

Table S1: *FTO* SNPs interaction with physical activity

| SNP (n=1735) | Dominant mode | | Recessive model | |
|--------------|------------------|---------|-----------------|---------|
| | OR \pm 95% CI | P-value | OR \pm 95% CI | P-value |
| Rs9939609 | 2.52 (2.04-3.12) | <0.001 | 2.94(2.08-4.16) | <0.001 |
| Rs8050136 | 2.53 (2.05-3.13) | <0.001 | 2.9(2.07-4.07) | <0.001 |
| Rs8051591 | 2.23 (1.78-2.8) | <0.001 | 2.8(1.9-4) | <0.001 |
| Rs3751812 | 2.22 (1.76-2.8) | <0.001 | 2.8(1.9-41) | <0.001 |
| Rs9935401 | 2.23 (1.78-2.8) | <0.001 | 2.76(1.9-4) | <0.001 |
| Rs11075989 | 2.24 (1.78-2.8) | <0.001 | 2.82(1.9-4.1) | <0.001 |
| Rs9923233 | 2.23 (1.77-2.8) | <0.001 | 2.74(1.9-3.97) | <0.001 |
| Rs9936385 | 2.22 (1.77-2.8) | <0.001 | 2.82(1.9-4.1) | <0.001 |
| Rs17817964 | 2.2 (1.75-2.76) | <0.001 | 2.91(1.9-4.28) | <0.001 |
| Rs13333228 | 2.3 (1.85-2.85) | <0.001 | 2.08(1.65-2.63) | <0.001 |
| Rs9302652 | 2.22 (1.79-2.76) | <0.001 | 1.69(1.3-2.2) | <0.001 |

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|------------|------------------|--------|-----------------|--------|
| Rs8043757 | 2.23 (1.78-2.8) | <0.001 | 2.76(1.9-4) | <0.001 |
| Rs1121980 | 2.32 (1.85-2.9) | <0.001 | 2.64(1.87-3.73) | <0.001 |
| Rs1558902 | 2.23 (1.77-2.79) | <0.001 | 2.57(1.8-3.66) | <0.001 |
| Rs17817449 | 2.23 (1.78-2.81) | <0.001 | 2.76(1.9-4) | <0.001 |
| Rs7202116 | 2.22 (1.77-2.79) | <0.001 | 2.74(1.89-3.97) | <0.001 |
| Rs62033400 | 2.22 (1.77-2.8) | <0.001 | 2.82(1.93-4.14) | <0.001 |
| Rs7193144 | 2.23 (1.78-2.8) | <0.001 | 2.76(1.9-4) | <0.001 |
| Rs11075990 | 2.23 (1.78-2.8) | <0.001 | 2.82(1.94-4.1) | <0.001 |
| Rs6499640 | 1.75(1.4-2.18) | <0.001 | 1.64(1.23-2.18) | <0.001 |
| Rs1421085 | 2.5 (2.03-3.1) | <0.001 | 2.6 (1.88-3.6) | <0.001 |

OR: Odds ratio

CI: confidence interval

Adjusted to age and gender