Exercise facilities and prevalence of obesity and type 2 diabetes mellitus: A population study of 1,270,512 adults from an equity perspective in the city of Madrid.

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SUPPLEMENTARY MATERIALS

ESM Table 1. Characteristics by January 1st, 2017 of administrative units in the City of Madrid and whole Spain.

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**ESM Table 1.** Characteristics by January 1st, 2017 of administrative units in the City of Madrid and whole Spain

| Unit                  | Description                  | N   | Area*                          | Population*                  |
|-----------------------|------------------------------|-----|--------------------------------|-----------------------------|
| **SPAIN**             |                              |     |                                |                             |
| Autonomous Communities| Main Regional division of Spain | 17  | 11073.55 (4995.87-93827.15)     | 2031.48 (315.38-8379.82)     |
| Provinces             | Main Regional Subdivision     | 52  | 9722.31 (1906.09-21792.47)      | 611764.5 (84.96-6507.18)     |
| Municipalities        | Main Local division of Spain  | 8124| 34.9 (0.03-1753.85)             | 0.53 (0-3182.98)             |
| **CITY OF MADRID**    |                              |     |                                |                             |
| Census Districts      | Main Local subdivision       | 21  | 14.05 (4.68-237.84)             | 143.42 (46.88-244)           |
| Neighborhoods         | Sub-divisions of districts    | 131 | 1.36 (0.25-187.6)              | 22.40 (1.11-80.3)            |
| Census Sections       | Basic census area            | 2443| 0.04 [0.1-94.7]                | 1.2 (0.11-2.44)              |

Key: *Area is in km² and shown as the Median (Min-Max); Population is in 1000s of residents, excluding the two Autonomous Cities (Ceuta and Melilla), and shown as the Median (Min-Max).
**ESM Table 2.** Description of the classification of the exercise facilities based on its characteristics.

| Exercise facility type | Definition | $N$ (%) |
|------------------------|------------|---------|
| **All the facilities** | 595        |         |
| Publicly owned         | Monthly payment option. Public ownership | 59 (10%) |
| Privately owned        | Monthly payment $> 30€/month. Private ownership | 222 (37%) |
| Low cost               | Monthly payment $< 30€/month. Private ownership | 63 (11%) |
| Sessional              | Facilities with Pay-per-session (e.g. Pilates Studios, Dance Schools, electrostimulation centres...). Private ownership | 251 (42%) |
**ESM Table 3.** Area Level Socioeconomic status indicators.

| Construct | Domain | Indicator | Operationalization | Source           | Level             |
|-----------|--------|-----------|---------------------|------------------|------------------|
| SES       | Education | Low Education | Residents with mandatory studies or below / all residents aged 25 years or above | Padron | Census Section |
|           |         | High Education | Residents with university education or above / all residents aged 25 years or above | Padron | Census Section |
| Occupation | Part time Jobs |            | Workers in part-time jobs / all workers | Social Security | Neighbourhood |
|           | Temporary Jobs |          | Workers in temporal jobs / all workers |               |                  |
| Manual Occupation | Class |          | Workers in manual or unskilled occupations / all workers |               |                  |
| Wealth    | Housing Prices |            | Average sale price of housing per m² | Idealista Report | Census Section |
| Living Conditions | Unemployment Rate |    | Residents registered as unemployed / all residents aged 16–64 years | Employment Service | Neighbourhood |

**Key:** SES = Socio-Economic Status
**ESM Table 4.** Sensitivity analysis: Association between exercise facility availability (by deciles) and prevalence of obesity and type 2 diabetes in Madrid, adjusted by gender, age and population density.

| Exercise facilities availability | Prevalence Ratio of Obesity | Prevalence Ratio of Type 2 Diabetes |
|---------------------------------|-----------------------------|-----------------------------------|
| Decil 1 High                    | 1 (Ref.)                    | 1 (Ref.)                          |
| Decil 2                         | 1.08 (1.05 - 1.11)          | 1.13 (1.09 - 1.16)                |
| Decil 3                         | 1.09 (1.06 - 1.12)          | 1.22 (1.18 - 1.26)                |
| Decil 4                         | 1.19 (1.16 - 1.22)          | 1.43 (1.39 - 1.47)                |
| Decil 5                         | 1.22 (1.19 - 1.26)          | 1.41 (1.37 - 1.45)                |
| Decil 6                         | 1.26 (1.23 - 1.30)          | 1.54 (1.49 - 1.58)                |
| Decil 7                         | 1.30 (1.26 - 1.33)          | 1.55 (1.51 - 1.60)                |
| Decil 8                         | 1.30 (1.26 - 1.33)          | 1.57 (1.52 - 1.61)                |
| Decil 9                         | 1.36 (1.33 - 1.40)          | 1.69 (1.64 - 1.74)                |
| Decil 10 Low                    | 1.26 (1.22 - 1.29)          | 1.49 (1.44 - 1.54)                |

Results are Prevalence Ratio (Confidence Interval at 95%). All coefficients are statistically significant (p<0.000). Ref= Decile of reference.