [-1.39,1.01] | 0.7553 | -0.636 | [-1.86,0.59] | 0.3079 | 0.639 | [-2.96,4.23] | 0.7276 | 0.685 | [-2.89,4.26] | 0.7070 | 0.406 | [-3.16,3.97] | 0.8238 |
| Rel Affluence*Gini | | | | | | | 0.537 | [0.28,0.79] | 0.0000 | | | | | | | 0.338 | [0.11,0.56] | 0.0034 |
| N people in HH | 0.015 | [0.01,0.02] | 0.0000 | 0.015 | [0.01,0.02] | 0.0000 | 0.015 | [0.01,0.02] | 0.0000 | 0.012 | [0.01,0.02] | 0.0000 | 0.012 | [0.01,0.02] | 0.0000 | 0.012 | [0.01,0.02] | 0.0000 |
| Female | 0.581 | [0.55,0.61] | 0.0000 | 0.583 | [0.56,0.61] | 0.0000 | 0.583 | [0.56,0.61] | 0.0000 | 0.589 | [0.56,0.62] | 0.0000 | 0.590 | [0.56,0.62] | 0.0000 | 0.590 | [0.56,0.62] | 0.0000 |
| Age | 0.038 | [0.03,0.04] | 0.0000 | 0.039 | [0.04,0.04] | 0.0000 | 0.039 | [0.04,0.04] | 0.0000 | 0.039 | [0.04,0.04] | 0.0000 | 0.040 | [0.04,0.04] | 0.0000 | 0.039 | [0.04,0.04] | 0.0000 |
| Age ² | -0.000 | [-0.00,-0.00] | 0.0000 | -0.000 | [-0.00,-0.00] | 0.0000 | -0.000 | [-0.00,-0.00] | 0.0000 | -0.000 | [-0.00,-0.00] | 0.0000 | -0.000 | [-0.00,-0.00] | 0.0000 | -0.000 | [-0.00,-0.00] | 0.0000 |
| Married | -0.126 | [-0.15,-0.10] | 0.0000 | -0.124 | [-0.15,-0.10] | 0.0000 | -0.124 | [-0.14,-0.10] | 0.0000 | -0.123 | [-0.14,-0.10] | 0.0000 | -0.122 | [-0.14,-0.10] | 0.0000 | -0.121 | [-0.14,-0.10] | 0.0000 |
| No education / Primary | -0.106 | [-0.13,-0.08] | 0.0000 | -0.104 | [-0.13,-0.08] | 0.0000 | -0.104 | [-0.13,-0.08] | 0.0000 | -0.105 | [-0.13,-0.08] | 0.0000 | -0.105 | [-0.13,-0.08] | 0.0000 | -0.105 | [-0.13,-0.08] | 0.0000 |
| Secondary | -0.319 | [-0.35,-0.29] | 0.0000 | -0.311 | [-0.34,-0.28] | 0.0000 | -0.309 | [-0.34,-0.28] | 0.0000 | -0.327 | [-0.36,-0.29] | 0.0000 | -0.321 | [-0.35,-0.29] | 0.0000 | -0.321 | [-0.35,-0.29] | 0.0000 |
| Not Employed | 0.192 | [0.15,0.24] | 0.0000 | 0.192 | [0.15,0.24] | 0.0000 | 0.193 | [0.15,0.24] | 0.0000 | 0.215 | [0.17,0.26] | 0.0000 | 0.216 | [0.17,0.26] | 0.0000 | 0.216 | [0.17,0.26] | 0.0000 |
| Retired | 0.012 | [-0.05,0.07] | 0.6838 | 0.014 | [-0.04,0.07] | 0.6245 | 0.014 | [-0.04,0.07] | 0.6221 | 0.013 | [-0.04,0.07] | 0.6501 | 0.015 | [-0.04,0.07] | 0.6157 | 0.013 | [-0.04,0.07] | 0.6436 |
| Student | 0.146 | [0.06,0.23] | 0.0011 | 0.147 | [0.06,0.23] | 0.0010 | 0.150 | [0.06,0.24] | 0.0008 | 0.154 | [0.07,0.24] | 0.0005 | 0.155 | [0.07,0.24] | 0.0005 | 0.156 | [0.07,0.24] | 0.0004 |
| House Work | -0.009 | [-0.03,0.02] | 0.5038 | -0.010 | [-0.03,0.02] | 0.4572 | -0.009 | [-0.03,0.02] | 0.4627 | -0.010 | [-0.04,0.01] | 0.4106 | -0.011 | [-0.04,0.01] | 0.3995 | -0.011 | [-0.04,0.01] | 0.3967 |
| Other Activity | 0.202 | [0.14,0.26] | 0.0000 | 0.202 | [0.14,0.26] | 0.0000 | 0.203 | [0.14,0.26] | 0.0000 | 0.209 | [0.15,0.27] | 0.0000 | 0.210 | [0.15,0.27] | 0.0000 | 0.210 | [0.15,0.27] | 0.0000 |
| Social Programme | -0.000 | [-0.03,0.02] | 0.9699 | -0.002 | [-0.03,0.02] | 0.8502 | -0.001 | [-0.03,0.02] | 0.9177 | -0.004 | [-0.03,0.02] | 0.7262 | -0.004 | [-0.03,0.02] | 0.7216 | -0.003 | [-0.03,0.02] | 0.7851 |
| Chronically Ill | 0.320 | [0.30,0.35] | 0.0000 | 0.320 | [0.30,0.35] | 0.0000 | 0.320 | [0.29,0.34] | 0.0000 | 0.316 | [0.29,0.34] | 0.0000 | 0.316 | [0.29,0.34] | 0.0000 | 0.315 | [0.29,0.34] | 0.0000 |
| Victim of Violence | 0.605 | [0.55,0.65] | 0.0000 | 0.606 | [0.56,0.66] | 0.0000 | 0.607 | [0.56,0.66] | 0.0000 | 0.626 | [0.58,0.68] | 0.0000 | 0.626 | [0.58,0.68] | 0.0000 | 0.627 | [0.58,0.68] | 0.0000 |
| Limitations in Activities | 0.242 | [0.23,0.26] | 0.0000 | 0.242 | [0.23,0.26] | 0.0000 | 0.241 | [0.23,0.26] | 0.0000 | 0.231 | [0.21,0.25] | 0.0000 | 0.231 | [0.21,0.25] | 0.0000 | 0.230 | [0.21,0.25] | 0.0000 |
| Drinks few times a year | 0.060 | [0.04,0.08] | 0.0000 | 0.060 | [0.04,0.08] | 0.0000 | 0.060 | [0.04,0.08] | 0.0000 | 0.059 | [0.04,0.08] | 0.0000 | 0.059 | [0.04,0.08] | 0.0000 | 0.059 | [0.04,0.08] | 0.0000 |
| Drinks few times a month | 0.041 | [0.01,0.07] | 0.0121 | 0.042 | [0.01,0.07] | 0.0101 | 0.043 | [0.01,0.08] | 0.0078 | 0.041 | [0.01,0.07] | 0.0114 | 0.041 | [0.01,0.07] | 0.0105 | 0.042 | [0.01,0.07] | 0.0097 |
| Drinks Weekly/Daily | 0.146 | [0.11,0.18] | 0.0000 | 0.148 | [0.11,0.19] | 0.0000 | 0.149 | [0.11,0.19] | 0.0000 | 0.153 | [0.11,0.19] | 0.0000 | 0.154 | [0.12,0.19] | 0.0000 | 0.154 | [0.12,0.19] | 0.0000 |
| Has Health Insurance | -0.012 | [-0.04,0.01] | 0.3438 | -0.012 | [-0.04,0.01] | 0.3286 | -0.013 | [-0.04,0.01] | 0.3063 | -0.004 | [-0.03,0.02] | 0.7535 | -0.005 | [-0.03,0.02] | 0.6990 | -0.005 | [-0.03,0.02] | 0.6843 |
| Hospitals/Pop | -0.005 | [-0.02,0.01] | 0.4552 | -0.005 | [-0.02,0.01] | 0.4578 | -0.005 | [-0.02,0.01] | 0.4377 | -0.028 | [-0.10,0.04] | 0.4228 | -0.027 | [-0.09,0.04] | 0.4331 | -0.027 | [-0.09,0.04] | 0.4357 |
| Mean Wealth | 0.037 | [-0.01,0.09] | 0.1340 | 0.032 | [-0.02,0.08] | 0.1975 | 0.030 | [-0.02,0.08] | 0.2351 | 0.061 | [-0.11,0.23] | 0.4845 | 0.061 | [-0.11,0.23] | 0.4878 | 0.060 | [-0.11,0.23] | 0.4894 |
| Constant | -1.676 | [-2.17,-1.18] | 0.0000 | -1.586 | [-2.08,-1.09] | 0.0000 | -1.460 | [-1.96,-0.96] | 0.0000 | -1.965 | [-3.65,-0.28] | 0.0223 | -1.908 | [-3.58,-0.23] | 0.0256 | -1.839 | [-3.51,-0.17] | 0.0311 |
| Obs | 44,324 | | | 44,324 | | | 44,324 | | | 44,324 | | | 44,324 | | | 44,324 | | |

For models 1-3 the second level is the municipality. For models 4-6 the second level is the state.

ROBUSTNESS CHECK 1 – Multilevel Poisson model for depressive symptoms

2) Alternative measures of absolute standards of living

2.a) Here we replace our absolute wealth indicator with a dichotomous variable for absolute standard of living, which identifies respondents who had to borrow, sell or pawn any of their assets to be able to pay for medical care – taken to denote a condition of (absolute) material hardship.

| | MUNICIPAL LEVEL | | | | | | | | | STATE LEVEL | | | | | | | | |
|---------------------------|-----------------|---------------|---------|--------|---------------|---------|--------|---------------|---------|-------------|---------------|---------|--------|---------------|---------|--------|---------------|---------|
| | (1) | | | (2) | | | (3) | | | (4) | | | (5) | | | (6) | | |
| | Beta | 95% CI | P-Value | Beta | 95% CI | P-Value | Beta | 95% CI | P-Value | Beta | 95% CI | P-Value | Beta | 95% CI | P-Value | Beta | 95% CI | P-Value |
| Sold to pay for care | 0.741 | [0.44,1.04] | 0.0000 | 0.731 | [0.43,1.03] | 0.0000 | 0.730 | [0.43,1.03] | 0.0000 | 0.762 | [0.46,1.06] | 0.0000 | 0.754 | [0.45,1.05] | 0.0000 | 0.769 | [0.47,1.07] | 0.0000 |
| Pawned to pay for care | 1.109 | [0.88,1.34] | 0.0000 | 1.096 | [0.86,1.33] | 0.0000 | 1.085 | [0.85,1.32] | 0.0000 | 1.110 | [0.88,1.34] | 0.0000 | 1.093 | [0.86,1.33] | 0.0000 | 1.070 | [0.84,1.30] | 0.0000 |
| Borrowed to pay for care | 0.981 | [0.82,1.14] | 0.0000 | 0.968 | [0.81,1.13] | 0.0000 | 0.963 | [0.80,1.12] | 0.0000 | 1.028 | [0.87,1.19] | 0.0000 | 1.024 | [0.86,1.18] | 0.0000 | 1.062 | [0.90,1.22] | 0.0000 |
| Relative Deprivation | 0.278 | [0.23,0.33] | 0.0000 | 0.163 | [0.10,0.23] | 0.0000 | 0.148 | [0.08,0.21] | 0.0000 | 0.264 | [0.22,0.31] | 0.0000 | 0.160 | [0.10,0.22] | 0.0000 | 0.144 | [0.08,0.20] | 0.0000 |
| Relative Affluence | | | | -0.202 | [-0.27,-0.13] | 0.0000 | -0.497 | [-0.66,-0.34] | 0.0000 | | | | -0.191 | [-0.26,-0.12] | 0.0000 | -0.513 | [-0.69,-0.33] | 0.0000 |
| Gini | -0.891 | [-4.18,2.39] | 0.5948 | -0.118 | [-3.41,3.18] | 0.9441 | -1.991 | [-5.41,1.43] | 0.2538 | 2.413 | [-3.66,8.49] | 0.4362 | 2.724 | [-2.32,7.77] | 0.2901 | 0.967 | [-2.20,4.14] | 0.5498 |
| Relative Affluence*Gini | | | | | | | 1.884 | [0.97,2.80] | 0.0001 | | | | | | | 1.709 | [0.82,2.60] | 0.0002 |
| Household Size | 0.026 | [0.00,0.05] | 0.0382 | 0.029 | [0.00,0.05] | 0.0223 | 0.029 | [0.00,0.05] | 0.0200 | 0.020 | [-0.00,0.04] | 0.1154 | 0.024 | [-0.00,0.05] | 0.0559 | 0.029 | [0.00,0.05] | 0.0201 |
| Female | 1.641 | [1.52,1.76] | 0.0000 | 1.660 | [1.54,1.78] | 0.0000 | 1.661 | [1.54,1.78] | 0.0000 | 1.637 | [1.52,1.75] | 0.0000 | 1.656 | [1.54,1.77] | 0.0000 | 1.654 | [1.54,1.77] | 0.0000 |
| Age | 0.111 | [0.10,0.13] | 0.0000 | 0.113 | [0.10,0.13] | 0.0000 | 0.114 | [0.10,0.13] | 0.0000 | 0.111 | [0.10,0.13] | 0.0000 | 0.113 | [0.10,0.13] | 0.0000 | 0.112 | [0.10,0.13] | 0.0000 |
| Age 2 | -0.001 | [-0.00,-0.00] | 0.0000 | -0.001 | [-0.00,-0.00] | 0.0000 | -0.001 | [-0.00,-0.00] | 0.0000 | -0.001 | [-0.00,-0.00] | 0.0000 | -0.001 | [-0.00,-0.00] | 0.0000 | -0.001 | [-0.00,-0.00] | 0.0000 |
| Married | -0.412 | [-0.50,-0.32] | 0.0000 | -0.399 | [-0.49,-0.31] | 0.0000 | -0.395 | [-0.49,-0.30] | 0.0000 | -0.410 | [-0.50,-0.32] | 0.0000 | -0.393 | [-0.48,-0.30] | 0.0000 | -0.367 | [-0.46,-0.27] | 0.0000 |
| No education / Primary | -0.434 | [-0.55,-0.32] | 0.0000 | -0.410 | [-0.52,-0.30] | 0.0000 | -0.411 | [-0.52,-0.30] | 0.0000 | -0.454 | [-0.57,-0.34] | 0.0000 | -0.432 | [-0.54,-0.32] | 0.0000 | -0.445 | [-0.56,-0.33] | 0.0000 |
| Secondary | -0.997 | [-1.13,-0.87] | 0.0000 | -0.906 | [-1.04,-0.77] | 0.0000 | -0.887 | [-1.02,-0.75] | 0.0000 | -1.060 | [-1.18,-0.94] | 0.0000 | -0.974 | [-1.10,-0.85] | 0.0000 | -0.984 | [-1.11,-0.86] | 0.0000 |
| Not Employed | 0.559 | [0.34,0.78] | 0.0000 | 0.559 | [0.34,0.78] | 0.0000 | 0.558 | [0.34,0.78] | 0.0000 | 0.611 | [0.39,0.83] | 0.0000 | 0.613 | [0.39,0.83] | 0.0000 | 0.618 | [0.40,0.84] | 0.0000 |
| Retired | -0.122 | [-0.36,0.12] | 0.3232 | -0.105 | [-0.35,0.14] | 0.3968 | -0.103 | [-0.35,0.14] | 0.4039 | -0.135 | [-0.38,0.11] | 0.2791 | -0.120 | [-0.36,0.12] | 0.3370 | -0.145 | [-0.39,0.10] | 0.2449 |
| Student | 0.401 | [0.08,0.73] | 0.0156 | 0.431 | [0.11,0.76] | 0.0095 | 0.445 | [0.12,0.77] | 0.0073 | 0.407 | [0.08,0.73] | 0.0149 | 0.439 | [0.11,0.77] | 0.0087 | 0.452 | [0.12,0.78] | 0.0070 |
| House Work | -0.021 | [-0.14,0.10] | 0.7303 | -0.032 | [-0.15,0.09] | 0.5944 | -0.032 | [-0.15,0.09] | 0.5916 | -0.020 | [-0.14,0.10] | 0.7357 | -0.031 | [-0.15,0.09] | 0.6107 | -0.035 | [-0.15,0.08] | 0.5613 |
| Other Act | 0.505 | [0.23,0.78] | 0.0003 | 0.506 | [0.23,0.78] | 0.0003 | 0.506 | [0.23,0.78] | 0.0003 | 0.523 | [0.25,0.80] | 0.0002 | 0.524 | [0.25,0.80] | 0.0002 | 0.524 | [0.25,0.80] | 0.0002 |
| Social Programme | 0.044 | [-0.07,0.16] | 0.4629 | 0.018 | [-0.10,0.14] | 0.7671 | 0.026 | [-0.09,0.14] | 0.6665 | 0.074 | [-0.04,0.19] | 0.2020 | 0.050 | [-0.06,0.16] | 0.3868 | 0.068 | [-0.05,0.18] | 0.2382 |
| Chronic Health Problem | 1.106 | [0.98,1.23] | 0.0000 | 1.109 | [0.98,1.24] | 0.0000 | 1.106 | [0.98,1.23] | 0.0000 | 1.102 | [0.97,1.23] | 0.0000 | 1.109 | [0.98,1.24] | 0.0000 | 1.129 | [1.00,1.26] | 0.0000 |
| Victim of Violence | 2.348 | [2.06,2.64] | 0.0000 | 2.359 | [2.07,2.65] | 0.0000 | 2.360 | [2.07,2.65] | 0.0000 | 2.388 | [2.09,2.68] | 0.0000 | 2.399 | [2.11,2.69] | 0.0000 | 2.427 | [2.13,2.72] | 0.0000 |
| Limitations in Activities | 1.063 | [0.97,1.16] | 0.0000 | 1.060 | [0.97,1.15] | 0.0000 | 1.056 | [0.96,1.15] | 0.0000 | 1.047 | [0.95,1.14] | 0.0000 | 1.047 | [0.95,1.14] | 0.0000 | 1.063 | [0.97,1.16] | 0.0000 |
| Drinks Yearly | 0.150 | [0.04,0.26] | 0.0058 | 0.158 | [0.05,0.26] | 0.0036 | 0.157 | [0.05,0.26] | 0.0038 | 0.155 | [0.05,0.26] | 0.0042 | 0.163 | [0.06,0.27] | 0.0026 | 0.163 | [0.06,0.27] | 0.0026 |
| Drinks Monthly | 0.166 | [0.04,0.30] | 0.0122 | 0.180 | [0.05,0.31] | 0.0068 | 0.185 | [0.06,0.32] | 0.0052 | 0.154 | [0.02,0.28] | 0.0208 | 0.165 | [0.04,0.30] | 0.0129 | 0.163 | [0.03,0.29] | 0.0145 |
| Drinks Weekly/Daily | 0.391 | [0.23,0.55] | 0.0000 | 0.413 | [0.25,0.57] | 0.0000 | 0.416 | [0.26,0.57] | 0.0000 | 0.399 | [0.24,0.56] | 0.0000 | 0.417 | [0.26,0.58] | 0.0000 | 0.423 | [0.26,0.58] | 0.0000 |
| Has Insurance | -0.032 | [-0.14,0.08] | 0.5630 | -0.038 | [-0.15,0.07] | 0.4880 | -0.042 | [-0.15,0.07] | 0.4481 | -0.020 | [-0.13,0.09] | 0.7215 | -0.028 | [-0.14,0.08] | 0.6053 | -0.042 | [-0.15,0.07] | 0.4442 |
| Hospitals/Pop | -0.015 | [-0.05,0.02] | 0.4092 | -0.016 | [-0.05,0.02] | 0.3994 | -0.017 | [-0.05,0.02] | 0.3563 | -0.093 | [-0.21,0.02] | 0.1184 | -0.089 | [-0.19,0.01] | 0.0724 | -0.089 | [-0.15,-0.03] | 0.0033 |
| Mean Wealth | 0.005 | [-0.13,0.14] | 0.9436 | 0.026 | [-0.11,0.16] | 0.7010 | 0.016 | [-0.11,0.15] | 0.8058 | 0.155 | [-0.13,0.44] | 0.2938 | 0.168 | [-0.07,0.41] | 0.1701 | 0.160 | [0.01,0.31] | 0.0312 |
| Constant | -0.008 | [-1.36,1.35] | 0.9910 | -0.099 | [-1.45,1.26] | 0.8865 | 0.244 | [-1.12,1.61] | 0.7262 | -1.367 | [-4.22,1.48] | 0.3469 | -1.368 | [-3.74,1.01] | 0.2588 | -0.967 | [-2.45,0.51] | 0.2002 |
| Obs | 44,324 | | | 44,324 | | | 44,324 | | | 44,324 | | | 44,324 | | | 44,324 | | |
| Overall-R2 | 0.0926 | | | 0.0933 | | | 0.0936 | | | 0.0933 | | | 0.0940 | | | 0.0943 | | |
| Between-R2 | 0.1243 | | | 0.1242 | | | 0.1246 | | | 0.4054 | | | 0.4111 | | | 0.4399 | | |
| Within-R2 | 0.0910 | | | 0.0916 | | | 0.0919 | | | 0.0916 | | | 0.0922 | | | 0.0924 | | |

For models 1-3 the second level is the municipality. For models 4-6 the second level is the state.

ROBUSTNESS CHECK 2 – Multilevel linear regression models with an alternative absolute standards of living variable

2.b) In this additional robustness check for an alternative measure of absolute standards of living, we estimate our models using a continuous measure of absolute wealth – specifically, using the computed PCA asset index in its continuous form rather than using quartiles derived from it.

| | MUNICIPAL LEVEL | | | | | | | | | STATE LEVEL | | | | | | | | |
|---------------------------|-----------------|---------------|---------|--------|---------------|---------|--------|---------------|---------|-------------|---------------|---------|--------|---------------|---------|--------|---------------|---------|
| | (1) | | | (2) | | | (3) | | | (4) | | | (5) | | | (6) | | |
| | Beta | 95% CI | P-Value | Beta | 95% CI | P-Value | Beta | 95% CI | P-Value | Beta | 95% CI | P-Value | Beta | 95% CI | P-Value | Beta | 95% CI | P-Value |
| Asset index | -0.060 | [-0.10,-0.02] | 0.0063 | -0.045 | [-0.09,-0.00] | 0.0446 | -0.051 | [-0.09,-0.01] | 0.0230 | -0.070 | [-0.11,-0.03] | 0.0010 | -0.057 | [-0.10,-0.01] | 0.0078 | -0.061 | [-0.10,-0.02] | 0.0046 |
| Rel Deprivation | 0.264 | [0.21,0.32] | 0.0000 | 0.147 | [0.08,0.21] | 0.0000 | 0.128 | [0.06,0.20] | 0.0002 | 0.248 | [0.20,0.30] | 0.0000 | 0.145 | [0.08,0.21] | 0.0000 | 0.134 | [0.07,0.20] | 0.0000 |
| Rel Affluence | | | | -0.218 | [-0.29,-0.14] | 0.0000 | -0.554 | [-0.71,-0.39] | 0.0000 | | | | -0.203 | [-0.27,-0.13] | 0.0000 | -0.533 | [-0.71,-0.35] | 0.0000 |
| Gini | -0.858 | [-4.23,2.51] | 0.6176 | -0.023 | [-3.40,3.36] | 0.9895 | -2.174 | [-5.68,1.33] | 0.2238 | 2.117 | [-5.00,9.23] | 0.5600 | 2.479 | [-4.31,9.27] | 0.4741 | 0.791 | [-5.44,7.02] | 0.8034 |
| Rel Affluence*Gini | | | | | | | 2.157 | [1.24,3.08] | 0.0000 | | | | | | | 1.777 | [0.88,2.67] | 0.0001 |
| N people in HH | 0.002 | [-0.03,0.04] | 0.8902 | 0.014 | [-0.02,0.05] | 0.4309 | 0.011 | [-0.02,0.05] | 0.5324 | -0.010 | [-0.04,0.02] | 0.5505 | 0.001 | [-0.03,0.04] | 0.9696 | -0.001 | [-0.04,0.03] | 0.9420 |
| Female | 1.642 | [1.53,1.76] | 0.0000 | 1.664 | [1.55,1.78] | 0.0000 | 1.664 | [1.55,1.78] | 0.0000 | 1.645 | [1.53,1.76] | 0.0000 | 1.664 | [1.55,1.78] | 0.0000 | 1.662 | [1.55,1.78] | 0.0000 |
| Age | 0.111 | [0.10,0.13] | 0.0000 | 0.113 | [0.10,0.13] | 0.0000 | 0.114 | [0.10,0.13] | 0.0000 | 0.112 | [0.10,0.13] | 0.0000 | 0.114 | [0.10,0.13] | 0.0000 | 0.114 | [0.10,0.13] | 0.0000 |
| Age ² | -0.001 | [-0.00,-0.00] | 0.0000 | -0.001 | [-0.00,-0.00] | 0.0000 | -0.001 | [-0.00,-0.00] | 0.0000 | -0.001 | [-0.00,-0.00] | 0.0000 | -0.001 | [-0.00,-0.00] | 0.0000 | -0.001 | [-0.00,-0.00] | 0.0000 |
| Married | -0.437 | [-0.53,-0.34] | 0.0000 | -0.417 | [-0.51,-0.32] | 0.0000 | -0.414 | [-0.51,-0.32] | 0.0000 | -0.438 | [-0.53,-0.34] | 0.0000 | -0.419 | [-0.51,-0.33] | 0.0000 | -0.416 | [-0.51,-0.32] | 0.0000 |
| No education / Primary | -0.413 | [-0.53,-0.30] | 0.0000 | -0.388 | [-0.50,-0.27] | 0.0000 | -0.390 | [-0.50,-0.28] | 0.0000 | -0.426 | [-0.54,-0.31] | 0.0000 | -0.403 | [-0.52,-0.29] | 0.0000 | -0.408 | [-0.52,-0.30] | 0.0000 |
| Secondary | -0.995 | [-1.12,-0.87] | 0.0000 | -0.900 | [-1.03,-0.77] | 0.0000 | -0.877 | [-1.01,-0.74] | 0.0000 | -1.045 | [-1.17,-0.92] | 0.0000 | -0.956 | [-1.09,-0.83] | 0.0000 | -0.950 | [-1.08,-0.82] | 0.0000 |
| Not Employed | 0.584 | [0.37,0.80] | 0.0000 | 0.584 | [0.37,0.80] | 0.0000 | 0.583 | [0.36,0.80] | 0.0000 | 0.639 | [0.42,0.86] | 0.0000 | 0.640 | [0.42,0.86] | 0.0000 | 0.638 | [0.42,0.86] | 0.0000 |
| Retired | -0.120 | [-0.36,0.12] | 0.3325 | -0.105 | [-0.35,0.14] | 0.3971 | -0.102 | [-0.35,0.14] | 0.4113 | -0.128 | [-0.37,0.12] | 0.3077 | -0.112 | [-0.36,0.13] | 0.3696 | -0.119 | [-0.36,0.13] | 0.3405 |
| Student | 0.390 | [0.06,0.72] | 0.0191 | 0.423 | [0.10,0.75] | 0.0110 | 0.439 | [0.11,0.77] | 0.0083 | 0.398 | [0.07,0.73] | 0.0177 | 0.431 | [0.10,0.76] | 0.0101 | 0.436 | [0.11,0.77] | 0.0093 |
| House Work | -0.020 | [-0.14,0.10] | 0.7357 | -0.032 | [-0.15,0.09] | 0.5931 | -0.033 | [-0.15,0.09] | 0.5894 | -0.022 | [-0.14,0.10] | 0.7120 | -0.032 | [-0.15,0.09] | 0.5967 | -0.033 | [-0.15,0.09] | 0.5862 |
| Other Activity | 0.509 | [0.23,0.78] | 0.0003 | 0.512 | [0.24,0.79] | 0.0003 | 0.512 | [0.24,0.79] | 0.0003 | 0.525 | [0.25,0.80] | 0.0002 | 0.528 | [0.25,0.80] | 0.0002 | 0.527 | [0.25,0.80] | 0.0002 |
| Social Programme | 0.035 | [-0.08,0.15] | 0.5554 | 0.008 | [-0.11,0.13] | 0.8883 | 0.017 | [-0.10,0.14] | 0.7714 | 0.055 | [-0.06,0.17] | 0.3471 | 0.032 | [-0.08,0.15] | 0.5868 | 0.041 | [-0.07,0.16] | 0.4827 |
| Chronically Ill | 1.188 | [1.06,1.32] | 0.0000 | 1.189 | [1.06,1.32] | 0.0000 | 1.185 | [1.06,1.31] | 0.0000 | 1.186 | [1.06,1.31] | 0.0000 | 1.188 | [1.06,1.32] | 0.0000 | 1.185 | [1.06,1.31] | 0.0000 |
| Victim of Violence | 2.380 | [2.09,2.67] | 0.0000 | 2.391 | [2.10,2.68] | 0.0000 | 2.393 | [2.10,2.68] | 0.0000 | 2.422 | [2.13,2.72] | 0.0000 | 2.429 | [2.13,2.72] | 0.0000 | 2.436 | [2.14,2.73] | 0.0000 |
| Limitations in Activities | 1.107 | [1.01,1.20] | 0.0000 | 1.103 | [1.01,1.20] | 0.0000 | 1.099 | [1.01,1.19] | 0.0000 | 1.092 | [1.00,1.19] | 0.0000 | 1.088 | [0.99,1.18] | 0.0000 | 1.086 | [0.99,1.18] | 0.0000 |
| Drinks few times a year | 0.167 | [0.06,0.27] | 0.0022 | 0.175 | [0.07,0.28] | 0.0013 | 0.174 | [0.07,0.28] | 0.0014 | 0.174 | [0.07,0.28] | 0.0014 | 0.182 | [0.08,0.29] | 0.0008 | 0.181 | [0.07,0.29] | 0.0009 |
| Drinks few times a month | 0.171 | [0.04,0.30] | 0.0102 | 0.185 | [0.05,0.32] | 0.0054 | 0.192 | [0.06,0.32] | 0.0040 | 0.163 | [0.03,0.29] | 0.0144 | 0.176 | [0.04,0.31] | 0.0084 | 0.179 | [0.05,0.31] | 0.0074 |
| Drinks Weekly/Daily | 0.389 | [0.23,0.55] | 0.0000 | 0.411 | [0.25,0.57] | 0.0000 | 0.415 | [0.26,0.57] | 0.0000 | 0.400 | [0.24,0.56] | 0.0000 | 0.418 | [0.26,0.58] | 0.0000 | 0.421 | [0.26,0.58] | 0.0000 |
| Has Health Insurance | -0.034 | [-0.14,0.07] | 0.5415 | -0.040 | [-0.15,0.07] | 0.4703 | -0.044 | [-0.15,0.06] | 0.4234 | -0.020 | [-0.13,0.09] | 0.7119 | -0.027 | [-0.14,0.08] | 0.6211 | -0.030 | [-0.14,0.08] | 0.5820 |
| Hospitals/Pop | -0.015 | [-0.05,0.02] | 0.4177 | -0.016 | [-0.05,0.02] | 0.4088 | -0.017 | [-0.05,0.02] | 0.3601 | -0.086 | [-0.22,0.05] | 0.2209 | -0.082 | [-0.21,0.05] | 0.2191 | -0.083 | [-0.20,0.04] | 0.1699 |
| Mean Wealth | 0.017 | [-0.12,0.15] | 0.8038 | 0.036 | [-0.10,0.17] | 0.6041 | 0.026 | [-0.11,0.16] | 0.7006 | 0.144 | [-0.20,0.48] | 0.4058 | 0.156 | [-0.17,0.48] | 0.3425 | 0.153 | [-0.14,0.45] | 0.3070 |
| Constant | 0.276 | [-1.12,1.67] | 0.6978 | 0.131 | [-1.26,1.52] | 0.8542 | 0.540 | [-0.86,1.95] | 0.4508 | -0.863 | [-4.19,2.47] | 0.6118 | -0.921 | [-4.10,2.26] | 0.5699 | -0.564 | [-3.46,2.34] | 0.7030 |
| Obs | 44,324 | | | 44,324 | | | 44,324 | | | 44,324 | | | 44,324 | | | 44,324 | | |
| Overall-R2 | 0.0863 | | | 0.0871 | | | 0.0875 | | | 0.0869 | | | 0.0877 | | | 0.0880 | | |
| Between-R2 | 0.0914 | | | 0.0902 | | | 0.0908 | | | 0.3129 | | | 0.3176 | | | 0.3294 | | |
| Within-R2 | 0.0854 | | | 0.0861 | | | 0.0866 | | | 0.0856 | | | 0.0862 | | | 0.0865 | | |

For models 1-3 the second level is the municipality. For models 4-6 the second level is the state.

ROBUSTNESS CHECK 6 – Multilevel models for depressive symptoms using a continuous measure of absolute wealth

3) Alternative measures of relative deprivation and relative affluence

We use alternative measures of relative deprivation and relative affluence, based on non-linear indices as well as more refined reference groups (municipality + gender and municipality + employment status).

3.a) Measures of relative deprivation and relative affluence based on Municipality + Gender reference groups

| | MUNICIPAL LEVEL | | | | | | STATE LEVEL | | | | | | | | | | | |
|---------------------------|-----------------|---------------|---------|--------|---------------|---------|-------------|---------------|---------|--------|---------------|---------|--------|---------------|---------|-------------|---------------|---------|
| | Beta | (1) 95% CI | P-Value | Beta | (2) 95% CI | P-Value | Beta | (3) 95% CI | P-Value | Beta | (4) 95% CI | P-Value | Beta | (5) 95% CI | P-Value | Beta | (6) 95% CI | P-Value |
| Poorest Quartile | 0.688 | [0.43,0.94] | 0.0000 | 0.526 | [0.23,0.82] | 0.0006 | 0.485 | [0.18,0.79] | 0.0016 | 0.566 | [0.37,0.76] | 0.0000 | 0.464 | [0.25,0.68] | 0.0000 | 0.445 | [0.24,0.66] | 0.0000 |
| 2 nd Quartile | 0.655 | [0.48,0.82] | 0.0000 | 0.528 | [0.32,0.74] | 0.0000 | 0.435 | [0.22,0.65] | 0.0001 | 0.622 | [0.47,0.77] | 0.0000 | 0.527 | [0.36,0.69] | 0.0000 | 0.470 | [0.30,0.64] | 0.0000 |
| 3 rd Quartile | 0.360 | [0.23,0.49] | 0.0000 | 0.272 | [0.12,0.43] | 0.0007 | 0.189 | [0.02,0.35] | 0.0249 | 0.353 | [0.23,0.48] | 0.0000 | 0.280 | [0.14,0.42] | 0.0001 | 0.232 | [0.09,0.38] | 0.0017 |
| Rel Deprivation | 0.133 | [0.05,0.21] | 0.0013 | 0.116 | [0.03,0.20] | 0.0059 | 0.095 | [0.01,0.18] | 0.0268 | 0.162 | [0.10,0.23] | 0.0000 | 0.131 | [0.06,0.20] | 0.0002 | 0.113 | [0.04,0.18] | 0.0014 |
| Rel Affluence | | | | -0.095 | [-0.19,-0.00] | 0.0396 | -0.373 | [-0.57,-0.18] | 0.0002 | | | | -0.094 | [-0.17,-0.01] | 0.0208 | -0.381 | [-0.58,-0.18] | 0.0002 |
| Gini | -0.741 | [-4.10,2.62] | 0.6659 | -0.438 | [-3.81,2.94] | 0.7991 | -1.910 | [-5.41,1.59] | 0.2850 | 2.279 | [-4.60,9.16] | 0.5162 | 2.361 | [-3.76,8.48] | 0.4493 | 0.941 | [-3.08,4.96] | 0.6467 |
| Rel Affluence*Gini | | | | | | | 1.632 | [0.60,2.66] | 0.0019 | | | | | | 1.453 | [0.51,2.40] | 0.0025 | |
| N people in HH | 0.038 | [0.01,0.06] | 0.0025 | 0.039 | [0.01,0.06] | 0.0020 | 0.039 | [0.01,0.06] | 0.0019 | 0.031 | [0.01,0.06] | 0.0147 | 0.032 | [0.01,0.06] | 0.0102 | 0.036 | [0.01,0.06] | 0.0049 |
| Female | 1.662 | [1.55,1.78] | 0.0000 | 1.663 | [1.55,1.78] | 0.0000 | 1.661 | [1.54,1.78] | 0.0000 | 1.679 | [1.56,1.80] | 0.0000 | 1.678 | [1.56,1.79] | 0.0000 | 1.675 | [1.56,1.79] | 0.0000 |
| Age | 0.112 | [0.10,0.13] | 0.0000 | 0.113 | [0.10,0.13] | 0.0000 | 0.113 | [0.10,0.13] | 0.0000 | 0.114 | [0.10,0.13] | 0.0000 | 0.114 | [0.10,0.13] | 0.0000 | 0.113 | [0.10,0.13] | 0.0000 |
| Age ² | -0.001 | [-0.00,-0.00] | 0.0000 | -0.001 | [-0.00,-0.00] | 0.0000 | -0.001 | [-0.00,-0.00] | 0.0000 | -0.001 | [-0.00,-0.00] | 0.0000 | -0.001 | [-0.00,-0.00] | 0.0000 | -0.001 | [-0.00,-0.00] | 0.0000 |
| Married | -0.397 | [-0.49,-0.31] | 0.0000 | -0.394 | [-0.49,-0.30] | 0.0000 | -0.392 | [-0.48,-0.30] | 0.0000 | -0.395 | [-0.49,-0.30] | 0.0000 | -0.389 | [-0.48,-0.30] | 0.0000 | -0.373 | [-0.46,-0.28] | 0.0000 |
| No education / Primary | -0.385 | [-0.50,-0.27] | 0.0000 | -0.381 | [-0.49,-0.27] | 0.0000 | -0.382 | [-0.50,-0.27] | 0.0000 | -0.380 | [-0.49,-0.27] | 0.0000 | -0.380 | [-0.49,-0.27] | 0.0000 | -0.389 | [-0.50,-0.28] | 0.0000 |
| Secondary | -0.889 | [-1.02,-0.76] | 0.0000 | -0.872 | [-1.01,-0.74] | 0.0000 | -0.866 | [-1.00,-0.73] | 0.0000 | -0.904 | [-1.04,-0.77] | 0.0000 | -0.893 | [-1.03,-0.76] | 0.0000 | -0.905 | [-1.04,-0.77] | 0.0000 |
| Not Employed | 0.580 | [0.36,0.80] | 0.0000 | 0.582 | [0.36,0.80] | 0.0000 | 0.582 | [0.36,0.80] | 0.0000 | 0.631 | [0.41,0.85] | 0.0000 | 0.635 | [0.42,0.85] | 0.0000 | 0.639 | [0.42,0.86] | 0.0000 |
| Retired | -0.118 | [-0.36,0.13] | 0.3412 | -0.114 | [-0.36,0.13] | 0.3593 | -0.113 | [-0.36,0.13] | 0.3609 | -0.114 | [-0.36,0.13] | 0.3599 | -0.113 | [-0.36,0.13] | 0.3647 | -0.130 | [-0.37,0.12] | 0.2996 |
| Student | 0.433 | [0.11,0.76] | 0.0093 | 0.438 | [0.11,0.76] | 0.0085 | 0.446 | [0.12,0.77] | 0.0074 | 0.453 | [0.12,0.78] | 0.0069 | 0.458 | [0.13,0.79] | 0.0063 | 0.465 | [0.14,0.79] | 0.0057 |
| House Work | -0.034 | [-0.15,0.09] | 0.5761 | -0.037 | [-0.16,0.08] | 0.5476 | -0.036 | [-0.15,0.08] | 0.5559 | -0.043 | [-0.16,0.08] | 0.4800 | -0.044 | [-0.16,0.08] | 0.4660 | -0.046 | [-0.17,0.07] | 0.4486 |
| Other Activity | 0.512 | [0.24,0.79] | 0.0003 | 0.514 | [0.24,0.79] | 0.0002 | 0.514 | [0.24,0.79] | 0.0002 | 0.523 | [0.25,0.80] | 0.0002 | 0.526 | [0.25,0.80] | 0.0002 | 0.525 | [0.25,0.80] | 0.0002 |
| Social Programme | 0.005 | [-0.11,0.12] | 0.9360 | 0.000 | [-0.12,0.12] | 0.9935 | 0.006 | [-0.11,0.12] | 0.9180 | 0.003 | [-0.11,0.12] | 0.9661 | 0.003 | [-0.11,0.12] | 0.9605 | 0.014 | [-0.10,0.13] | 0.8136 |
| Chronically Ill | 1.185 | [1.06,1.31] | 0.0000 | 1.186 | [1.06,1.31] | 0.0000 | 1.184 | [1.06,1.31] | 0.0000 | 1.185 | [1.06,1.31] | 0.0000 | 1.188 | [1.06,1.32] | 0.0000 | 1.200 | [1.07,1.33] | 0.0000 |
| Victim of Violence | 2.385 | [2.09,2.68] | 0.0000 | 2.388 | [2.10,2.68] | 0.0000 | 2.390 | [2.10,2.68] | 0.0000 | 2.435 | [2.14,2.73] | 0.0000 | 2.438 | [2.14,2.73] | 0.0000 | 2.455 | [2.16,2.75] | 0.0000 |
| Limitations in Activities | 1.099 | [1.01,1.19] | 0.0000 | 1.099 | [1.00,1.19] | 0.0000 | 1.097 | [1.00,1.19] | 0.0000 | 1.084 | [0.99,1.18] | 0.0000 | 1.084 | [0.99,1.18] | 0.0000 | 1.094 | [1.00,1.19] | 0.0000 |
| Drinks few times a year | 0.178 | [0.07,0.28] | 0.0011 | 0.180 | [0.07,0.29] | 0.0010 | 0.178 | [0.07,0.29] | 0.0010 | 0.190 | [0.08,0.30] | 0.0005 | 0.191 | [0.08,0.30] | 0.0005 | 0.191 | [0.08,0.30] | 0.0005 |
| Drinks few times a month | 0.188 | [0.06,0.32] | 0.0048 | 0.190 | [0.06,0.32] | 0.0042 | 0.193 | [0.06,0.32] | 0.0037 | 0.187 | [0.06,0.32] | 0.0052 | 0.188 | [0.06,0.32] | 0.0050 | 0.186 | [0.06,0.32] | 0.0054 |
| Drinks Weekly/Daily | 0.404 | [0.25,0.56] | 0.0000 | 0.410 | [0.25,0.57] | 0.0000 | 0.413 | [0.25,0.57] | 0.0000 | 0.423 | [0.26,0.58] | 0.0000 | 0.428 | [0.27,0.59] | 0.0000 | 0.432 | [0.27,0.59] | 0.0000 |
| Has Health Insurance | -0.042 | [-0.15,0.07] | 0.4439 | -0.043 | [-0.15,0.06] | 0.4351 | -0.045 | [-0.15,0.06] | 0.4096 | -0.030 | [-0.14,0.08] | 0.5923 | -0.032 | [-0.14,0.08] | 0.5592 | -0.041 | [-0.15,0.07] | 0.4543 |
| Hospitals/Pop | -0.018 | [-0.06,0.02] | 0.3537 | -0.018 | [-0.06,0.02] | 0.3542 | -0.019 | [-0.06,0.02] | 0.3310 | -0.091 | [-0.22,0.04] | 0.1780 | -0.089 | [-0.21,0.03] | 0.1387 | -0.088 | [-0.16,-0.01] | 0.0239 |
| Mean Wealth | 0.078 | [-0.06,0.22] | 0.2713 | 0.068 | [-0.07,0.21] | 0.3364 | 0.064 | [-0.07,0.20] | 0.3643 | 0.179 | [-0.15,0.51] | 0.2854 | 0.175 | [-0.12,0.47] | 0.2400 | 0.170 | [-0.02,0.36] | 0.0768 |
| Constant | -0.847 | [-2.27,0.58] | 0.2450 | -0.658 | [-2.10,0.78] | 0.3701 | -0.316 | [-1.77,1.14] | 0.6706 | -1.883 | [-5.11,1.35] | 0.2533 | -1.718 | [-4.60,1.16] | 0.2428 | -1.349 | [-3.25,0.55] | 0.1635 |
| Obs | 44,324 | | | 44,324 | | | 44,324 | | | 44,324 | | | 44,324 | | | 44,324 | | |
| Overall-R2 | 0.0875 | | | 0.0876 | | | 0.0878 | | | 0.0880 | | | 0.0882 | | | 0.0884 | | |
| Between-R2 | 0.0925 | | | 0.0931 | | | 0.0930 | | | 0.3154 | | | 0.3248 | | | 0.3471 | | |
| Within-R2 | 0.0864 | | | 0.0865 | | | 0.0867 | | | 0.0867 | | | 0.0868 | | | 0.0869 | | |

For models 1-3 the second level is the municipality. For models 4-6 the second level is the state.

ROBUSTNESS CHECK 3.a – Multilevel linear regression models with Municipality + Gender reference groups

3.b) Measures of relative deprivation and relative affluence based on Municipality + Employment status reference groups

| | MUNICIPAL LEVEL | | | | | | | | | STATE LEVEL | | | | | | | | |
|---------------------------|-----------------|---------------|---------|--------|---------------|---------|--------|---------------|---------|-------------|---------------|---------|--------|---------------|---------|-------------|---------------|---------|
| | (1) | | | (2) | | | (3) | | | (4) | | | (5) | | | (6) | | |
| | Beta | 95% CI | P-Value | Beta | 95% CI | P-Value | Beta | 95% CI | P-Value | Beta | 95% CI | P-Value | Beta | 95% CI | P-Value | Beta | 95% CI | P-Value |
| Poorest Quartile | 0.685 | [0.43,0.94] | 0.0000 | 0.503 | [0.20,0.80] | 0.0010 | 0.464 | [0.16,0.76] | 0.0024 | 0.563 | [0.37,0.76] | 0.0000 | 0.452 | [0.24,0.66] | 0.0000 | 0.434 | [0.22,0.64] | 0.0001 |
| 2nd Quartile | 0.652 | [0.48,0.82] | 0.0000 | 0.511 | [0.30,0.72] | 0.0000 | 0.423 | [0.21,0.64] | 0.0001 | 0.619 | [0.47,0.77] | 0.0000 | 0.517 | [0.35,0.68] | 0.0000 | 0.466 | [0.30,0.64] | 0.0000 |
| 3rd Quartile | 0.359 | [0.23,0.49] | 0.0000 | 0.261 | [0.10,0.42] | 0.0011 | 0.183 | [0.02,0.35] | 0.0302 | 0.352 | [0.22,0.48] | 0.0000 | 0.273 | [0.13,0.41] | 0.0002 | 0.230 | [0.09,0.37] | 0.0018 |
| Rel Deprivation | 0.133 | [0.05,0.21] | 0.0011 | 0.115 | [0.03,0.20] | 0.0061 | 0.095 | [0.01,0.18] | 0.0249 | 0.163 | [0.10,0.23] | 0.0000 | 0.129 | [0.06,0.20] | 0.0002 | 0.112 | [0.04,0.18] | 0.0014 |
| Rel Affluence | | | | -0.107 | [-0.20,-0.02] | 0.0213 | -0.368 | [-0.57,-0.17] | 0.0003 | | | | -0.102 | [-0.18,-0.02] | 0.0125 | -0.351 | [-0.55,-0.15] | 0.0005 |
| Gini | -0.748 | [-4.11,2.61] | 0.6627 | -0.409 | [-3.78,2.96] | 0.8120 | -1.786 | [-5.29,1.71] | 0.3172 | 2.282 | [-4.65,9.22] | 0.5189 | 2.382 | [-4.22,8.98] | 0.4794 | 1.139 | [-2.84,5.12] | 0.5746 |
| Rel Affluence*Gini | | | | | | | 1.535 | [0.50,2.57] | 0.0037 | | | | | | 1.247 | [0.30,2.19] | 0.0097 | |
| N people in HH | 0.038 | [0.01,0.06] | 0.0024 | 0.039 | [0.01,0.06] | 0.0019 | 0.039 | [0.01,0.06] | 0.0018 | 0.031 | [0.01,0.06] | 0.0142 | 0.032 | [0.01,0.06] | 0.0103 | 0.036 | [0.01,0.06] | 0.0044 |
| Female | 1.664 | [1.55,1.78] | 0.0000 | 1.668 | [1.55,1.79] | 0.0000 | 1.668 | [1.55,1.79] | 0.0000 | 1.681 | [1.56,1.80] | 0.0000 | 1.683 | [1.57,1.80] | 0.0000 | 1.681 | [1.56,1.80] | 0.0000 |
| Age | 0.113 | [0.10,0.13] | 0.0000 | 0.113 | [0.10,0.13] | 0.0000 | 0.113 | [0.10,0.13] | 0.0000 | 0.114 | [0.10,0.13] | 0.0000 | 0.114 | [0.10,0.13] | 0.0000 | 0.113 | [0.10,0.13] | 0.0000 |
| Age ² | -0.001 | [-0.00,-0.00] | 0.0000 | -0.001 | [-0.00,-0.00] | 0.0000 | -0.001 | [-0.00,-0.00] | 0.0000 | -0.001 | [-0.00,-0.00] | 0.0000 | -0.001 | [-0.00,-0.00] | 0.0000 | -0.001 | [-0.00,-0.00] | 0.0000 |
| Married | -0.397 | [-0.49,-0.31] | 0.0000 | -0.394 | [-0.49,-0.30] | 0.0000 | -0.392 | [-0.48,-0.30] | 0.0000 | -0.395 | [-0.49,-0.30] | 0.0000 | -0.399 | [-0.48,-0.30] | 0.0000 | -0.372 | [-0.46,-0.28] | 0.0000 |
| No education / Primary | -0.384 | [-0.50,-0.27] | 0.0000 | -0.380 | [-0.49,-0.27] | 0.0000 | -0.382 | [-0.49,-0.27] | 0.0000 | -0.380 | [-0.49,-0.27] | 0.0000 | -0.379 | [-0.49,-0.27] | 0.0000 | -0.388 | [-0.50,-0.27] | 0.0000 |
| Secondary | -0.887 | [-1.02,-0.75] | 0.0000 | -0.869 | [-1.00,-0.74] | 0.0000 | -0.864 | [-1.00,-0.73] | 0.0000 | -0.903 | [-1.04,-0.77] | 0.0000 | -0.890 | [-1.02,-0.76] | 0.0000 | -0.904 | [-1.04,-0.77] | 0.0000 |
| Not Employed | 0.593 | [0.37,0.81] | 0.0000 | 0.598 | [0.38,0.82] | 0.0000 | 0.597 | [0.38,0.82] | 0.0000 | 0.647 | [0.43,0.87] | 0.0000 | 0.651 | [0.43,0.87] | 0.0000 | 0.656 | [0.44,0.88] | 0.0000 |
| Retired | -0.108 | [-0.35,0.14] | 0.3854 | -0.098 | [-0.34,0.15] | 0.4312 | -0.097 | [-0.34,0.15] | 0.4359 | -0.102 | [-0.35,0.14] | 0.4141 | -0.096 | [-0.34,0.15] | 0.4429 | -0.113 | [-0.36,0.13] | 0.3661 |
| Student | 0.443 | [0.12,0.77] | 0.0079 | 0.455 | [0.13,0.78] | 0.0064 | 0.464 | [0.14,0.79] | 0.0054 | 0.465 | [0.14,0.79] | 0.0056 | 0.475 | [0.15,0.80] | 0.0047 | 0.482 | [0.15,0.81] | 0.0041 |
| House Work | -0.022 | [-0.14,0.10] | 0.7134 | -0.021 | [-0.14,0.10] | 0.7325 | -0.021 | [-0.14,0.10] | 0.7350 | -0.029 | [-0.15,0.09] | 0.6341 | -0.028 | [-0.15,0.09] | 0.6519 | -0.030 | [-0.15,0.09] | 0.6247 |
| Other Activity | 0.522 | [0.25,0.80] | 0.0002 | 0.526 | [0.25,0.80] | 0.0002 | 0.526 | [0.25,0.80] | 0.0002 | 0.535 | [0.26,0.81] | 0.0001 | 0.539 | [0.26,0.81] | 0.0001 | 0.538 | [0.26,0.81] | 0.0001 |
| Social Programme | 0.007 | [-0.11,0.12] | 0.9087 | 0.002 | [-0.12,0.12] | 0.9799 | 0.005 | [-0.11,0.12] | 0.9282 | 0.005 | [-0.11,0.12] | 0.9341 | 0.004 | [-0.11,0.12] | 0.9462 | 0.014 | [-0.10,0.13] | 0.8124 |
| Chronically Ill | 1.185 | [1.06,1.31] | 0.0000 | 1.187 | [1.06,1.31] | 0.0000 | 1.184 | [1.06,1.31] | 0.0000 | 1.185 | [1.06,1.31] | 0.0000 | 1.186 | [1.06,1.32] | 0.0000 | 1.201 | [1.07,1.33] | 0.0000 |
| Victim of Violence | 2.384 | [2.09,2.68] | 0.0000 | 2.388 | [2.10,2.68] | 0.0000 | 2.389 | [2.10,2.68] | 0.0000 | 2.434 | [2.14,2.73] | 0.0000 | 2.435 | [2.14,2.73] | 0.0000 | 2.454 | [2.16,2.75] | 0.0000 |
| Limitations in Activities | 1.100 | [1.01,1.19] | 0.0000 | 1.099 | [1.00,1.19] | 0.0000 | 1.097 | [1.00,1.19] | 0.0000 | 1.084 | [0.99,1.18] | 0.0000 | 1.083 | [0.99,1.18] | 0.0000 | 1.095 | [1.00,1.19] | 0.0000 |
| Drinks few times a year | 0.177 | [0.07,0.28] | 0.0011 | 0.179 | [0.07,0.29] | 0.0010 | 0.178 | [0.07,0.28] | 0.0011 | 0.189 | [0.08,0.30] | 0.0005 | 0.190 | [0.08,0.30] | 0.0005 | 0.190 | [0.08,0.30] | 0.0005 |
| Drinks few times a month | 0.187 | [0.06,0.32] | 0.0049 | 0.190 | [0.06,0.32] | 0.0043 | 0.192 | [0.06,0.32] | 0.0039 | 0.186 | [0.06,0.32] | 0.0053 | 0.187 | [0.06,0.32] | 0.0051 | 0.185 | [0.05,0.32] | 0.0057 |
| Drinks Weekly/Daily | 0.403 | [0.24,0.56] | 0.0000 | 0.410 | [0.25,0.57] | 0.0000 | 0.411 | [0.25,0.57] | 0.0000 | 0.423 | [0.26,0.58] | 0.0000 | 0.427 | [0.27,0.59] | 0.0000 | 0.430 | [0.27,0.59] | 0.0000 |
| Has Health Insurance | -0.041 | [-0.15,0.07] | 0.4528 | -0.043 | [-0.15,0.07] | 0.4378 | -0.045 | [-0.15,0.06] | 0.4097 | -0.029 | [-0.14,0.08] | 0.6050 | -0.031 | [-0.14,0.08] | 0.5721 | -0.041 | [-0.15,0.07] | 0.4551 |
| Hospitals/Pop | -0.018 | [-0.06,0.02] | 0.3501 | -0.018 | [-0.06,0.02] | 0.3517 | -0.019 | [-0.06,0.02] | 0.3315 | -0.092 | [-0.23,0.04] | 0.1789 | -0.090 | [-0.22,0.04] | 0.1683 | -0.088 | [-0.16,-0.01] | 0.0223 |
| Mean Wealth | 0.078 | [-0.06,0.22] | 0.2734 | 0.067 | [-0.07,0.21] | 0.3454 | 0.063 | [-0.08,0.20] | 0.3727 | 0.179 | [-0.15,0.51] | 0.2896 | 0.175 | [-0.14,0.49] | 0.2759 | 0.170 | [-0.02,0.36] | 0.0737 |
| Constant | -0.851 | [-2.28,0.57] | 0.2420 | -0.645 | [-2.08,0.79] | 0.3788 | -0.324 | [-1.78,1.13] | 0.6619 | -1.891 | [-5.15,1.36] | 0.2548 | -1.722 | [-4.83,1.38] | 0.2770 | -1.388 | [-3.26,0.49] | 0.1472 |
| Obs | 44,324 | | | 44,324 | | | 44,324 | | | 44,324 | | | 44,324 | | | 44,324 | | |
| Overall-R2 | 0.0875 | | | 0.0876 | | | 0.0878 | | | 0.0880 | | | 0.0882 | | | 0.0884 | | |
| Between-R2 | 0.0927 | | | 0.0931 | | | 0.0932 | | | 0.3135 | | | 0.3235 | | | 0.3458 | | |
| Within-R2 | 0.0864 | | | 0.0865 | | | 0.0867 | | | 0.0867 | | | 0.0868 | | | 0.0869 | | |

For models 1-3 the second level is the municipality. For models 4-6 the second level is the state.

ROBUSTNESS CHECK 3.b – Multilevel linear regression models with Municipality + Employment status reference groups

3.c) Measures of relative deprivation and relative affluence based on non-linear (concave) relative deprivation index

| | MUNICIPAL LEVEL | | | | | | | | | STATE LEVEL | | | | | | | | |
|---------------------------|-----------------|---------------|---------|--------|---------------|---------|--------|---------------|---------|-------------|---------------|---------|--------|---------------|---------|-------------|---------------|---------|
| | (1) | | | (2) | | | (3) | | | (4) | | | (5) | | | (6) | | |
| | Beta | 95% CI | P-Value | Beta | 95% CI | P-Value | Beta | 95% CI | P-Value | Beta | 95% CI | P-Value | Beta | 95% CI | P-Value | Beta | 95% CI | P-Value |
| Poorest Quartile | 0.662 | [0.39,0.93] | 0.0000 | 0.550 | [0.25,0.85] | 0.0004 | 0.473 | [0.17,0.78] | 0.0025 | 0.509 | [0.30,0.72] | 0.0000 | 0.434 | [0.21,0.66] | 0.0001 | 0.412 | [0.19,0.63] | 0.0003 |
| 2nd Quartile | 0.643 | [0.47,0.82] | 0.0000 | 0.546 | [0.34,0.76] | 0.0000 | 0.425 | [0.20,0.65] | 0.0002 | 0.596 | [0.44,0.75] | 0.0000 | 0.512 | [0.34,0.68] | 0.0000 | 0.451 | [0.28,0.62] | 0.0000 |
| 3rd Quartile | 0.355 | [0.22,0.49] | 0.0000 | 0.285 | [0.13,0.44] | 0.0004 | 0.183 | [0.01,0.35] | 0.0331 | 0.342 | [0.21,0.47] | 0.0000 | 0.271 | [0.13,0.41] | 0.0002 | 0.221 | [0.08,0.37] | 0.0029 |
| Rel Deprivation | 0.584 | [0.22,0.95] | 0.0016 | 0.473 | [0.09,0.86] | 0.0161 | 0.405 | [0.02,0.79] | 0.0402 | 0.735 | [0.43,1.04] | 0.0000 | 0.544 | [0.20,0.89] | 0.0020 | 0.474 | [0.13,0.82] | 0.0071 |
| Rel Affluence | | | | -0.082 | [-0.18,0.01] | 0.0971 | -0.385 | [-0.59,-0.18] | 0.0002 | | | | -0.097 | [-0.18,-0.01] | 0.0234 | -0.389 | [-0.59,-0.19] | 0.0001 |
| Gini | -0.627 | [-3.99,2.73] | 0.7145 | -0.343 | [-3.72,3.04] | 0.8424 | -1.988 | [-5.50,1.53] | 0.2677 | 2.333 | [-4.60,9.26] | 0.5096 | 2.479 | [-4.97,9.93] | 0.5145 | 0.975 | [-2.92,4.87] | 0.6238 |
| Rel Affluence*Gini | | | | | | | 1.735 | [0.73,2.74] | 0.0008 | | | | | | 1.472 | [0.55,2.40] | 0.0018 | |
| N people in HH | 0.038 | [0.01,0.06] | 0.0023 | 0.039 | [0.01,0.06] | 0.0021 | 0.039 | [0.01,0.06] | 0.0018 | 0.031 | [0.01,0.06] | 0.0143 | 0.032 | [0.01,0.06] | 0.0121 | 0.036 | [0.01,0.06] | 0.0044 |
| Female | 1.665 | [1.55,1.78] | 0.0000 | 1.668 | [1.55,1.78] | 0.0000 | 1.668 | [1.55,1.79] | 0.0000 | 1.684 | [1.57,1.80] | 0.0000 | 1.685 | [1.57,1.80] | 0.0000 | 1.683 | [1.57,1.80] | 0.0000 |
| Age | 0.113 | [0.10,0.13] | 0.0000 | 0.113 | [0.10,0.13] | 0.0000 | 0.113 | [0.10,0.13] | 0.0000 | 0.114 | [0.10,0.13] | 0.0000 | 0.115 | [0.10,0.13] | 0.0000 | 0.113 | [0.10,0.13] | 0.0000 |
| Age ² | -0.001 | [-0.00,-0.00] | 0.0000 | -0.001 | [-0.00,-0.00] | 0.0000 | -0.001 | [-0.00,-0.00] | 0.0000 | -0.001 | [-0.00,-0.00] | 0.0000 | -0.001 | [-0.00,-0.00] | 0.0000 | -0.001 | [-0.00,-0.00] | 0.0000 |
| Married | -0.396 | [-0.49,-0.30] | 0.0000 | -0.395 | [-0.49,-0.30] | 0.0000 | -0.391 | [-0.48,-0.30] | 0.0000 | -0.395 | [-0.49,-0.30] | 0.0000 | -0.393 | [-0.49,-0.30] | 0.0000 | -0.371 | [-0.46,-0.28] | 0.0000 |
| No education / Primary | -0.384 | [-0.50,-0.27] | 0.0000 | -0.381 | [-0.49,-0.27] | 0.0000 | -0.382 | [-0.50,-0.27] | 0.0000 | -0.376 | [-0.49,-0.26] | 0.0000 | -0.375 | [-0.49,-0.26] | 0.0000 | -0.387 | [-0.50,-0.27] | 0.0000 |
| Secondary | -0.887 | [-1.02,-0.75] | 0.0000 | -0.873 | [-1.01,-0.74] | 0.0000 | -0.865 | [-1.00,-0.73] | 0.0000 | -0.899 | [-1.03,-0.77] | 0.0000 | -0.885 | [-1.02,-0.75] | 0.0000 | -0.902 | [-1.03,-0.77] | 0.0000 |
| Not Employed | 0.580 | [0.36,0.80] | 0.0000 | 0.581 | [0.36,0.80] | 0.0000 | 0.581 | [0.36,0.80] | 0.0000 | 0.632 | [0.41,0.85] | 0.0000 | 0.634 | [0.41,0.85] | 0.0000 | 0.639 | [0.42,0.86] | 0.0000 |
| Retired | -0.116 | [-0.36,0.13] | 0.3493 | -0.113 | [-0.36,0.13] | 0.3617 | -0.112 | [-0.36,0.13] | 0.3667 | -0.111 | [-0.36,0.13] | 0.3748 | -0.108 | [-0.35,0.14] | 0.3878 | -0.129 | [-0.37,0.12] | 0.3012 |
| Student | 0.434 | [0.11,0.76] | 0.0091 | 0.438 | [0.11,0.76] | 0.0085 | 0.448 | [0.12,0.77] | 0.0071 | 0.456 | [0.13,0.78] | 0.0066 | 0.459 | [0.13,0.79] | 0.0062 | 0.468 | [0.14,0.80] | 0.0054 |
| House Work | -0.034 | [-0.15,0.09] | 0.5778 | -0.036 | [-0.15,0.08] | 0.5536 | -0.035 | [-0.15,0.08] | 0.5606 | -0.044 | [-0.16,0.08] | 0.4730 | -0.045 | [-0.16,0.07] | 0.4632 | -0.047 | [-0.17,0.07] | 0.4377 |
| Other Activity | 0.511 | [0.24,0.79] | 0.0003 | 0.512 | [0.24,0.79] | 0.0003 | 0.513 | [0.24,0.79] | 0.0002 | 0.520 | [0.24,0.80] | 0.0002 | 0.523 | [0.25,0.80] | 0.0002 | 0.523 | [0.25,0.80] | 0.0002 |
| Social Programme | 0.005 | [-0.11,0.12] | 0.9360 | 0.001 | [-0.12,0.12] | 0.9871 | 0.006 | [-0.11,0.12] | 0.9212 | -0.002 | [-0.12,0.12] | 0.9768 | -0.003 | [-0.12,0.11] | 0.9621 | 0.011 | [-0.11,0.13] | 0.8485 |
| Chronically Ill | 1.186 | [1.06,1.31] | 0.0000 | 1.186 | [1.06,1.31] | 0.0000 | 1.183 | [1.06,1.31] | 0.0000 | 1.186 | [1.06,1.31] | 0.0000 | 1.185 | [1.06,1.31] | 0.0000 | 1.202 | [1.07,1.33] | 0.0000 |
| Victim of Violence | 2.387 | [2.09,2.68] | 0.0000 | 2.390 | [2.10,2.68] | 0.0000 | 2.391 | [2.10,2.68] | 0.0000 | 2.438 | [2.14,2.73] | 0.0000 | 2.438 | [2.14,2.73] | 0.0000 | 2.459 | [2.16,2.75] | 0.0000 |
| Limitations in Activities | 1.100 | [1.01,1.19] | 0.0000 | 1.100 | [1.01,1.19] | 0.0000 | 1.098 | [1.00,1.19] | 0.0000 | 1.085 | [0.99,1.18] | 0.0000 | 1.083 | [0.99,1.18] | 0.0000 | 1.097 | [1.00,1.19] | 0.0000 |
| Drinks few times a year | 0.179 | [0.07,0.29] | 0.0010 | 0.180 | [0.07,0.29] | 0.0010 | 0.178 | [0.07,0.29] | 0.0010 | 0.192 | [0.09,0.30] | 0.0004 | 0.192 | [0.09,0.30] | 0.0004 | 0.191 | [0.08,0.30] | 0.0004 |
| Drinks few times a month | 0.188 | [0.06,0.32] | 0.0047 | 0.190 | [0.06,0.32] | 0.0043 | 0.193 | [0.06,0.32] | 0.0037 | 0.188 | [0.06,0.32] | 0.0049 | 0.189 | [0.06,0.32] | 0.0046 | 0.186 | [0.06,0.32] | 0.0053 |
| Drinks Weekly/Daily | 0.405 | [0.25,0.56] | 0.0000 | 0.410 | [0.25,0.57] | 0.0000 | 0.412 | [0.25,0.57] | 0.0000 | 0.426 | [0.27,0.58] | 0.0000 | 0.428 | [0.27,0.59] | 0.0000 | 0.433 | [0.27,0.59] | 0.0000 |
| Has Health Insurance | -0.043 | [-0.15,0.07] | 0.4366 | -0.044 | [-0.15,0.06] | 0.4236 | -0.046 | [-0.15,0.06] | 0.4012 | -0.031 | [-0.14,0.08] | 0.5777 | -0.032 | [-0.14,0.08] | 0.5591 | -0.043 | [-0.15,0.07] | 0.4350 |
| Hospitals/Pop | -0.018 | [-0.06,0.02] | 0.3524 | -0.018 | [-0.05,0.02] | 0.3574 | -0.018 | [-0.06,0.02] | 0.3381 | -0.090 | [-0.22,0.04] | 0.1897 | -0.087 | [-0.23,0.06] | 0.2337 | -0.086 | [-0.16,-0.01] | 0.0224 |
| Mean Wealth | 0.091 | [-0.05,0.23] | 0.1935 | 0.085 | [-0.05,0.22] | 0.2245 | 0.074 | [-0.06,0.21] | 0.2896 | 0.187 | [-0.14,0.52] | 0.2675 | 0.186 | [-0.17,0.54] | 0.3040 | 0.179 | [-0.00,0.36] | 0.0535 |
| Constant | -0.971 | [-2.39,0.45] | 0.1791 | -0.821 | [-2.25,0.61] | 0.2601 | -0.386 | [-1.84,1.07] | 0.6025 | -1.969 | [-5.22,1.28] | 0.2357 | -1.821 | [-5.32,1.67] | 0.3070 | -1.418 | [-3.26,0.42] | 0.1304 |
| Obs | 44,324 | | | 44,324 | | | 44,324 | | | 44,324 | | | 44,324 | | | 44,324 | | |
| Overall-R2 | 0.0874 | | | 0.0875 | | | 0.0878 | | | 0.0880 | | | 0.0881 | | | 0.0884 | | |
| Between-R2 | 0.0912 | | | 0.0921 | | | 0.0918 | | | 0.3145 | | | 0.3180 | | | 0.3401 | | |
| Within-R2 | 0.0864 | | | 0.0865 | | | 0.0867 | | | 0.0866 | | | 0.0867 | | | 0.0869 | | |

For models 1-3 the second level is the municipality. For models 4-6 the second level is the state.

ROBUSTNESS CHECK 3.c – Multilevel linear regression models with a concave relative deprivation index

5) Stepwise regressions results, showing the stability of signs and significance levels of our variables of interest across all alternative combinations.

Note: given the large number of regressions, the table below is presented in a reduced format (*, ** and *** indicate significance at 0.05, 0.01 and 0.001 levels, respectively).

MUNICIPAL LEVEL

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) | (14) | (15) |
|--------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Poorest Quartile | 1.015*** | | | | 0.682*** | 0.748*** | 1.015*** | | | | 0.503** | 0.681*** | 0.748*** | | 0.455** |
| 2 nd Quartile | 0.820*** | | | | 0.653*** | 0.627*** | 0.820*** | | | | 0.515*** | 0.652*** | 0.627*** | | 0.413*** |
| 3 rd Quartile | 0.432*** | | | | 0.360*** | 0.305*** | 0.432*** | | | | 0.265** | 0.360*** | 0.306*** | | 0.175* |
| Rel Deprivation | | 0.294*** | | | 0.134** | | | 0.164*** | 0.294*** | | 0.119** | 0.135** | | 0.164*** | 0.095* |
| Rel Affluence | | | -0.344*** | | | -0.122** | | -0.227*** | | -0.345*** | -0.099* | | -0.122** | -0.227*** | -0.385*** |
| Gini | | | | 0.139 | | | -0.482 | | -0.838 | 0.797 | | -0.707 | -0.099 | 0.026 | -1.904 |
| Rel Affluence*Gini | | | | | | | | | | | | | | | 1.641** |
| N people in HH | 0.036** | 0.037** | 0.036** | 0.021 | 0.038** | 0.037** | 0.036** | 0.040** | 0.037** | 0.036** | 0.039** | 0.038** | 0.037** | 0.040** | 0.039** |
| Female | 1.661*** | 1.643*** | 1.656*** | 1.582*** | 1.664*** | 1.667*** | 1.661*** | 1.665*** | 1.643*** | 1.656*** | 1.668*** | 1.664*** | 1.667*** | 1.665*** | 1.669*** |
| Age | 0.111*** | 0.110*** | 0.111*** | 0.101*** | 0.113*** | 0.112*** | 0.111*** | 0.113*** | 0.110*** | 0.111*** | 0.113*** | 0.113*** | 0.112*** | 0.113*** | 0.113*** |
| Age ² | -0.001*** | -0.001*** | -0.001*** | -0.001*** | -0.001*** | -0.001*** | -0.001*** | -0.001*** | -0.001*** | -0.001*** | -0.001*** | -0.001*** | -0.001*** | -0.001*** | -0.001*** |
| Married | -0.405*** | -0.412*** | -0.413*** | -0.481*** | -0.397*** | -0.400*** | -0.405*** | -0.397*** | -0.412*** | -0.413*** | -0.394*** | -0.397*** | -0.400*** | -0.397*** | -0.391*** |
| No education / | -0.392*** | -0.416*** | -0.412*** | -0.528*** | -0.385*** | -0.385*** | -0.392*** | -0.389*** | -0.415*** | -0.412*** | -0.380*** | -0.384*** | -0.385*** | -0.389*** | -0.381*** |
| Primary | | | | | | | | | | | | | | | |
| Secondary | -0.905*** | -1.009*** | -0.932*** | -1.254*** | -0.890*** | -0.879*** | -0.904*** | -0.905*** | -1.007*** | -0.933*** | -0.871*** | -0.888*** | -0.879*** | -0.905*** | -0.863*** |
| Not Employed | 0.583*** | 0.587*** | 0.595*** | 0.612*** | 0.579*** | 0.584*** | 0.583*** | 0.587*** | 0.587*** | 0.595*** | 0.581*** | 0.580*** | 0.584*** | 0.587*** | 0.581*** |
| Retired | -0.126 | -0.135 | -0.131 | -0.213 | -0.117 | -0.119 | -0.126 | -0.115 | -0.135 | -0.131 | -0.112 | -0.117 | -0.119 | -0.115 | -0.112 |
| Student | 0.418* | 0.395* | 0.403* | 0.264 | 0.433** | 0.428* | 0.419* | 0.429* | 0.396* | 0.402* | 0.439** | 0.433** | 0.428* | 0.429* | 0.448** |
| House Work | -0.037 | -0.019 | -0.037 | -0.015 | -0.033 | -0.039 | -0.037 | -0.032 | -0.019 | -0.037 | -0.036 | -0.033 | -0.039 | -0.032 | -0.035 |
| Other Activity | 0.511*** | 0.514*** | 0.521*** | 0.526*** | 0.510*** | 0.513*** | 0.511*** | 0.516*** | 0.515*** | 0.520*** | 0.512*** | 0.511*** | 0.513*** | 0.516*** | 0.513*** |
| Social Programme | 0.006 | 0.040 | 0.028 | 0.137* | 0.007 | 0.000 | 0.006 | 0.011 | 0.040 | 0.028 | 0.001 | 0.006 | 0.000 | 0.011 | 0.006 |
| Chronically Ill | 1.184*** | 1.184*** | 1.184*** | 1.172*** | 1.185*** | 1.186*** | 1.184*** | 1.187*** | 1.184*** | 1.184*** | 1.186*** | 1.185*** | 1.186*** | 1.187*** | 1.184*** |
| Victim of Violence | 2.390*** | 2.378*** | 2.402*** | 2.396*** | 2.385*** | 2.393*** | 2.390*** | 2.390*** | 2.378*** | 2.402*** | 2.388*** | 2.384*** | 2.393*** | 2.390*** | 2.389*** |
| Limitations in | 1.102*** | 1.106*** | 1.105*** | 1.120*** | 1.100*** | 1.101*** | 1.102*** | 1.102*** | 1.106*** | 1.105*** | 1.099*** | 1.100*** | 1.101*** | 1.102*** | 1.097*** |
| Activities | | | | | | | | | | | | | | | |
| Drinks few times a | 0.176** | 0.167** | 0.172** | 0.141** | 0.177** | 0.178** | 0.176** | 0.177** | 0.168** | 0.172** | 0.179** | 0.178** | 0.178** | 0.177** | 0.178** |
| year | | | | | | | | | | | | | | | |
| Drinks few times a | 0.184** | 0.170* | 0.180** | 0.131* | 0.187** | 0.188** | 0.184** | 0.185** | 0.170* | 0.180** | 0.190** | 0.187** | 0.188** | 0.185** | 0.193** |
| month | | | | | | | | | | | | | | | |
| Drinks Weekly/Daily | 0.402*** | 0.386*** | 0.409*** | 0.346*** | 0.404*** | 0.409*** | 0.401*** | 0.409*** | 0.385*** | 0.409*** | 0.410*** | 0.403*** | 0.409*** | 0.409*** | 0.412*** |
| Has Health Insurance | -0.050 | -0.031 | -0.052 | -0.061 | -0.041 | -0.050 | -0.050 | -0.038 | -0.031 | -0.052 | -0.042 | -0.041 | -0.050 | -0.038 | -0.045 |
| Hospitals/Pop | -0.018 | -0.014 | -0.018 | -0.020 | -0.017 | -0.018 | -0.018 | -0.016 | -0.015 | -0.017 | -0.017 | -0.017 | -0.018 | -0.016 | -0.018 |
| Mean Wealth | 0.154*** | 0.030 | 0.030 | 0.061 | 0.102* | 0.119** | 0.138* | 0.024 | 0.002 | 0.057 | 0.080 | 0.078 | 0.116 | 0.025 | 0.063 |
| Constant | -1.429*** | -0.207 | 0.311 | 0.344 | -1.117** | -0.986* | -1.255 | 0.003 | 0.096 | 0.022 | -0.793 | -0.860 | -0.951 | -0.007 | -0.291 |
| Obs. | 44,324 | 44,324 | 44,324 | 44,324 | 44,324 | 44,324 | 44,324 | 44,324 | 44,324 | 44,324 | 44,324 | 44,324 | 44,324 | 44,324 | 44,324 |
| Overall-R2 | 0.0872 | 0.0861 | 0.0864 | 0.0837 | 0.0875 | 0.0874 | 0.0872 | 0.0870 | 0.0861 | 0.0865 | 0.0876 | 0.0875 | 0.0874 | 0.0870 | 0.0878 |
| Between-R2 | 0.0868 | 0.0903 | 0.0827 | 0.0911 | 0.0940 | 0.0894 | 0.0868 | 0.0894 | 0.0905 | 0.0835 | 0.0951 | 0.0942 | 0.0894 | 0.0894 | 0.0941 |
| Within-R2 | 0.0862 | 0.0853 | 0.0856 | 0.0824 | 0.0864 | 0.0864 | 0.0862 | 0.0861 | 0.0853 | 0.0856 | 0.0865 | 0.0864 | 0.0864 | 0.0861 | 0.0867 |

Note: given the large number of regressions, the table below is presented in a reduced format (*, ** and *** indicate significance at 0.05, 0.01 and 0.001 levels, respectively).

STATE LEVEL

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) | (14) | (15) |
|--------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Poorest Quartile | 0.874*** | | | | 0.542*** | 0.593*** | 0.875*** | | | | 0.430*** | 0.543*** | 0.592*** | | 0.418*** |
| 2 nd Quartile | 0.782*** | | | | 0.610*** | 0.563*** | 0.783*** | | | | 0.505*** | 0.610*** | 0.562*** | | 0.455*** |
| 3 rd Quartile | 0.423*** | | | | 0.349*** | 0.271*** | 0.423*** | | | | 0.267*** | 0.349*** | 0.271*** | | 0.224** |
| Rel Deprivation | | 0.279*** | | | 0.173*** | | | 0.164*** | 0.279*** | | 0.137*** | 0.173*** | | 0.164*** | 0.120*** |
| Rel Affluence | | | -0.324*** | | | -0.161*** | | -0.213*** | | -0.324*** | -0.102* | | -0.162*** | -0.213*** | -0.367*** |
| Gini | | | | 2.317 | | | 2.472 | | 2.122 | 2.771 | | 2.340 | 2.635 | 2.499 | 1.119 |
| Rel Affluence*Gini | | | | | | | | | | | | | | | 1.342** |
| N people in HH | 0.026* | 0.030* | 0.030* | 0.014 | 0.031* | 0.030* | 0.026* | 0.034** | 0.030* | 0.030* | 0.035** | 0.031* | 0.030* | 0.034** | 0.036** |
| Female | 1.690*** | 1.639*** | 1.655*** | 1.595*** | 1.680*** | 1.690*** | 1.690*** | 1.660*** | 1.639*** | 1.655*** | 1.682*** | 1.681*** | 1.690*** | 1.660*** | 1.681*** |
| Age | 0.112*** | 0.110*** | 0.111*** | 0.102*** | 0.114*** | 0.114*** | 0.113*** | 0.111*** | 0.111*** | 0.111*** | 0.114*** | 0.114*** | 0.113*** | 0.113*** | 0.114*** |
| Age ² | -0.001*** | -0.001*** | -0.001*** | -0.001*** | -0.001*** | -0.001*** | -0.001*** | -0.001*** | -0.001*** | -0.001*** | -0.001*** | -0.001*** | -0.001*** | -0.001*** | -0.001*** |
| Married | -0.413*** | -0.407*** | -0.411*** | -0.475*** | -0.394*** | -0.400*** | -0.414*** | -0.393*** | -0.409*** | -0.412*** | -0.382*** | -0.394*** | -0.400*** | -0.394*** | -0.373*** |
| No education / | -0.377*** | -0.438*** | -0.431*** | -0.525*** | -0.399*** | -0.375*** | -0.377*** | -0.412*** | -0.437*** | -0.430*** | -0.381*** | -0.379*** | -0.375*** | -0.411*** | -0.387*** |
| Primary | | | | | | | | | | | | | | | |
| Secondary | -0.908*** | -1.076*** | -0.999*** | -1.276*** | -0.902*** | -0.883*** | -0.908*** | -0.977*** | -1.076*** | -0.998*** | -0.894*** | -0.902*** | -0.883*** | -0.976*** | -0.901*** |
| Not Employed | 0.635*** | 0.645*** | 0.654*** | 0.667*** | 0.630*** | 0.638*** | 0.635*** | 0.645*** | 0.644*** | 0.654*** | 0.636*** | 0.630*** | 0.638*** | 0.645*** | 0.637*** |
| Retired | -0.118 | -0.152 | -0.144 | -0.214 | -0.112 | -0.112 | -0.117 | -0.132 | -0.151 | -0.143 | -0.116 | -0.112 | -0.112 | -0.130 | -0.127 |
| Student | 0.434** | 0.400* | 0.410* | 0.286 | 0.454** | 0.450** | 0.435** | 0.434** | 0.400* | 0.410* | 0.462** | 0.455** | 0.451** | 0.435** | 0.467** |
| House Work | -0.054 | -0.019 | -0.036 | -0.020 | -0.042 | -0.051 | -0.054 | -0.030 | -0.018 | -0.036 | -0.044 | -0.042 | -0.051 | -0.029 | -0.045 |
| Other Activity | 0.516*** | 0.534*** | 0.537*** | 0.540*** | 0.521*** | 0.522*** | 0.516*** | 0.535*** | 0.534*** | 0.537*** | 0.524*** | 0.521*** | 0.522*** | 0.534*** | 0.524*** |
| Social Programme | -0.021 | 0.075 | 0.056 | 0.139* | 0.006 | -0.013 | -0.022 | 0.047 | 0.074 | 0.056 | 0.009 | 0.006 | -0.014 | 0.046 | 0.016 |
| Chronically Ill | 1.186*** | 1.183*** | 1.185*** | 1.173*** | 1.185*** | 1.188*** | 1.185*** | 1.187*** | 1.182*** | 1.183*** | 1.194*** | 1.184*** | 1.187*** | 1.185*** | 1.198*** |
| Victim of Violence | 2.451*** | 2.421*** | 2.441*** | 2.441*** | 2.434*** | 2.447*** | 2.450*** | 2.429*** | 2.419*** | 2.439*** | 2.443*** | 2.433*** | 2.446*** | 2.427*** | 2.451*** |
| Limitations in | 1.090*** | 1.092*** | 1.091*** | 1.106*** | 1.083*** | 1.087*** | 1.089*** | 1.089*** | 1.091*** | 1.090*** | 1.089*** | 1.083*** | 1.087*** | 1.088*** | 1.093*** |
| Activities | | | | | | | | | | | | | | | |
| Drinks few times a | 0.191*** | 0.174** | 0.178** | 0.153** | 0.189*** | 0.192*** | 0.191*** | 0.182*** | 0.173** | 0.178** | 0.191*** | 0.189*** | 0.192*** | 0.181*** | 0.190*** |
| year | | | | | | | | | | | | | | | |
| Drinks few times a | 0.186** | 0.159* | 0.169* | 0.128 | 0.186** | 0.188** | 0.186** | 0.173** | 0.159* | 0.169* | 0.187** | 0.186** | 0.188** | 0.173** | 0.186** |
| month | | | | | | | | | | | | | | | |
| Drinks Weekly/Daily | 0.426*** | 0.393*** | 0.412*** | 0.362*** | 0.423*** | 0.431*** | 0.426*** | 0.413*** | 0.392*** | 0.412*** | 0.428*** | 0.422*** | 0.431*** | 0.413*** | 0.430*** |
| Has Health Insurance | -0.044 | -0.018 | -0.042 | -0.049 | -0.028 | -0.042 | -0.043 | -0.026 | -0.017 | -0.041 | -0.034 | -0.027 | -0.042 | -0.025 | -0.039 |
| Hospitals/Pop | -0.070 | -0.073 | -0.062 | -0.085 | -0.075 | -0.066 | -0.086 | -0.067 | -0.088 | -0.080 | -0.071 | -0.090 | -0.084 | -0.083 | -0.086* |
| Mean Wealth | 0.117* | 0.036 | 0.041 | 0.156 | 0.076 | 0.090 | 0.227 | 0.035 | 0.130 | 0.164 | 0.068 | 0.180 | 0.208 | 0.146 | 0.173 |
| Constant | -1.054* | -0.134 | 0.312 | -0.574 | -0.877 | -0.649 | -2.152 | 0.014 | -1.077 | -0.918 | -0.652 | -1.916 | -1.818 | -1.094 | -1.408 |
| Obs. | 44,324 | 44,324 | 44,324 | 44,324 | 44,324 | 44,324 | 44,324 | 44,324 | 44,324 | 44,324 | 44,324 | 44,324 | 44,324 | 44,324 | 44,324 |
| Overall-R2 | 0.0875 | 0.0867 | 0.0870 | 0.0843 | 0.0880 | 0.0879 | 0.0876 | 0.0875 | 0.0867 | 0.0870 | 0.0882 | 0.0881 | 0.0880 | 0.0875 | 0.0884 |
| Between-R2 | 0.3262 | 0.3328 | 0.3215 | 0.3311 | 0.3258 | 0.3321 | 0.3125 | 0.3326 | 0.3149 | 0.3134 | 0.3374 | 0.3099 | 0.3199 | 0.3184 | 0.3355 |
| Within-R2 | 0.0861 | 0.0853 | 0.0855 | 0.0827 | 0.0867 | 0.0865 | 0.0861 | 0.0861 | 0.0853 | 0.0855 | 0.0868 | 0.0867 | 0.0865 | 0.0861 | 0.0870 |

6) Regression models including sample weights

| | MUNICIPAL LEVEL | | | | | | | | | STATE LEVEL | | | | | | | | |
|---------------------------|-----------------|---------------|---------|--------|---------------|---------|--------|---------------|---------|-------------|---------------|---------|--------|---------------|---------|--------|---------------|---------|
| | (1) | | | (2) | | | (3) | | | (4) | | | (5) | | | (6) | | |
| | Beta | 95% CI | P-Value | Beta | 95% CI | P-Value | Beta | 95% CI | P-Value | Beta | 95% CI | P-Value | Beta | 95% CI | P-Value | Beta | 95% CI | P-Value |
| Poorest Quartile | 0.622 | [0.33,0.91] | 0.0000 | 0.441 | [0.09,0.79] | 0.0144 | 0.406 | [0.06,0.76] | 0.0232 | 0.533 | [0.27,0.79] | 0.0001 | 0.358 | [0.06,0.65] | 0.0167 | 0.340 | [0.05,0.63] | 0.0233 |
| 2 nd Quartile | 0.642 | [0.45,0.83] | 0.0000 | 0.506 | [0.26,0.75] | 0.0001 | 0.443 | [0.20,0.69] | 0.0004 | 0.604 | [0.43,0.78] | 0.0000 | 0.460 | [0.25,0.68] | 0.0000 | 0.401 | [0.18,0.62] | 0.0004 |
| 3 rd Quartile | 0.361 | [0.23,0.50] | 0.0000 | 0.267 | [0.09,0.44] | 0.0027 | 0.215 | [0.04,0.39] | 0.0177 | 0.345 | [0.21,0.48] | 0.0000 | 0.243 | [0.08,0.40] | 0.0032 | 0.189 | [0.02,0.36] | 0.0269 |
| Rel Deprivation | 0.152 | [0.06,0.25] | 0.0017 | 0.136 | [0.04,0.23] | 0.0052 | 0.124 | [0.03,0.22] | 0.0122 | 0.178 | [0.09,0.26] | 0.0001 | 0.149 | [0.06,0.24] | 0.0010 | 0.134 | [0.04,0.22] | 0.0038 |
| Rel Affluence | | | | -0.097 | [-0.19,-0.00] | 0.0461 | -0.287 | [-0.48,-0.10] | 0.0029 | | | | -0.113 | [-0.20,-0.03] | 0.0099 | -0.492 | [-0.75,-0.23] | 0.0002 |
| Gini | -1.237 | [-4.03,1.55] | 0.3852 | -0.597 | [-3.55,2.35] | 0.6918 | -1.605 | [-4.90,1.69] | 0.3398 | 0.738 | [-6.93,8.41] | 0.8505 | 1.422 | [-6.26,9.11] | 0.7168 | -0.710 | [-8.67,7.25] | 0.8611 |
| Rel Affluence*Gini | | | | | | | 1.126 | [0.12,2.13] | 0.0276 | | | | | | | 2.254 | [0.82,3.69] | 0.0021 |
| N people in HH | 0.041 | [0.01,0.07] | 0.0028 | 0.042 | [0.02,0.07] | 0.0022 | 0.043 | [0.02,0.07] | 0.0020 | 0.041 | [0.01,0.07] | 0.0032 | 0.042 | [0.01,0.07] | 0.0024 | 0.042 | [0.01,0.07] | 0.0025 |
| Female | 1.639 | [1.51,1.77] | 0.0000 | 1.644 | [1.51,1.77] | 0.0000 | 1.644 | [1.52,1.77] | 0.0000 | 1.645 | [1.52,1.77] | 0.0000 | 1.649 | [1.52,1.78] | 0.0000 | 1.649 | [1.52,1.78] | 0.0000 |
| Age | 0.110 | [0.09,0.13] | 0.0000 | 0.110 | [0.09,0.13] | 0.0000 | 0.110 | [0.09,0.13] | 0.0000 | 0.110 | [0.09,0.13] | 0.0000 | 0.110 | [0.09,0.13] | 0.0000 | 0.110 | [0.09,0.13] | 0.0000 |
| Age ² | -0.001 | [-0.00,-0.00] | 0.0000 | -0.001 | [-0.00,-0.00] | 0.0000 | -0.001 | [-0.00,-0.00] | 0.0000 | -0.001 | [-0.00,-0.00] | 0.0000 | -0.001 | [-0.00,-0.00] | 0.0000 | -0.001 | [-0.00,-0.00] | 0.0000 |
| Married | -0.401 | [-0.50,-0.30] | 0.0000 | -0.398 | [-0.50,-0.30] | 0.0000 | -0.396 | [-0.50,-0.29] | 0.0000 | -0.402 | [-0.50,-0.30] | 0.0000 | -0.398 | [-0.50,-0.29] | 0.0000 | -0.395 | [-0.50,-0.29] | 0.0000 |
| No education / Primary | -0.405 | [-0.53,-0.28] | 0.0000 | -0.400 | [-0.53,-0.27] | 0.0000 | -0.402 | [-0.53,-0.27] | 0.0000 | -0.402 | [-0.53,-0.27] | 0.0000 | -0.397 | [-0.53,-0.27] | 0.0000 | -0.400 | [-0.53,-0.27] | 0.0000 |
| Secondary | -0.908 | [-1.05,-0.77] | 0.0000 | -0.889 | [-1.03,-0.75] | 0.0000 | -0.885 | [-1.03,-0.74] | 0.0000 | -0.900 | [-1.04,-0.76] | 0.0000 | -0.880 | [-1.02,-0.74] | 0.0000 | -0.879 | [-1.02,-0.74] | 0.0000 |
| Not Employed | 0.540 | [0.30,0.78] | 0.0000 | 0.540 | [0.30,0.78] | 0.0000 | 0.540 | [0.30,0.78] | 0.0000 | 0.539 | [0.30,0.78] | 0.0000 | 0.541 | [0.30,0.78] | 0.0000 | 0.539 | [0.30,0.78] | 0.0000 |
| Retired | -0.120 | [-0.42,0.18] | 0.4273 | -0.116 | [-0.41,0.18] | 0.4418 | -0.115 | [-0.41,0.18] | 0.4453 | -0.117 | [-0.41,0.18] | 0.4374 | -0.113 | [-0.41,0.18] | 0.4533 | -0.118 | [-0.42,0.18] | 0.4343 |
| Student | 0.444 | [0.17,0.71] | 0.0013 | 0.451 | [0.18,0.72] | 0.0010 | 0.455 | [0.19,0.72] | 0.0009 | 0.448 | [0.18,0.72] | 0.0012 | 0.456 | [0.19,0.73] | 0.0009 | 0.459 | [0.19,0.73] | 0.0009 |
| House Work | -0.020 | [-0.15,0.11] | 0.7577 | -0.023 | [-0.15,0.11] | 0.7276 | -0.023 | [-0.15,0.11] | 0.7292 | -0.023 | [-0.15,0.11] | 0.7260 | -0.026 | [-0.16,0.10] | 0.6990 | -0.026 | [-0.16,0.10] | 0.6980 |
| Other Activity | 0.512 | [0.22,0.80] | 0.0005 | 0.513 | [0.22,0.80] | 0.0005 | 0.513 | [0.22,0.80] | 0.0005 | 0.509 | [0.22,0.80] | 0.0006 | 0.511 | [0.22,0.80] | 0.0005 | 0.510 | [0.22,0.80] | 0.0006 |
| Social Programme | 0.037 | [-0.10,0.17] | 0.5848 | 0.032 | [-0.10,0.17] | 0.6423 | 0.034 | [-0.10,0.17] | 0.6176 | 0.028 | [-0.11,0.16] | 0.6851 | 0.024 | [-0.11,0.16] | 0.7240 | 0.029 | [-0.11,0.16] | 0.6702 |
| Chronically Ill | 1.212 | [1.06,1.36] | 0.0000 | 1.213 | [1.07,1.36] | 0.0000 | 1.213 | [1.07,1.36] | 0.0000 | 1.211 | [1.06,1.36] | 0.0000 | 1.212 | [1.06,1.36] | 0.0000 | 1.209 | [1.06,1.36] | 0.0000 |
| Victim of Violence | 2.315 | [1.96,2.67] | 0.0000 | 2.317 | [1.96,2.68] | 0.0000 | 2.318 | [1.96,2.68] | 0.0000 | 2.316 | [1.96,2.68] | 0.0000 | 2.318 | [1.96,2.68] | 0.0000 | 2.321 | [1.96,2.68] | 0.0000 |
| Limitations in Activities | 1.073 | [0.94,1.20] | 0.0000 | 1.073 | [0.94,1.20] | 0.0000 | 1.072 | [0.94,1.20] | 0.0000 | 1.074 | [0.94,1.20] | 0.0000 | 1.073 | [0.94,1.20] | 0.0000 | 1.071 | [0.94,1.20] | 0.0000 |
| Drinks few times a year | 0.169 | [0.06,0.27] | 0.0015 | 0.171 | [0.07,0.28] | 0.0013 | 0.172 | [0.07,0.28] | 0.0013 | 0.173 | [0.07,0.28] | 0.0012 | 0.175 | [0.07,0.28] | 0.0011 | 0.173 | [0.07,0.28] | 0.0012 |
| Drinks few times a month | 0.174 | [0.05,0.30] | 0.0054 | 0.177 | [0.05,0.30] | 0.0046 | 0.179 | [0.06,0.30] | 0.0042 | 0.175 | [0.05,0.30] | 0.0051 | 0.178 | [0.06,0.30] | 0.0043 | 0.180 | [0.06,0.30] | 0.0041 |
| Drinks Weekly/Daily | 0.369 | [0.22,0.52] | 0.0000 | 0.375 | [0.22,0.53] | 0.0000 | 0.376 | [0.22,0.53] | 0.0000 | 0.368 | [0.22,0.52] | 0.0000 | 0.375 | [0.22,0.53] | 0.0000 | 0.377 | [0.22,0.53] | 0.0000 |
| Has Health Insurance | -0.042 | [-0.17,0.08] | 0.5028 | -0.043 | [-0.17,0.08] | 0.4936 | -0.045 | [-0.17,0.08] | 0.4730 | -0.043 | [-0.17,0.08] | 0.4885 | -0.045 | [-0.17,0.08] | 0.4769 | -0.046 | [-0.17,0.08] | 0.4650 |
| Hospitals/Pop | -0.021 | [-0.06,0.01] | 0.2335 | -0.021 | [-0.06,0.01] | 0.2422 | -0.021 | [-0.06,0.01] | 0.2366 | -0.110 | [-0.22,0.00] | 0.0575 | -0.107 | [-0.22,0.01] | 0.0622 | -0.109 | [-0.22,0.00] | 0.0590 |
| Mean Wealth | 0.063 | [-0.04,0.16] | 0.2172 | 0.055 | [-0.05,0.16] | 0.2885 | 0.054 | [-0.05,0.16] | 0.2971 | 0.090 | [-0.19,0.37] | 0.5362 | 0.096 | [-0.19,0.38] | 0.5075 | 0.092 | [-0.19,0.38] | 0.5258 |
| Constant | -0.579 | [-1.63,0.48] | 0.2817 | -0.433 | [-1.49,0.62] | 0.4211 | -0.220 | [-1.30,0.86] | 0.6908 | -0.808 | [-3.88,2.26] | 0.6062 | -0.756 | [-3.82,2.31] | 0.6291 | -0.324 | [-3.43,2.78] | 0.8381 |
| Obs | 44,324 | | | 44,324 | | | 44,324 | | | 44,324 | | | 44,324 | | | 44,324 | | |

For models 1-3 the second level is the municipality. For models 4-6 the second level is the state.

ROBUSTNESS CHECK 6a – Multilevel models for depressive symptoms using sample weights

| | MUNICIPAL LEVEL | | | | | | | | | STATE LEVEL | | | | | | | | |
|---------------------------|-----------------|---------------|---------|--------|---------------|---------|--------|---------------|---------|-------------|---------------|---------|--------|---------------|---------|-------------|---------------|---------|
| | (1) | (2) | (3) | (4) | (5) | (6) | | | | | | | | | | | | |
| | Beta | 95% CI | P-Value | Beta | 95% CI | P-Value | Beta | 95% CI | P-Value | Beta | 95% CI | P-Value | Beta | 95% CI | P-Value | Beta | 95% CI | P-Value |
| Asset Index | -0.067 | [-0.11,-0.02] | 0.0025 | -0.051 | [-0.09,-0.01] | 0.0243 | -0.055 | [-0.10,-0.01] | 0.0143 | -0.076 | [-0.12,-0.03] | 0.0004 | -0.064 | [-0.11,-0.02] | 0.0021 | -0.069 | [-0.11,-0.03] | 0.0011 |
| Rel Deprivation | 0.269 | [0.20,0.34] | 0.0000 | 0.148 | [0.07,0.22] | 0.0001 | 0.135 | [0.06,0.21] | 0.0005 | 0.259 | [0.18,0.34] | 0.0000 | 0.150 | [0.05,0.25] | 0.0039 | 0.140 | [0.04,0.24] | 0.0064 |
| Rel Affluence | | | | -0.211 | [-0.28,-0.14] | 0.0000 | -0.501 | [-0.67,-0.34] | 0.0000 | | | | -0.198 | [-0.30,-0.10] | 0.0001 | -0.656 | [-0.85,-0.46] | 0.0000 |
| Gini | -1.396 | [-4.19,1.40] | 0.3273 | -0.059 | [-2.94,2.82] | 0.9678 | -1.889 | [-5.12,1.34] | 0.2515 | -2.845 | [-13.88,8.19] | 0.6133 | -1.627 | [-12.89,9.64] | 0.7771 | -4.524 | [-16.01,6.97] | 0.4403 |
| Rel Affluence*Gini | | | | | | | 1.904 | [0.92,2.89] | 0.0002 | | | | | | 2.851 | [1.42,4.29] | 0.0001 | |
| N people in HH | 0.001 | [-0.04,0.04] | 0.9480 | 0.014 | [-0.02,0.05] | 0.4816 | 0.012 | [-0.03,0.05] | 0.5448 | -0.009 | [-0.05,0.03] | 0.6691 | 0.002 | [-0.04,0.04] | 0.9199 | -0.001 | [-0.04,0.04] | 0.9701 |
| Female | 1.617 | [1.49,1.75] | 0.0000 | 1.640 | [1.51,1.77] | 0.0000 | 1.640 | [1.51,1.77] | 0.0000 | 1.617 | [1.45,1.79] | 0.0000 | 1.636 | [1.46,1.81] | 0.0000 | 1.634 | [1.46,1.81] | 0.0000 |
| Age | 0.108 | [0.09,0.13] | 0.0000 | 0.110 | [0.09,0.13] | 0.0000 | 0.111 | [0.09,0.13] | 0.0000 | 0.109 | [0.09,0.13] | 0.0000 | 0.111 | [0.09,0.13] | 0.0000 | 0.112 | [0.09,0.13] | 0.0000 |
| Age ² | -0.001 | [-0.00,-0.00] | 0.0000 | -0.001 | [-0.00,-0.00] | 0.0000 | -0.001 | [-0.00,-0.00] | 0.0000 | -0.001 | [-0.00,-0.00] | 0.0000 | -0.001 | [-0.00,-0.00] | 0.0000 | -0.001 | [-0.00,-0.00] | 0.0000 |
| Married | -0.446 | [-0.55,-0.34] | 0.0000 | -0.424 | [-0.53,-0.32] | 0.0000 | -0.421 | [-0.53,-0.32] | 0.0000 | -0.468 | [-0.59,-0.34] | 0.0000 | -0.449 | [-0.57,-0.32] | 0.0000 | -0.448 | [-0.57,-0.32] | 0.0000 |
| No education / Primary | -0.433 | [-0.56,-0.31] | 0.0000 | -0.407 | [-0.54,-0.28] | 0.0000 | -0.410 | [-0.54,-0.28] | 0.0000 | -0.495 | [-0.65,-0.34] | 0.0000 | -0.472 | [-0.63,-0.31] | 0.0000 | -0.477 | [-0.63,-0.32] | 0.0000 |
| Secondary | -1.012 | [-1.15,-0.87] | 0.0000 | -0.918 | [-1.06,-0.77] | 0.0000 | -0.901 | [-1.04,-0.76] | 0.0000 | -1.109 | [-1.27,-0.95] | 0.0000 | -1.023 | [-1.18,-0.86] | 0.0000 | -1.016 | [-1.18,-0.85] | 0.0000 |
| Not Employed | 0.543 | [0.30,0.78] | 0.0000 | 0.543 | [0.30,0.78] | 0.0000 | 0.540 | [0.30,0.78] | 0.0000 | 0.615 | [0.37,0.86] | 0.0000 | 0.616 | [0.37,0.86] | 0.0000 | 0.613 | [0.37,0.86] | 0.0000 |
| Retired | -0.122 | [-0.42,0.18] | 0.4224 | -0.109 | [-0.41,0.19] | 0.4713 | -0.106 | [-0.40,0.19] | 0.4846 | -0.124 | [-0.41,0.16] | 0.3938 | -0.111 | [-0.40,0.17] | 0.4435 | -0.115 | [-0.40,0.17] | 0.4268 |
| Student | 0.400 | [0.13,0.67] | 0.0035 | 0.435 | [0.17,0.70] | 0.0015 | 0.444 | [0.17,0.71] | 0.0012 | 0.402 | [0.08,0.72] | 0.0132 | 0.437 | [0.12,0.76] | 0.0070 | 0.443 | [0.13,0.76] | 0.0063 |
| House Work | -0.008 | [-0.14,0.12] | 0.9087 | -0.020 | [-0.15,0.11] | 0.7607 | -0.020 | [-0.15,0.11] | 0.7577 | 0.022 | [-0.10,0.14] | 0.7210 | 0.012 | [-0.11,0.13] | 0.8374 | 0.012 | [-0.11,0.13] | 0.8428 |
| Other Activity | 0.511 | [0.22,0.80] | 0.0005 | 0.511 | [0.22,0.80] | 0.0005 | 0.512 | [0.22,0.80] | 0.0005 | 0.535 | [0.25,0.82] | 0.0002 | 0.537 | [0.26,0.82] | 0.0002 | 0.536 | [0.26,0.82] | 0.0002 |
| Social Programme | 0.064 | [-0.07,0.20] | 0.3500 | 0.035 | [-0.10,0.17] | 0.6092 | 0.041 | [-0.09,0.18] | 0.5471 | 0.093 | [-0.06,0.25] | 0.2376 | 0.069 | [-0.08,0.22] | 0.3695 | 0.081 | [-0.07,0.23] | 0.2815 |
| Chronically Ill | 1.216 | [1.07,1.36] | 0.0000 | 1.217 | [1.07,1.36] | 0.0000 | 1.215 | [1.07,1.36] | 0.0000 | 1.196 | [1.05,1.34] | 0.0000 | 1.198 | [1.05,1.34] | 0.0000 | 1.194 | [1.05,1.34] | 0.0000 |
| Victim of Violence | 2.312 | [1.95,2.67] | 0.0000 | 2.320 | [1.96,2.68] | 0.0000 | 2.322 | [1.96,2.68] | 0.0000 | 2.304 | [1.91,2.70] | 0.0000 | 2.308 | [1.91,2.70] | 0.0000 | 2.313 | [1.92,2.71] | 0.0000 |
| Limitations in Activities | 1.082 | [0.95,1.21] | 0.0000 | 1.079 | [0.95,1.21] | 0.0000 | 1.075 | [0.95,1.21] | 0.0000 | 1.087 | [0.92,1.26] | 0.0000 | 1.082 | [0.91,1.25] | 0.0000 | 1.079 | [0.91,1.25] | 0.0000 |
| Drinks few times a year | 0.159 | [0.05,0.26] | 0.0030 | 0.168 | [0.06,0.27] | 0.0017 | 0.169 | [0.06,0.27] | 0.0016 | 0.172 | [0.03,0.31] | 0.0144 | 0.179 | [0.04,0.32] | 0.0120 | 0.178 | [0.04,0.32] | 0.0123 |
| Drinks few times a month | 0.158 | [0.04,0.28] | 0.0117 | 0.173 | [0.05,0.30] | 0.0058 | 0.178 | [0.05,0.30] | 0.0046 | 0.172 | [0.03,0.31] | 0.0155 | 0.185 | [0.04,0.33] | 0.0098 | 0.190 | [0.05,0.33] | 0.0086 |
| Drinks Weekly/Daily | 0.354 | [0.20,0.51] | 0.0000 | 0.377 | [0.22,0.53] | 0.0000 | 0.379 | [0.23,0.53] | 0.0000 | 0.418 | [0.24,0.60] | 0.0000 | 0.438 | [0.26,0.62] | 0.0000 | 0.442 | [0.26,0.62] | 0.0000 |
| Has Health Insurance | -0.035 | [-0.16,0.09] | 0.5709 | -0.042 | [-0.16,0.08] | 0.5084 | -0.045 | [-0.17,0.08] | 0.4698 | -0.030 | [-0.17,0.11] | 0.6812 | -0.036 | [-0.18,0.11] | 0.6166 | -0.038 | [-0.18,0.10] | 0.5957 |
| Hospitals/Pop | -0.019 | [-0.05,0.02] | 0.2895 | -0.019 | [-0.05,0.02] | 0.2859 | -0.020 | [-0.05,0.01] | 0.2612 | -0.126 | [-0.30,0.05] | 0.1635 | -0.115 | [-0.29,0.06] | 0.2026 | -0.119 | [-0.29,0.06] | 0.1853 |
| Mean Wealth | 0.013 | [-0.08,0.11] | 0.7887 | 0.034 | [-0.06,0.13] | 0.4901 | 0.032 | [-0.06,0.13] | 0.5059 | -0.102 | [-0.46,0.25] | 0.5754 | -0.066 | [-0.43,0.29] | 0.7204 | -0.071 | [-0.43,0.29] | 0.6975 |
| Constant | 0.506 | [-0.51,1.52] | 0.3292 | 0.281 | [-0.75,1.31] | 0.5936 | 0.567 | [-0.49,1.63] | 0.2949 | 1.782 | [-2.23,5.80] | 0.3845 | 1.438 | [-2.64,5.52] | 0.4898 | 1.961 | [-2.14,6.06] | 0.3489 |
| Obs | 44,324 | | | 44,324 | | | 44,324 | | | 44,324 | | | 44,324 | | | 44,324 | | |

For models 1-3 the second level is the municipality. For models 4-6 the second level is the state.

ROBUSTNESS CHECK 6b – Multilevel models for depressive symptoms using sample weights and continuous measure of absolute wealth

| | MUNICIPAL LEVEL | | | | | | | | | STATE LEVEL | | | | | | | | |
|---------------------------|-----------------|---------------|---------|--------|---------------|---------|--------|---------------|---------|-------------|---------------|---------|--------|---------------|---------|-------------|---------------|---------|
| | (1) | (2) | (3) | (4) | (5) | (6) | | | | | | | | | | | | |
| | Beta | 95% CI | P-Value | Beta | 95% CI | P-Value | Beta | 95% CI | P-Value | Beta | 95% CI | P-Value | Beta | 95% CI | P-Value | Beta | 95% CI | P-Value |
| Poorest Quartile | 0.689 | [0.43,0.95] | 0.0000 | 0.516 | [0.20,0.83] | 0.0012 | 0.463 | [0.15,0.78] | 0.0041 | 0.545 | [0.35,0.74] | 0.0000 | 0.437 | [0.22,0.65] | 0.0001 | 0.424 | [0.21,0.64] | 0.0001 |
| 2 nd Quartile | 0.654 | [0.48,0.83] | 0.0000 | 0.522 | [0.31,0.74] | 0.0000 | 0.443 | [0.22,0.67] | 0.0001 | 0.611 | [0.46,0.76] | 0.0000 | 0.509 | [0.34,0.68] | 0.0000 | 0.448 | [0.28,0.62] | 0.0000 |
| 3 rd Quartile | 0.360 | [0.23,0.49] | 0.0000 | 0.270 | [0.11,0.43] | 0.0010 | 0.206 | [0.04,0.38] | 0.0173 | 0.349 | [0.22,0.48] | 0.0000 | 0.270 | [0.13,0.41] | 0.0002 | 0.215 | [0.07,0.36] | 0.0038 |
| Rel Deprivation | 0.134 | [0.05,0.22] | 0.0015 | 0.119 | [0.04,0.20] | 0.0054 | 0.108 | [0.02,0.19] | 0.0125 | 0.173 | [0.11,0.24] | 0.0000 | 0.138 | [0.07,0.21] | 0.0001 | 0.118 | [0.05,0.19] | 0.0010 |
| Rel Affluence | | | | -0.094 | [-0.19,-0.00] | 0.0500 | -0.315 | [-0.53,-0.10] | 0.0038 | | | | -0.099 | [-0.18,-0.02] | 0.0156 | -0.500 | [-0.75,-0.25] | 0.0001 |
| Gini | -1.162 | [-3.64,1.32] | 0.3585 | -0.571 | [-3.12,1.98] | 0.6608 | -1.674 | [-4.40,1.05] | 0.2279 | -2.909 | [-11.09,5.27] | 0.4858 | -2.257 | [-8.61,4.10] | 0.4864 | -4.424 | [-9.11,0.27] | 0.0645 |
| Rel Affluence*Gini | | | | | | | 1.296 | [0.17,2.42] | 0.0239 | | | | | | 2.390 | [0.98,3.80] | 0.0009 | |
| N people in HH | 0.038 | [0.01,0.06] | 0.0023 | 0.039 | [0.01,0.06] | 0.0019 | 0.040 | [0.01,0.06] | 0.0017 | 0.031 | [0.01,0.06] | 0.0130 | 0.034 | [0.01,0.06] | 0.0074 | 0.037 | [0.01,0.06] | 0.0038 |
| Female | 1.664 | [1.55,1.78] | 0.0000 | 1.668 | [1.55,1.78] | 0.0000 | 1.668 | [1.55,1.79] | 0.0000 | 1.680 | [1.56,1.80] | 0.0000 | 1.682 | [1.57,1.80] | 0.0000 | 1.680 | [1.56,1.80] | 0.0000 |
| Age | 0.113 | [0.10,0.13] | 0.0000 | 0.113 | [0.10,0.13] | 0.0000 | 0.113 | [0.10,0.13] | 0.0000 | 0.114 | [0.10,0.13] | 0.0000 | 0.114 | [0.10,0.13] | 0.0000 | 0.113 | [0.10,0.13] | 0.0000 |
| Age ² | -0.001 | [-0.00,-0.00] | 0.0000 | -0.001 | [-0.00,-0.00] | 0.0000 | -0.001 | [-0.00,-0.00] | 0.0000 | -0.001 | [-0.00,-0.00] | 0.0000 | -0.001 | [-0.00,-0.00] | 0.0000 | -0.001 | [-0.00,-0.00] | 0.0000 |
| Married | -0.397 | [-0.49,-0.30] | 0.0000 | -0.394 | [-0.49,-0.30] | 0.0000 | -0.392 | [-0.48,-0.30] | 0.0000 | -0.394 | [-0.49,-0.30] | 0.0000 | -0.385 | [-0.48,-0.29] | 0.0000 | -0.370 | [-0.46,-0.28] | 0.0000 |
| No education / Primary | -0.385 | [-0.50,-0.27] | 0.0000 | -0.380 | [-0.49,-0.27] | 0.0000 | -0.382 | [-0.50,-0.27] | 0.0000 | -0.379 | [-0.49,-0.27] | 0.0000 | -0.380 | [-0.49,-0.27] | 0.0000 | -0.389 | [-0.50,-0.28] | 0.0000 |
| Secondary | -0.889 | [-1.02,-0.76] | 0.0000 | -0.871 | [-1.01,-0.74] | 0.0000 | -0.867 | [-1.00,-0.73] | 0.0000 | -0.902 | [-1.03,-0.77] | 0.0000 | -0.891 | [-1.02,-0.76] | 0.0000 | -0.903 | [-1.04,-0.77] | 0.0000 |
| Not Employed | 0.580 | [0.36,0.80] | 0.0000 | 0.581 | [0.36,0.80] | 0.0000 | 0.580 | [0.36,0.80] | 0.0000 | 0.630 | [0.41,0.85] | 0.0000 | 0.633 | [0.41,0.85] | 0.0000 | 0.635 | [0.42,0.86] | 0.0000 |
| Retired | -0.116 | [-0.36,0.13] | 0.3494 | -0.112 | [-0.36,0.13] | 0.3673 | -0.111 | [-0.35,0.13] | 0.3726 | -0.112 | [-0.36,0.13] | 0.3683 | -0.114 | [-0.36,0.13] | 0.3622 | -0.129 | [-0.37,0.12] | 0.3007 |
| Student | 0.433 | [0.11,0.76] | 0.0093 | 0.439 | [0.11,0.77] | 0.0084 | 0.443 | [0.12,0.77] | 0.0079 | 0.454 | [0.13,0.78] | 0.0068 | 0.461 | [0.13,0.79] | 0.0060 | 0.466 | [0.14,0.79] | 0.0056 |
| House Work | -0.033 | [-0.15,0.09] | 0.5850 | -0.036 | [-0.15,0.08] | 0.5586 | -0.035 | [-0.15,0.08] | 0.5634 | -0.042 | [-0.16,0.08] | 0.4948 | -0.043 | [-0.16,0.08] | 0.4784 | -0.045 | [-0.16,0.07] | 0.4593 |
| Other Activity | 0.511 | [0.24,0.79] | 0.0003 | 0.512 | [0.24,0.79] | 0.0003 | 0.513 | [0.24,0.79] | 0.0002 | 0.521 | [0.25,0.80] | 0.0002 | 0.524 | [0.25,0.80] | 0.0002 | 0.523 | [0.25,0.80] | 0.0002 |
| Social Programme | 0.007 | [-0.11,0.13] | 0.9046 | 0.002 | [-0.12,0.12] | 0.9733 | 0.005 | [-0.11,0.12] | 0.9384 | 0.006 | [-0.11,0.12] | 0.9158 | 0.008 | [-0.11,0.13] | 0.8936 | 0.019 | [-0.10,0.14] | 0.7474 |
| Chronically Ill | 1.185 | [1.06,1.31] | 0.0000 | 1.186 | [1.06,1.31] | 0.0000 | 1.185 | [1.06,1.31] | 0.0000 | 1.185 | [1.06,1.31] | 0.0000 | 1.191 | [1.06,1.32] | 0.0000 | 1.201 | [1.07,1.33] | 0.0000 |
| Victim of Violence | 2.385 | [2.09,2.68] | 0.0000 | 2.388 | [2.10,2.68] | 0.0000 | 2.388 | [2.10,2.68] | 0.0000 | 2.434 | [2.14,2.73] | 0.0000 | 2.440 | [2.15,2.73] | 0.0000 | 2.457 | [2.16,2.75] | 0.0000 |
| Limitations in Activities | 1.099 | [1.01,1.19] | 0.0000 | 1.099 | [1.01,1.19] | 0.0000 | 1.098 | [1.00,1.19] | 0.0000 | 1.084 | [0.99,1.18] | 0.0000 | 1.087 | [0.99,1.18] | 0.0000 | 1.095 | [1.00,1.19] | 0.0000 |
| Drinks few times a year | 0.177 | [0.07,0.28] | 0.0011 | 0.179 | [0.07,0.29] | 0.0010 | 0.179 | [0.07,0.29] | 0.0010 | 0.189 | [0.08,0.30] | 0.0005 | 0.190 | [0.08,0.30] | 0.0005 | 0.189 | [0.08,0.30] | 0.0005 |
| Drinks few times a month | 0.188 | [0.06,0.32] | 0.0048 | 0.190 | [0.06,0.32] | 0.0043 | 0.192 | [0.06,0.32] | 0.0039 | 0.186 | [0.06,0.32] | 0.0053 | 0.187 | [0.06,0.32] | 0.0052 | 0.186 | [0.05,0.32] | 0.0054 |
| Drinks Weekly/Daily | 0.403 | [0.24,0.56] | 0.0000 | 0.409 | [0.25,0.57] | 0.0000 | 0.410 | [0.25,0.57] | 0.0000 | 0.422 | [0.26,0.58] | 0.0000 | 0.426 | [0.27,0.59] | 0.0000 | 0.428 | [0.27,0.59] | 0.0000 |
| Has Health Insurance | -0.041 | [-0.15,0.07] | 0.4519 | -0.042 | [-0.15,0.07] | 0.4428 | -0.045 | [-0.15,0.06] | 0.4161 | -0.027 | [-0.14,0.08] | 0.6193 | -0.032 | [-0.14,0.08] | 0.5631 | -0.040 | [-0.15,0.07] | 0.4651 |
| Hospitals/Pop | -0.018 | [-0.05,0.02] | 0.3516 | -0.017 | [-0.05,0.02] | 0.3622 | -0.018 | [-0.05,0.02] | 0.3541 | -0.084 | [-0.21,0.05] | 0.2041 | -0.079 | [-0.18,0.02] | 0.1252 | -0.078 | [-0.15,-0.01] | 0.0314 |
| Mean Wealth | 0.077 | [-0.02,0.17] | 0.1210 | 0.069 | [-0.03,0.17] | 0.1678 | 0.066 | [-0.03,0.16] | 0.1814 | -0.021 | [-0.32,0.27] | 0.8903 | -0.007 | [-0.24,0.22] | 0.9529 | -0.005 | [-0.17,0.16] | 0.9506 |
| Constant | -0.799 | [-1.80,0.20] | 0.1181 | -0.652 | [-1.66,0.36] | 0.2067 | -0.401 | [-1.44,0.63] | 0.4468 | 0.205 | [-3.02,3.43] | 0.9009 | 0.177 | [-2.33,2.69] | 0.8898 | 0.593 | [-1.22,2.41] | 0.5223 |
| Obs | 44,324 | | | 44,324 | | | 44,324 | | | 44,324 | | | 44,324 | | | 44,324 | | |
| | 0.0876 | | | 0.0877 | | | 0.0878 | | | 0.0881 | | | 0.0882 | | | 0.0885 | | |
| | 0.0952 | | | 0.0953 | | | 0.0963 | | | 0.3300 | | | 0.3337 | | | 0.3550 | | |
| | 0.0864 | | | 0.0865 | | | 0.0866 | | | 0.0867 | | | 0.0868 | | | 0.0870 | | |

For models 1-3 the second level is the municipality. For models 4-6 the second level is the state.

ROBUSTNESS CHECK 6c – Multilevel models for depressive symptoms using Gini coefficients calculated taking sample weights into account