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| **Supplemental table 1.** Comparison of characteristics\* of included and excluded participants  |
|  | Included  | Excluded  | P-value† |
|  |  n=572 | n=675 |  |
| Age (y) | 30.6 (5.1) | 30.6 (5.3) | 0.909 |
| Pre-pregnancy weight (kg) (94 missing) | 56.9 (11.6) | 56.7 (11.7) | 0.764 |
| Ethnicity |  |  | 0.212 |
|  Chinese | 304 (53.2%) | 394 (58.4%) |  |
|  Malay  | 157 (27.5%) | 167 (24.7%) |  |
|  Indian | 110 (19.2%) | 114 (16.9%) |  |
| Household income (87 missing) |  |  | **<0.001** |
|  <S$1999 | 66 (11.9%) | 117 (18.1) |  |
|  S$2000-S$5999 | 277 (50.0%) | 366 (56.5%) |  |
|  >S$6000 | 211 (38.1%) | 165 (25.5%) |  |
| Educational level (60 missing) |  |  | **<0.001** |
|  Primary/secondary | 136 (24.0%) | 233 (35.3%) |  |
|  Postsecondary | 193 (34.0%) | 235 (35.6%) |  |
|  University | 238 (42.0%) | 193 (29.2%) |  |
| Employed (29 missing) | 419 (74.6%) | 439 (66.9%) | **0.004** |
| Married (19 missing) | 551 (96.3%) | 624 (92.4%) |  |
| Moderate-intensive physical active (77 missing)  | 154 (26.9%) | 147 (21.8%) | **<0.001** |
| Pregnancy smoking regularly (66 missing) | 18 (3.2%) | 11 (1.6%) | **<0.001** |
| Pre-pregnancy smoking regularly (66 missing) | 76 (13.3%) | 81 (12.0%) | **<0.000** |
| \*values presented are mean (SD) or n (%) |
| †P for difference was tested using t-test or chi-square test  |

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| **Supplemental table 2.** Associations between plasma tryptophan concentrations (per 10 µmol/L) during pregnancy and postnatal subjective sleep measures and mood in 246 participants of the GUSTO cohort |
|  |  | Crude |  | Multivariate\*  |
|  | **Cases** | **PR** | **95% CI** | **P** |  | **PR** | **95% CI** | **P** |
| Poor sleep quality | 144 | 0.97 | 0.85, 1.10 | 0.641 |  | 1.00 | 0.89, 1.15 | 0.910 |
| Probable depression | 13 | 0.86 | 0.46, 1.60 | 0.638 |  | 1.15 | 0.57, 2.32 | 0.703 |
| Probable anxiety | 55 | 0.96 | 0.74, 1.24 | 0.750 |  | 1.02 | 0.77, 1.36 | 0.894 |
|  |  | **OR**  | **95% CI** | **P** |  | **OR** | **95% CI** | **P** |
| PSQI subcomponents |  |  |  |  |  |  |  |
| Subjective sleep quality | 0.85 | 0.62, 1.16 | 0.296 |  | 0.90 | 0.64, 1.27 | 0.562 |
| Sleep latency | 0.94 | 0.69, 1.27 | 0.688 |  | 1.07 | 0.77, 1.48 | 0.679 |
| Sleep duration | 0.95 | 0.71, 1.27 | 0.731 |  | 0.95 | 0.70, 1.30 | 0.752 |
| Habitual sleep efficiency | 1.17 | 0.87, 1.58 | 0.869 |  | 1.16 | 0.84, 1.60 | 0.355 |
| Sleep disturbances | 0.79 | 0.54, 1.14 | 0.205 |  | 0.74 | 0.55, 1.13 | 0.140 |
| Sleep medication | 0.99 | 0.29, 3.35 | 0.990 |  | 0.96 | 0.87, 1.05 | 0.362 |
| Daytime functioning | 0.91 | 0.70, 1.25 | 0.819 |  | 0.89 | 0.63, 1.25 | 0.501 |
| \*Adjusted for age (years), household income (<S$1999, S$2000-5999, >S$6000), ethnicity (Chinese, Malay, Indian), regular pre-pregnancy smoking (y/n), moderate to intense physical activity (y/n), plasma PLP concentrations (µmol/L) and preceding measurement at 26-28 weeks gestation |

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| **Supplemental table 3.** Poisson regression analyses for the association between tryptophan concentrations (per 10 µmol/L) during pregnancy and postnatal subjective sleep, mental health and in participants of the GUSTO cohort |
|  | Good sleep quality & no anxiety (n=90) |  | Poor sleep quality & no anxiety (n=99) |  | Poor sleep quality & probable anxiety (n=45) |
|  | **PR** | **95% CI** |  | **PR** | **95% CI** | **P** |  | **PR** | **95% CI** | **P-value** |
| Crude | 1.0 | Ref |  | 0.96 | 0.81, 1.13 | 0.598 |  | 0.74 | 0.53, 1.04 | 0.083 |
| Multivariate adjusted\* | 1.0 | Ref |  | 1.05 | 0.89, 1.24 | 0.574 |  | 1.00 | 0.74, 1.36 | 0.988 |
|  | Good sleep & no depression (n=102) |  | Poor sleep & no depression (n=131) |  | Poor sleep & probable depression (n=13) |
|  | **PR** | **95% CI** |  | **PR** | **95% CI** | **P** |  | **PR** | **95% CI** | **P-value** |
| Crude | 1.0 | Ref |  | 0.90 | 0.78, 1.04 | 0.156 |  | 0.68 | 0.32, 1.46 | 0.320 |
| Multivariate adjusted\* | 1.0 | Ref |  | 1.00 | 0.87, 1.15 | 0.997 |  | 0.93 | 0.46, 1.86 | 0.835 |
| \*Adjusted for age (years), household income (<S$1999, S$2000-5999, >S$6000), ethnicity (Chinese, Malay, Indian), regular pre-pregnancy smoking (y/n), moderate to intense physical activity (y/n), plasma PLP concentrations (µmol/L) and preceding sleep and mood measurements at 26-28 weeks gestation |