## Supplementary Data 1 LocusZoom plots

Genome-wide association analyses of risk tolerance and risky behaviors in over one million individuals identify hundreds of loci and shared genetic influences

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LocusZoom plots for the GWAS of general risk tolerance ( $n=939,908$ ), adventurousness ( $n=557,923$ ), automobile speeding propensity ( $n=404,291$ ), drinks per week ( $n=414,343$ ), ever smoker ( $n=518,633$ ), number of sexual partners ( $n=$ $\mathbf{3 7 0 , 7 1 1})$, and the first PC of the risky behaviors $(\boldsymbol{n}=\mathbf{3 1 5 , 8 9 4})$. Each plot corresponds to one locus. Plots are grouped together by phenotype and are ordered by the genomic positions of the loci.

In each plot, the $x$-axis shows each SNP's chromosomal position (in Mb ), and the $y$-axis shows each SNP's GWAS $P$ value (and not its GCTA (COJO) $P$ value) on a - $\log _{10}$ scale (based on a two-tailed $z$-test). The horizontal dashed line marks the threshold for genomewide significance $\left(P=5 \times 10^{-8}\right.$ ). Genes contained in the locus are plotted below the main plot area. The locus is denoted by a grey rectangle in this area. A flank region of 250 Kb on each side of the locus is also plotted.
Each approximately independent genome-wide significant association ("lead SNP") is labeled "Lead"; SNPs that are genome-wide significant in the GCTA (COJO) conditional analysis are labeled "Conditional"; SNPs that are both lead SNPs and significant in the GCTA (COJO) conditional analysis are labeled "Lead \& conditional". All three of these types of "reference SNPs" are marked with a large diamond $(\uparrow)$. For plots with multiple reference SNPs, LD information for each non-reference SNP is plotted with respect to the reference SNP in highest LD with the non-reference SNP.
See Supplementary Information sections $\mathbf{2 . 8}$ and $\mathbf{3 . 3}$ and Supplementary Tables $\mathbf{3}$ and 6 for additional details.

## LocusZoom plots for the 99 loci identified in the GWAS of general risk tolerance

## General risk tolerance: locus 1 [chr 1:21.046-21.535Mb]



General risk tolerance: locus 2 [chr 1:33.776-33.916Mb]


General risk tolerance: locus 3 [chr 1:42.357-42.558Mb]


General risk tolerance: locus 4 [chr 1:88.744-88.864Mb]


General risk tolerance: locus 5 [chr 1:96.357-96.450Mb]


## General risk tolerance: locus 6 [chr 1:98.337-98.399Mb]



General risk tolerance: locus 7 [chr 1:166.228-166.298Mb]


General risk tolerance: Locus 8 [chr 1: 204.979-205.269Mb]

rs12037322
rs55678495

## $r^{2}$ with reference SNP


rs12037322
rs55678495

General risk tolerance: locus 9 [chr 1:208.054-208.059Mb]


General risk tolerance: locus 10 [chr 1:237.932-237.949Mb]


General risk tolerance: Locus 11 [chr 1: 243.504-243.648Mb]

rs12751210 rs58560561

## $r^{2}$ with reference SNP


rs12751210
rs58560561

General risk tolerance: locus 12 [chr 2:23.615-23.633Mb]


General risk tolerance: locus 13 [chr 2:24.093-24.127Mb]


General risk tolerance: locus 14 [chr 2:44.741-44.883Mb]


General risk tolerance: Locus 15 [chr 2: 45.196-45.197Mb]

rs163505
rs163503
$r^{2}$ with reference SNP

rs163505
rs163503

General risk tolerance: locus 16 [chr 2:51.170-51.297Mb]


General risk tolerance: Locus 17 [chr 2: 60.003-60.175Mb]

rs10865313
rs4671351


General risk tolerance: locus 18 [chr 2:140.192-140.462Mb]


General risk tolerance: locus 19 [chr 2:145.653-145.753Mb]


General risk tolerance: locus 20 [chr 2:205.149-205.186Mb]


General risk tolerance: locus 21 [chr 2:225.334-225.468Mb]


General risk tolerance: Locus 22 [chr 3: 0.210-0.237Mb]

rs2063886
rs17328201
$r^{2}$ with reference SNP

rs2063886
rs17328201

General risk tolerance: locus 23 [chr 3:17.219-17.883Mb]


General risk tolerance: locus 24 [chr 3:18.670-18.745Mb]


## General risk tolerance: locus 25 [chr 3:50.175-50.177Mb]



General risk tolerance: locus 26 [chr 3:71.499-71.587Mb]


General risk tolerance: Locus 27 [chr 3: 84.842-85.959Mb]


$r^{2}$ with reference SNP

rs2325036
rs7624230
rs993137
rs114459574
rs2172845

General risk tolerance: locus 28 [chr 3:86.503-86.738Mb]


General risk tolerance: locus 29 [chr 3:127.083-127.192Mb]


General risk tolerance: locus 30 [chr 3:135.814-136.615Mb]


General risk tolerance: locus 31 [chr 3:143.637-143.827Mb]


General risk tolerance: Locus 32 [chr 3: 181.419-181.427Mb]


## rs12487748 rs114600294

## $r^{2}$ with reference SNP


rs12487748
rs114600294

General risk tolerance: locus 33 [chr 4:31.183-31.205Mb]


General risk tolerance: locus 34 [chr 4:46.191-46.362Mb]


General risk tolerance: locus 35 [chr 4:66.429-66.543Mb]


## General risk tolerance: locus 36 [chr 4:81.960-81.978Mb]



General risk tolerance: locus 37 [chr 4:106.064-106.202Mb]


General risk tolerance: locus 38 [chr 5:25.992-26.009Mb]


General risk tolerance: locus 39 [chr 5:60.971-60.995Mb]


General risk tolerance: locus 40 [chr 5:80.264-80.264Mb]


General risk tolerance: locus 41 [chr 5:81.236-81.594Mb]


General risk tolerance: locus 42 [chr 5:102.196-102.686Mb]


General risk tolerance: Locus 43 [chr 5: 137.838-138.454Mb]

rs10043722
rs3849046
$r^{2}$ with reference SNP

rs10043722
rs3849046

General risk tolerance: Locus 44 [chr 6: 25.976-26.328Mb]


> rs1417998 rs198801
$r^{2}$ with reference SNP


## General risk tolerance: locus 45 [chr 6:28.674-29.332Mb]



## General risk tolerance: locus 46 [chr 6:31.918-32.070Mb]



General risk tolerance: locus 47 [chr 6:67.747-67.905Mb]


General risk tolerance: locus 48 [chr 6:98.548-98.592Mb]


General risk tolerance: locus 49 [chr 6:109.124-109.140Mb]


General risk tolerance: locus 50 [chr 6:119.215-119.353Mb]


General risk tolerance: locus 51 [chr 6:121.676-121.728Mb]


General risk tolerance: locus 52 [chr 6:126.659-127.081Mb]


General risk tolerance: locus 53 [chr 6:157.611-157.770Mb]


General risk tolerance: locus 54 [chr 6:170.606-170.658Mb]


General risk tolerance: locus 55 [chr 7:68.932-69.730Mb]


## General risk tolerance: locus 56 [chr 7:104.580-104.772Mb]



General risk tolerance: Locus 57 [chr 7: 114.040-114.429Mb]

rs12705985
rs7783012
$r^{2}$ with reference SNP


General risk tolerance: Locus 58 [chr 7: 114.942-115.113Mb]


## rs9641536 rs75254175

$r^{2}$ with reference SNP


General risk tolerance: locus 59 [chr 7:127.082-127.210Mb]


General risk tolerance: Locus 60 [chr 8: 8.225-8.732Mb]

rs2409095
rs7003528
rs56738524
rs13273716
$r^{2}$ with reference SNP


General risk tolerance: locus 61 [chr 8:9.141-9.141Mb]


General risk tolerance: Locus 62 [chr 8: 9.394-9.498Mb]

rs13251864 rs6987057
$r^{2}$ with reference SNP

rs13251864
rs6987057

General risk tolerance: Locus 63 [chr 8: 10.381-10.905Mb]

rs7818737
rs12546540
rs2409669
rs9329227
rs12547439
rs140116958
rs75681102
$\otimes$
$\boxtimes$
*
$\nabla$
$\nabla$
-

## $r^{2}$ with reference SNP


rs7818737
rs12546540
rs2409669
rs9329227
rs12547439
rs140116958
rs75681102

General risk tolerance: locus 64 [chr 8:11.568-11.581Mb]


General risk tolerance: locus 65 [chr 8:53.116-53.227Mb]


## General risk tolerance: locus 66 [chr 8:65.438-65.534Mb]



General risk tolerance: locus 67 [chr 8:81.358-81.441Mb]


General risk tolerance: locus 68 [chr 8:101.934-101.999Mb]


General risk tolerance: locus 69 [chr 9:126.197-126.262Mb]


General risk tolerance: locus 70 [chr 10:8.779-8.853Mb]


General risk tolerance: locus 71 [chr 10:98.972-99.099Mb]


## General risk tolerance: locus 72 [chr 10:117.492-117.635Mb]



## General risk tolerance: locus 73 [chr 10:134.099-134.115Mb]



General risk tolerance: locus 74 [chr 11:13.231-13.267Mb]


General risk tolerance: locus 75 [chr 12:2.293-2.414Mb]


General risk tolerance: locus 76 [chr 12:60.260-60.471Mb]


General risk tolerance: locus 77 [chr 12:65.762-65.883Mb]


General risk tolerance: locus 78 [chr 12:98.708-98.781Mb]


## General risk tolerance: locus 79 [chr 12:108.594-108.630Mb]



## General risk tolerance: locus 80 [chr 12:114.272-114.345Mb]



General risk tolerance: locus 81 [chr 13:59.315-59.552Mb]


## General risk tolerance: locus 82 [chr 14:66.772-67.858Mb]



General risk tolerance: locus 83 [chr 14:89.838-89.885Mb]


## General risk tolerance: locus 84 [chr 14:104.028-104.333Mb]



General risk tolerance: locus 85 [chr 15:74.010-74.063Mb]


General risk tolerance: locus 86 [chr 15:88.370-88.391Mb]


General risk tolerance: locus 87 [chr 16:10.219-10.221Mb]


## General risk tolerance: locus 88 [chr 16:69.549-69.958Mb]



## General risk tolerance: Locus 89 [chr 16: 71.354-71.567Mb]



[^0]$r^{2}$ with reference SNP

rs7192890
rs918755

## General risk tolerance: locus 90 [chr 17:15.870-16.264Mb]



## General risk tolerance: locus 91 [chr 17:29.389-29.623Mb]



General risk tolerance: locus 92 [chr 17:50.386-50.599Mb]


General risk tolerance: locus 93 [chr 17:65.814-65.983Mb]


General risk tolerance: locus 94 [chr 17:71.875-71.902Mb]


General risk tolerance: locus 95 [chr 18:8.480-8.498Mb]


General risk tolerance: locus 96 [chr 18:34.377-34.412Mb]


General risk tolerance: locus 97 [chr 18:53.183-53.183Mb]


## General risk tolerance: Locus 98 [chr 18: 53.480-53.695Mb]



## rs8091761 <br> rs1531518

$r^{2}$ with reference SNP

rs8091761
rs1531518

General risk tolerance: locus 99 [chr 19:31.830-31.940Mb]


## LocusZoom plots for the 137 loci identified in the GWAS of adventurousness

## Adventurousness: locus 1 [chr 1:21.035-21.535Mb]



## Adventurousness: locus 2 [chr 1:23.580-23.716Mb]



## Adventurousness: locus 3 [chr 1:33.776-33.916Mb]



## Adventurousness: locus 4 [chr 1:41.457-41.745Mb]



## Adventurousness: locus 5 [chr 1:44.013-44.178Mb]



Adventurousness: locus 6 [chr 1:69.667-69.834Mb]


Adventurousness: locus 7 [chr 1:84.023-84.031Mb]


Adventurousness: locus 8 [chr 1:91.123-91.176Mb]


## Adventurousness: Locus 9 [chr 1: 155.033-155.652Mb]


rs734073 rs11589479
$r^{2}$ with reference SNP


Adventurousness: locus 10 [chr 1:190.758-191.141Mb]


## Adventurousness: Locus 11 [chr 1: 204.912-205.195Mb]


rs12756757
rs2229868
rs11240317
$r^{2}$ with reference SNP

rs12756757
rs2229868
rs11240317

Adventurousness: locus 12 [chr 1:208.035-208.039Mb]


Adventurousness: locus 13 [chr 1:216.830-216.920Mb]


Adventurousness: locus 14 [chr 1:243.504-243.555Mb]


## Adventurousness: Locus 15 [chr 1: 244.016-244.026Mb]


$r^{2}$ with reference SNP


Adventurousness: locus 16 [chr 2:0.211-0.305Mb]


Adventurousness: Locus 17 [chr 2: 2.169-2.222Mb]

rs6709211
rs61595816
$r^{2}$ with reference SNP


Adventurousness: locus 18 [chr 2:6.800-6.833Mb]


Adventurousness: Locus 19 [chr 2: 44.529-44.879Mb]

rs79339488 rs77915397
$r^{2}$ with reference SNP

rs79339488
rs77915397

Adventurousness: locus 20 [chr 2:45.140-45.176Mb]


Adventurousness: locus 21 [chr 2:140.192-140.462Mb]


Adventurousness: locus 22 [chr 2:140.752-140.810Mb]


Adventurousness: locus 23 [chr 2:145.631-145.840Mb]


Adventurousness: Locus 24 [chr 2: 148.261-148.275Mb]

rs11686776
rs13023277

## $r^{2}$ with reference SNP



[^1]rs13023277

Adventurousness: locus 25 [chr 2:165.133-165.203Mb]


Adventurousness: locus 26 [chr 2:192.801-192.864Mb]


Adventurousness: locus 27 [chr 2:210.073-210.111Mb]


Adventurousness: locus 28 [chr 3:3.879-3.881Mb]


Adventurousness: Locus 29 [chr 3: 18.670-18.729Mb]

rs4473575 rs13090941
$r^{2}$ with reference SNP

rs4473575
rs13090941

Adventurousness: locus 30 [chr 3:25.147-25.183Mb]


Adventurousness: locus 31 [chr 3:43.953-44.077Mb]


Adventurousness: locus 32 [chr 3:71.029-71.112Mb]


Adventurousness: locus 33 [chr 3:83.604-83.920Mb]


Adventurousness: Locus 34 [chr 3: $84.853-86.738 \mathrm{Mb}]$

*All other reference SNPs are Lead SNPs only.

|  | 0 | $\mathrm{r}^{2}$ with reference SNP |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 0.2 | 0.4 | 0.6 | 0.8 | 1 |
| rs4605551 | $\diamond$ |  |  |  |  |  |
| rs139162753 | $+$ |  |  |  |  |  |
| rs6790538 | $\triangle$ |  |  |  |  |  |
| rs1988552 | $\bigcirc$ |  |  |  |  |  |
| rs73132375 | $\square$ |  |  |  |  |  |
| rs10433500 | $\oplus$ |  |  |  |  |  |
| rs78841189 | $\oplus$ |  |  |  |  |  |
| rs76363701 | 田 |  |  |  |  |  |
| rs67379620 | $\otimes$ |  |  |  |  |  |
| rs11710504 | 区 |  |  |  |  |  |
| rs73130739 | * |  |  |  |  |  |
| rs7645787 | $\nabla$ |  |  |  |  |  |
| rs116275905 |  |  |  |  |  |  |
| rs1472302 | A |  |  |  |  |  |
| rs1694933 | - |  |  |  |  |  |

Adventurousness: Locus 35 [chr 3: 114.134-114.342Mb]


> rs1606492
> rs2722012
$r^{2}$ with reference SNP


Adventurousness: locus 36 [chr 3:135.811-136.486Mb]


Adventurousness: locus 37 [chr 3:160.939-161.140Mb]


Adventurousness: locus 38 [chr 3:173.633-173.752Mb]


Adventurousness: Locus 39 [chr 4: 30.809-31.205Mb]

rs73219118 rs73108238
$r^{2}$ with reference SNP

rs73219118
rs73108238

Adventurousness: locus 40 [chr 4:46.191-46.362Mb]


Adventurousness: locus 41 [chr 4:47.014-47.055Mb]


Adventurousness: locus 42 [chr 4:57.718-57.893Mb]


Adventurousness: locus 43 [chr 4:62.744-62.754Mb]


Adventurousness: locus 44 [chr 4:98.055-98.278Mb]


Adventurousness: Locus 45 [chr 4: 102.770-103.283Mb]

rs13135092
rs62322696
$r^{2}$ with reference SNP

rs13135092
rs62322696

Adventurousness: locus 46 [chr 4:106.049-106.265Mb]


Adventurousness: locus 47 [chr 4:143.617-143.785Mb]


Adventurousness: locus 48 [chr 5:26.013-26.071Mb]


Adventurousness: locus 49 [chr 5:29.979-30.114Mb]


Adventurousness: locus 50 [chr 5:45.507-46.219Mb]


## Adventurousness: locus 51 [chr 5:61.543-61.953Mb]



Adventurousness: Locus 52 [chr 5: 80.240-80.364Mb]

rs191780
rs12520354
$r^{2}$ with reference SNP


Adventurousness: locus 53 [chr 5:81.183-81.247Mb]


Adventurousness: locus 54 [chr 5:102.596-102.686Mb]


Adventurousness: locus 55 [chr 5:123.847-123.864Mb]


Adventurousness: locus 56 [chr 5:158.113-158.364Mb]


## Adventurousness: locus 57 [chr 6:29.116-29.341Mb]



Adventurousness: locus 58 [chr 6:40.376-40.381Mb]


Adventurousness: locus 59 [chr 6:67.406-67.555Mb]


Adventurousness: locus 60 [chr 6:93.382-93.422Mb]


Adventurousness: locus 61 [chr 7:3.845-3.952Mb]


Adventurousness: locus 62 [chr 7:27.556-27.878Mb]


Adventurousness: Locus 63 [chr 7: 68.923-69.926Mb]


$$
\begin{aligned}
& \text { rs117928826 } \\
& \text { rs513150 }
\end{aligned}
$$

## $r^{2}$ with reference SNP


rs117928826
rs513150

## Adventurousness: locus 64 [chr 7:97.348-97.384Mb]



Adventurousness: locus 65 [chr 7:114.016-114.195Mb]


Adventurousness: locus 66 [chr 7:114.946-115.113Mb]


Adventurousness: Locus 67 [chr 7: 127.596-127.766Mb]

$r^{2}$ with reference SNP

rs720300
rs3808072

Adventurousness: locus 68 [chr 7:137.042-137.085Mb]


Adventurousness: locus 69 [chr 8:8.527-8.732Mb]


Adventurousness: locus 70 [chr 8:10.571-10.771Mb]


Adventurousness: Locus 71 [chr 8: $11.036-11.128 \mathrm{Mb}]$

rs7814131
rs10085919
$r^{2}$ with reference SNP

rs7814131
rs10085919

Adventurousness: locus 72 [chr 8:11.430-11.463Mb]


## Adventurousness: locus 73 [chr 8:65.438-65.534Mb]



Adventurousness: locus 74 [chr 8:101.934-101.999Mb]


Adventurousness: locus 75 [chr 8:112.362-112.613Mb]


Adventurousness: locus 76 [chr 8:143.363-143.404Mb]


## Adventurousness: locus 77 [chr 9:15.898-16.054Mb]



Adventurousness: locus 78 [chr 9:16.338-16.354Mb]


Adventurousness: locus 79 [chr 9:16.677-16.677Mb]


Adventurousness: locus 80 [chr 9:19.688-19.719Mb]


Adventurousness: locus 81 [chr 9:22.934-22.943Mb]


Adventurousness: locus 82 [chr 9:98.211-98.314Mb]


Adventurousness: locus 83 [chr 9:116.507-116.628Mb]


Adventurousness: locus 84 [chr 9:126.196-126.286Mb]


Adventurousness: locus 85 [chr 9:129.082-129.233Mb]


Adventurousness: locus 86 [chr 10:9.966-10.081Mb]


Adventurousness: locus 87 [chr 10:61.631-61.711Mb]


Adventurousness: locus 88 [chr 10:64.649-64.759Mb]


Adventurousness: Locus 89 [chr 10: 66.652-66.903Mb]

rs2933423
rs1492436 rs35377646


Adventurousness: locus 90 [chr 10:98.975-99.099Mb]


Adventurousness: locus 91 [chr 11:28.847-29.129Mb]


Adventurousness: Locus 92 [chr 11: 30.442-30.685Mb]

rs10767869
rs704660
$r^{2}$ with reference SNP


Adventurousness: locus 93 [chr 11:45.932-46.050Mb]


Adventurousness: locus 94 [chr 11:66.486-66.715Mb]


Adventurousness: locus 95 [chr 11:101.890-101.893Mb]


Adventurousness: locus 96 [chr 11:116.131-116.139Mb]


Adventurousness: locus 97 [chr 12:2.293-2.414Mb]


Adventurousness: locus 98 [chr 12:13.732-13.811Mb]


Adventurousness: locus 99 [chr 12:24.702-24.756Mb]


Adventurousness: locus 100 [chr 12:60.281-60.470Mb]


Adventurousness: locus 101 [chr 12:60.862-61.267Mb]


Adventurousness: locus 102 [chr 12:97.548-97.610Mb]


Adventurousness: locus 103 [chr 12:102.395-102.867Mb]


Adventurousness: locus 104 [chr 13:54.067-54.076Mb]


Adventurousness: locus 105 [chr 13:80.912-80.930Mb]


Adventurousness: locus 106 [chr 13:99.099-99.101Mb]


Adventurousness: locus 107 [chr 14:42.721-42.721Mb]


Adventurousness: locus 108 [chr 14:72.710-72.850Mb]


Adventurousness: locus 109 [chr 14:98.533-98.641Mb]


Adventurousness: locus 110 [chr 14:99.708-99.719Mb]


Adventurousness: locus 111 [chr 15:47.896-47.981Mb]


Adventurousness: locus 112 [chr 15:73.330-73.627Mb]


Adventurousness: locus 113 [chr 15:96.003-96.043Mb]


Adventurousness: locus 114 [chr 16:7.325-7.417Mb]


Adventurousness: locus 115 [chr 16:28.826-29.008Mb]


Adventurousness: locus 116 [chr 16:29.979-30.081Mb]


Adventurousness: locus 117 [chr 16:50.913-50.988Mb]


Adventurousness: locus 118 [chr 16:51.443-51.456Mb]


Adventurousness: locus 119 [chr 16:52.093-52.166Mb]


Adventurousness: locus 120 [chr 16:54.547-54.547Mb]


Adventurousness: Locus 121 [chr 16: 61.647-61.835Mb]

rs117167357 rs1319994
$r^{2}$ with reference SNP

rs117167357
rs1319994

Adventurousness: locus 122 [chr 17:11.197-11.211Mb]


Adventurousness: locus 123 [chr 17:16.132-16.264Mb]


Adventurousness: Locus 124 [chr 17: 29.398-29.754Mb]

$r^{2}$ with reference SNP


Adventurousness: Locus 125 [chr 17: 48.625-48.653Mb]

rs116920450
rs198535

## $r^{2}$ with reference SNP


rs116920450
rs198535

Adventurousness: locus 126 [chr 17:61.205-61.543Mb]


Adventurousness: locus 127 [chr 17:71.875-71.902Mb]


Adventurousness: locus 128 [chr 18:52.972-53.116Mb]


Adventurousness: locus 129 [chr 18:53.480-53.510Mb]


Adventurousness: locus 130 [chr 19:14.607-14.657Mb]


Adventurousness: locus 131 [chr 19:31.830-31.940Mb]


Adventurousness: locus 132 [chr 20:15.740-15.802Mb]


Adventurousness: locus 133 [chr 20:51.601-51.631Mb]


Adventurousness: locus 134 [chr 20:52.547-52.558Mb]


Adventurousness: locus 135 [chr 20:62.692-62.713Mb]


Adventurousness: locus 136 [chr 22:22.105-22.333Mb]


Adventurousness: Locus 137 [chr 22: 41.547-41.715Mb]

rs139498
rs77339131
$r^{2}$ with reference SNP

rs139498
rs77339131

## LocusZoom plots for the 36 loci identified in the GWAS of automobile speeding propensity

Auto. speeding propensity: locus 1 [chr 1:67.008-67.130Mb]


Auto. speeding propensity: locus 2 [chr 1:176.522-176.675Mb]


Auto. speeding propensity: locus 3 [chr 1:207.915-208.048Mb]


Auto. speeding propensity: Locus 4 [chr 2: 5.831-5.895Mb]

rs16864081
rs3922853

## $r^{2}$ with reference SNP


rs16864081
rs3922853

Auto. speeding propensity: locus 5 [chr 2:155.655-156.109Mb]


Auto. speeding propensity: locus 6 [chr 3:52.541-52.848Mb]


Auto. speeding propensity: Locus 7 [chr 3: 71.026-71.160Mb]

rs58294838
rs11128203


Auto. speeding propensity: Locus 8 [chr 3: $85.072-85.672 \mathrm{Mb}$ ]

rs17516256 rs9853563 rs9875381

## $r^{2}$ with reference SNP



Auto. speeding propensity: locus 9 [chr 3:143.636-143.837Mb]


Auto. speeding propensity: locus 10 [chr 4:3.242-3.273Mb]


Auto. speeding propensity: locus 11 [chr 4:57.745-57.900Mb]


Auto. speeding propensity: locus 12 [chr 5:50.742-50.974Mb]


Auto. speeding propensity: Locus 13 [chr 6: 19.024-19.191Mb]

rs72828533 rs72828532
$r^{2}$ with reference SNP

rs72828533
rs72828532

Auto. speeding propensity: locus 14 [chr 6:31.083-31.093Mb]


Auto. speeding propensity: Locus 15 [chr 6: $31.893-32.095 \mathrm{Mb}$ ]


## $r^{2}$ with reference SNP


rs185819
rs575377383

Auto. speeding propensity: Locus 16 [chr 6: $32.429-32.665 \mathrm{Mb}$ ]

$r^{2}$ with reference SNP

rs3021058
rs9391786

Auto. speeding propensity: locus 17 [chr 6:43.146-43.234Mb]


Auto. speeding propensity: locus 18 [chr 6:98.298-98.547Mb]


Auto. speeding propensity: locus 19 [chr 8:10.788-11.450Mb]


Auto. speeding propensity: locus 20 [chr 8:65.465-65.746Mb]


Auto. speeding propensity: locus 21 [chr 8:143.626-143.657Mb]


Auto. speeding propensity: locus 22 [chr 9:92.178-92.225Mb]


Auto. speeding propensity: locus 23 [chr 10:63.558-63.579Mb]


Auto. speeding propensity: locus 24 [chr 11:30.608-30.620Mb]


Auto. speeding propensity: locus 25 [chr 12:23.016-23.076Mb]


Auto. speeding propensity: locus 26 [chr 12:90.125-90.228Mb]

uto. speeding propensity: Locus 27 [chr 12: 110.508-111.251Mk

rs57837519
rs61106808

## $r^{2}$ with reference SNP


rs57837519
rs61106808

Auto. speeding propensity: locus 28 [chr 16:59.242-59.454Mb]


Auto. speeding propensity: locus 29 [chr 16:62.038-62.194Mb]


Auto. speeding propensity: locus 30 [chr 17:43.463-44.865Mb]


Auto. speeding propensity: Locus 31 [chr 17: 46.958-47.048Mb]

rs62078385
rs12325727
$r^{2}$ with reference SNP

rs62078385
rs12325727

Auto. speeding propensity: locus 32 [chr 18:46.198-46.205Mb]


Auto. speeding propensity: locus 33 [chr 18:52.837-52.922Mb]


Auto. speeding propensity: locus 34 [chr 18:53.199-53.413Mb]


Auto. speeding propensity: locus 35 [chr 19:3.349-3.363Mb]


Auto. speeding propensity: locus 36 [chr 22:38.822-38.856Mb]


## LocusZoom plots for the 62 loci identified in the GWAS of drinks per week

Drinks per week: locus 1 [chr 1:4.569-4.574Mb]


Drinks per week: locus 2 [chr 1:72.461-72.904Mb]


Drinks per week: Locus 3 [chr 2: 27.598-28.277Mb]

rs13013484
rs1260326
$r^{2}$ with reference SNP

rs13013484
rs1260326

Drinks per week: locus 4 [chr 2:44.296-44.300Mb]


Drinks per week: locus 5 [chr 2:45.121-45.176Mb]


Drinks per week: locus 6 [chr 2:57.943-58.484Mb]


## Drinks per week: locus 7 [chr 2:97.595-98.599Mb]



Drinks per week: locus 8 [chr 2:144.153-144.263Mb]


Drinks per week: locus 9 [chr 3:38.435-38.574Mb]


Drinks per week: locus 10 [chr 3:84.966-85.147Mb]


## Drinks per week: locus 11 [chr 3:85.404-85.784Mb]



## Drinks per week: locus 12 [chr 3:100.893-101.206Mb]



Drinks per week: locus 13 [chr 3:161.149-161.376Mb]


Drinks per week: locus 14 [chr 4:3.267-3.285Mb]


Drinks per week: Locus 15 [chr 4: 39.414-39.440Mb]


## rs4975016 rs 151010045 rs11940694

$r^{2}$ with reference SNP


Drinks per week: Locus 16 [chr 4: 99.465-100.438Mb]


* All other reference SNPs are Lead SNPs only.

|  | 0 | $\mathrm{r}^{2}$ with reference SNP |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 0.2 | 0.4 | 0.6 | 0.8 | 1 |
| rs2173201 | 如 |  |  |  |  |  |
| rs1969097 | $\nabla$ |  |  |  |  |  |
| rs114112910 | $\diamond$ |  |  |  |  |  |
| rs62305782 | + |  |  |  |  |  |
| rs283412 | $\triangle$ |  |  |  |  |  |
| rs113659074 | $\bigcirc$ |  |  |  |  |  |
| rs1789892 | $\square$ |  |  |  |  |  |
| rs1229984 | $\oplus$ |  |  |  |  |  |
| rs62307263 | $\oplus$ |  |  |  |  |  |
| rs192822960 | 田 |  |  |  |  |  |
| rs1230148 | $\varnothing$ |  |  |  |  |  |
| rs4699680 | இ |  |  |  |  |  |
| rs71612659 | * |  |  |  |  |  |
| rs4146003 | V |  |  |  |  |  |
| rs62325464 |  |  |  |  |  |  |
| rs846008 | A |  |  |  |  |  |
| rs143092959 | - |  |  |  |  |  |

## Drinks per week: Locus 17 [chr 4: 101.085-101.183Mb]


rs188514326
rs62307576

## $r^{2}$ with reference SNP


rs188514326
rs62307576

## Drinks per week: Locus 18 [chr 4: 103.002-103.198Mb]


rs13135092
rs13107325
$r^{2}$ with reference SNP

rs13135092
rs13107325

## Drinks per week: Locus 19 [chr 4: 143.487-143.623Mb]


rs72726477 rs7688435
$r^{2}$ with reference SNP

rs72726477
rs7688435

Drinks per week: Locus 20 [chr 5: 87.467-87.933Mb]


## rs4916723 <br> rs10474277

## $r^{2}$ with reference SNP


rs4916723
rs10474277

Drinks per week: locus 21 [chr 5:143.910-144.372Mb]


## Drinks per week: locus 22 [chr 6:12.904-12.904Mb]



## Drinks per week: locus 23 [chr 7:1.874-2.111Mb]



Drinks per week: locus 24 [chr 7:20.818-20.826Mb]


Drinks per week: locus 25 [chr 7:27.556-27.878Mb]


## Drinks per week: locus 26 [chr 7:72.850-73.057Mb]



Drinks per week: locus 27 [chr 7:103.673-103.870Mb]


## Drinks per week: locus 28 [chr 7:127.677-127.788Mb]



Drinks per week: locus 29 [chr 7:153.462-153.497Mb]


Drinks per week: locus 30 [chr 9:77.074-77.074Mb]


Drinks per week: locus 31 [chr 9:108.756-108.756Mb]


Drinks per week: locus 32 [chr 9:129.954-129.954Mb]


## Drinks per week: locus 33 [chr 9:136.876-136.926Mb]



Drinks per week: locus 34 [chr 10:102.627-102.627Mb]


Drinks per week: locus 35 [chr 10:110.462-110.759Mb]


## Drinks per week: locus 36 [chr 11:17.805-17.852Mb]



## Drinks per week: locus 37 [chr 11:47.360-47.947Mb]



## Drinks per week: Locus 38 [chr 11: 113.199-113.749Mb]


rs1713675
rs17601612
rs10891547
$r^{2}$ with reference SNP

rs1713675
rs17601612
rs10891547

Drinks per week: locus 39 [chr 11:116.074-116.102Mb]


Drinks per week: locus 40 [chr 11:121.523-121.553Mb]


## Drinks per week: locus 41 [chr 12:50.208-50.286Mb]



Drinks per week: locus 42 [chr 14:57.270-57.293Mb]


## Drinks per week: locus 43 [chr 14:94.838-94.845Mb]



## Drinks per week: locus 44 [chr 15:49.261-49.677Mb]



## Drinks per week: locus 45 [chr 15:56.845-57.261Mb]



## Drinks per week: locus 46 [chr 15:74.593-74.672Mb]



## Drinks per week: locus 47 [chr 16:7.325-7.354Mb]



Drinks per week: Locus 48 [chr 16: $13.731-13.761 \mathrm{Mb}]$

rs7403809
rs1076884
$r^{2}$ with reference SNP


## Drinks per week: locus 49 [chr 16:24.682-24.811Mb]



Drinks per week: Locus 50 [chr 16: 28.338-28.953Mb]


## rs2726032 rs113079736

## $r^{2}$ with reference SNP


rs2726032
rs113079736

## Drinks per week: locus 51 [chr 16:29.878-29.911Mb]



## Drinks per week: locus 52 [chr 17:7.439-7.456Mb]



## Drinks per week: locus 53 [chr 17:7.732-7.759Mb]



## Drinks per week: locus 54 [chr 17:43.463-44.866Mb]



## Drinks per week: locus 55 [chr 17:79.409-79.427Mb]



Drinks per week: locus 56 [chr 18:21.074-21.165Mb]


## Drinks per week: locus 57 [chr 18:52.943-53.085Mb]



## Drinks per week: locus 58 [chr 19:42.500-42.736Mb]



## Drinks per week: locus 59 [chr 19:49.206-49.260Mb]



Drinks per week: Locus 60 [chr 20: 24.719-25.095Mb]

$r^{2}$ with reference SNP


## Drinks per week: locus 61 [chr 22:41.719-42.216Mb]



## Drinks per week: locus 62 [chr 22:46.481-46.482Mb]



## LocusZoom plots for the 183 loci identified in the GWAS of ever smoker

Ever smoker: locus 1 [chr 1:8.432-8.739Mb]


Ever smoker: locus 2 [chr 1:32.163-32.248Mb]


## Ever smoker: locus 3 [chr 1:33.776-33.916Mb]



Ever smoker: locus 4 [chr 1:41.752-41.819Mb]


## Ever smoker: locus 5 [chr 1:44.029-44.128Mb]



Ever smoker: locus 6 [chr 1:50.595-50.637Mb]


Ever smoker: locus 7 [chr 1:66.389-66.538Mb]


Ever smoker: Locus 8 [chr 1: 72.961-73.066Mb]


## rs782268 rs1775370

$r^{2}$ with reference SNP


## Ever smoker: locus 9 [chr 1:73.731-73.992Mb]



Ever smoker: locus 10 [chr 1:74.977-75.015Mb]


Ever smoker: locus 11 [chr 1:91.190-91.215Mb]


## Ever smoker: locus 12 [chr 1:96.357-96.450Mb]



## Ever smoker: locus 13 [chr 1:96.887-97.003Mb]



Ever smoker: locus 14 [chr 1:99.425-99.530Mb]


## Ever smoker: locus 15 [chr 1:153.993-154.269Mb]



## Ever smoker: locus 16 [chr 1:208.709-208.730Mb]



## Ever smoker: locus 17 [chr 1:210.176-210.423Mb]



## Ever smoker: locus 18 [chr 1:216.859-216.923Mb]



## Ever smoker: locus 19 [chr 1:227.220-227.619Mb]



Ever smoker: locus 20 [chr 2:0.601-0.654Mb]


Ever smoker: locus 21 [chr 2:44.113-44.250Mb]


Ever smoker: locus 22 [chr 2:45.121-45.176Mb]


Ever smoker: Locus 23 [chr 2: 59.277-59.326Mb]

rs17049906 rs17049905
$r^{2}$ with reference SNP


Ever smoker: Locus 24 [chr 2: 60.000-60.532Mb]

$r^{2}$ with reference SNP


Ever smoker: locus 25 [chr 2:63.235-64.093Mb]


## Ever smoker: locus 26 [chr 2:80.955-81.088Mb]



Ever smoker: Locus 27 [chr 2: 103.778-104.381Mb]

rs1368550 rs1430065
$r^{2}$ with reference SNP

rs1368550
rs1430065

Ever smoker: Locus 28 [chr 2: 113.246-113.347Mb]

rs62157538
rs3980078
$r^{2}$ with reference SNP


## Ever smoker: locus 29 [chr 2:118.162-118.362Mb]



## Ever smoker: locus 30 [chr 2:122.326-122.912Mb]



Ever smoker: Locus 31 [chr 2: 137.103-137.678Mb]

rs550612
rs6720647
rs2222016
$r^{2}$ with reference SNP


Ever smoker: Locus 32 [chr 2: 145.400-146.303Mb]

rs74873827
rs961414
rs2697329
rs6714110 rs10928235
rs74697736
$r^{2}$ with reference SNP

| 0 |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: |
| 0.2 |  | 0.4 | 0.6 | 0.8 |$|$| 1 |  |  |  |
| :--- | :--- | :--- | :--- |
|  |  |  |  |

rs74873827
rs961414
rs2697329
rs6714110
rs10928235
rs74697736

## Ever smoker: locus 33 [chr 2:155.655-156.109Mb]



Ever smoker: Locus 34 [chr 2: 161.905-162.412Mb]

rs6432686 rs1267068
$r^{2}$ with reference SNP


## Ever smoker: locus 35 [chr 2:162.797-162.910Mb]



## Ever smoker: locus 36 [chr 2:173.932-174.072Mb]



## Ever smoker: locus 37 [chr 2:174.930-175.096Mb]



## Ever smoker: locus 38 [chr 2:178.736-179.045Mb]



## Ever smoker: locus 39 [chr 2:207.955-207.977Mb]



## Ever smoker: locus 40 [chr 2:226.247-226.351Mb]



Ever smoker: locus 41 [chr 3:5.720-5.740Mb]


Ever smoker: Locus 42 [chr 3: 25.169-25.296Mb]

rs11129183
rs7645872
$r^{2}$ with reference SNP

rs11129183
rs7645872

Ever smoker: locus 43 [chr 3:34.422-34.539Mb]


## Ever smoker: locus 44 [chr 3:50.188-50.251Mb]



Ever smoker: locus 45 [chr 3:52.380-52.926Mb]


Ever smoker: Locus 46 [chr 3: 53.746-53.792Mb]

$r^{2}$ with reference SNP


Ever smoker: Locus 47 [chr 3: 83.536-84.836Mb]
 rs117898875
rs4856463

## $r^{2}$ with reference SNP


rs117898875
rs4856463

Ever smoker: Locus 48 [chr 3: 85.427-86.185Mb]


> rs13099482 rs2324999 rs3911063 rs34495106
$r^{2}$ with reference SNP


## Ever smoker: locus 49 [chr 3:114.143-114.170Mb]



Ever smoker: Locus 50 [chr 3: 117.498-117.998Mb]

rs9864951
rs1909590
rs13065007
$r^{2}$ with reference SNP


## Ever smoker: locus 51 [chr 3:118.302-118.402Mb]



Ever smoker: Locus 52 [chr 3: 157.379-157.412Mb]

rs9842947 rs4680392
$r^{2}$ with reference SNP

rs9842947
rs4680392

## Ever smoker: locus 53 [chr 4:27.395-27.581Mb]



Ever smoker: locus 54 [chr 4:27.966-28.098Mb]


Ever smoker: locus 55 [chr 4:31.183-31.205Mb]


## Ever smoker: locus 56 [chr 4:35.414-35.653Mb]



Ever smoker: locus 57 [chr 4:80.323-80.353Mb]


## Ever smoker: locus 58 [chr 4:112.372-112.504Mb]



Ever smoker: Locus 59 [chr 4: 140.859-140.972Mb]

rs10030552 rs17373738
$r^{2}$ with reference SNP


## Ever smoker: locus 60 [chr 4:147.714-147.968Mb]



## Ever smoker: locus 61 [chr 4:173.019-173.128Mb]



Ever smoker: locus 62 [chr 5:30.813-30.844Mb]


Ever smoker: locus 63 [chr 5:50.714-51.122Mb]


## Ever smoker: locus 64 [chr 5:60.061-60.549Mb]



Ever smoker: locus 65 [chr 5:80.241-80.263Mb]


Ever smoker: locus 66 [chr 5:87.521-87.823Mb]


Ever smoker: locus 67 [chr 5:94.198-94.217Mb]


## Ever smoker: locus 68 [chr 5:103.708-104.093Mb]



## Ever smoker: locus 69 [chr 5:106.826-106.840Mb]



## Ever smoker: locus 70 [chr 5:107.317-107.684Mb]



Ever smoker: Locus 71 [chr 5: 157.718-157.801Mb]

rs12188904
rs13160204
$r^{2}$ with reference SNP

rs12188904
rs13160204

## Ever smoker: locus 72 [chr 5:166.985-167.056Mb]



## Ever smoker: locus 73 [chr 5:170.285-170.579Mb]



## Ever smoker: locus 74 [chr 6:27.895-28.412Mb]



## Ever smoker: locus 75 [chr 6:29.785-30.065Mb]



## Ever smoker: locus 76 [chr 6:31.605-31.610Mb]



## Ever smoker: locus 77 [chr 6:37.370-37.488Mb]



Ever smoker: locus 78 [chr 6:50.597-50.934Mb]


## Ever smoker: locus 79 [chr 6:67.488-67.556Mb]



Ever smoker: locus 80 [chr 6:93.833-93.849Mb]


## Ever smoker: locus 81 [chr 6:98.595-98.752Mb]



## Ever smoker: locus 82 [chr 6:100.909-101.339Mb]



## Ever smoker: locus 83 [chr 6:108.886-109.020Mb]



Ever smoker: Locus 84 [chr 6: 111.578-111.872Mb]

$r^{2}$ with reference SNP

rs4947121
rs240955

## Ever smoker: locus 85 [chr 6:129.413-129.517Mb]



Ever smoker: Locus 86 [chr 7: 1.657-1.969Mb]

rs13234909
rs10952199
$r^{2}$ with reference SNP

rs13234909
rs10952199

Ever smoker: Locus 87 [chr 7: 3.340-3.589Mb]

rs1108879
rs13237637
$r^{2}$ with reference SNP


Ever smoker: locus 88 [chr 7:39.430-39.433Mb]


Ever smoker: locus 89 [chr 7:53.122-53.168Mb]


Ever smoker: locus 90 [chr 7:70.522-70.607Mb]


Ever smoker: Locus 91 [chr 7: 96.624-96.626Mb]

rs17657924
rs2240294
$r^{2}$ with reference SNP

rs17657924
rs2240294

## Ever smoker: locus 92 [chr 7:98.899-99.266Mb]



## Ever smoker: locus 93 [chr 7:114.940-115.117Mb]



## Ever smoker: locus 94 [chr 7:117.498-117.593Mb]



## Ever smoker: locus 95 [chr 7:121.955-121.967Mb]



## Ever smoker: locus 96 [chr 7:132.277-132.363Mb]



## Ever smoker: locus 97 [chr 7:133.473-133.619Mb]



Ever smoker: locus 98 [chr 8:10.126-10.180Mb]


## Ever smoker: locus 99 [chr 8:10.836-10.858Mb]



## Ever smoker: locus 100 [chr 8:27.406-27.455Mb]



## Ever smoker: locus 101 [chr 8:59.799-59.817Mb]



Ever smoker: locus 102 [chr 8:92.749-92.815Mb]


## Ever smoker: locus 103 [chr 8:93.190-93.245Mb]



## Ever smoker: locus 104 [chr 8:141.609-142.018Mb]



Ever smoker: locus 105 [chr 9:3.012-3.025Mb]


Ever smoker: Locus 106 [chr 9: 10.963-11.254Mb]

$r^{2}$ with reference SNP


Ever smoker: locus 107 [chr 9:31.875-32.115Mb]


Ever smoker: locus 108 [chr 9:38.254-38.287Mb]


Ever smoker: Locus 109 [chr 9: 86.701-86.762Mb]

rs1246265
rs10780649
$r^{2}$ with reference SNP


## Ever smoker: locus 110 [chr 9:102.080-102.162Mb]



## Ever smoker: locus 111 [chr 9:109.302-109.395Mb]



## Ever smoker: locus 112 [chr 9:122.040-122.117Mb]



## Ever smoker: locus 113 [chr 9:128.011-128.149Mb]



## Ever smoker: locus 114 [chr 9:137.971-137.979Mb]



Ever smoker: locus 115 [chr 10:8.779-8.853Mb]


## Ever smoker: locus 116 [chr 10:13.533-13.577Mb]



## Ever smoker: locus 117 [chr 10:21.790-22.288Mb]



## Ever smoker: locus 118 [chr 10:56.631-56.709Mb]



Ever smoker: Locus 119 [chr 10: 63.557-63.681Mb]

rs7921378
rs10994943
$r^{2}$ with reference SNP


## Ever smoker: locus 120 [chr 10:87.318-87.648Mb]



## Ever smoker: locus 121 [chr 10:103.116-103.315Mb]



Ever smoker: Locus 122 [chr 10: 104.413-105.175Mb]

rs1628768 rs71471272 rs7092200 rs12764388
$r^{2}$ with reference SNP


## Ever smoker: locus 123 [chr 10:115.363-115.487Mb]



Ever smoker: locus 124 [chr 10:125.680-125.680Mb]


## Ever smoker: locus 125 [chr 11:4.659-4.664Mb]



Ever smoker: Locus 126 [chr 11: 17.038-17.305Mb]

$r^{2}$ with reference SNP


Ever smoker: locus 127 [chr 11:20.129-20.129Mb]


Ever smoker: Locus 128 [chr 11: 27.542-27.748Mb]

rs56133711
rs6265
$r^{2}$ with reference SNP


## Ever smoker: locus 129 [chr 11:28.591-28.694Mb]



## Ever smoker: locus 130 [chr 11:41.415-41.445Mb]



## Ever smoker: locus 131 [chr 11:59.071-59.234Mb]



## Ever smoker: locus 132 [chr 11:73.306-73.312Mb]



## Ever smoker: locus 133 [chr 11:85.927-86.065Mb]



Ever smoker: Locus 134 [chr 11: 112.710-112.992Mb]


[^2]
## $r^{2}$ with reference SNP



Ever smoker: Locus 135 [chr 11: 121.523-121.662Mb]


> rs1944688 rs568599
$r^{2}$ with reference SNP


Ever smoker: Locus 136 [chr 11: 132.055-132.386Mb]

rs7124348 rs78058594 rs3099769 rs1449435

## $r^{2}$ with reference SNP


rs7124348
rs78058594
rs3099769
rs1449435

## Ever smoker: locus 137 [chr 12:56.370-56.482Mb]



## Ever smoker: locus 138 [chr 12:69.638-69.744Mb]



## Ever smoker: locus 139 [chr 12:86.198-86.571Mb]



## Ever smoker: locus 140 [chr 12:111.834-112.906Mb]



## Ever smoker: locus 141 [chr 12:114.103-114.131Mb]



## Ever smoker: locus 142 [chr 12:114.456-114.607Mb]



Ever smoker: Locus 143 [chr 12: 121.068-121.379Mb]

rs12825376
rs1109480
$r^{2}$ with reference SNP

rs12825376
rs1109480

Ever smoker: locus 144 [chr 12:125.799-125.815Mb]


## Ever smoker: locus 145 [chr 12:133.362-133.487Mb]



## Ever smoker: locus 146 [chr 13:59.380-59.484Mb]



## Ever smoker: locus 147 [chr 13:66.916-66.975Mb]



## Ever smoker: locus 148 [chr 13:80.169-80.193Mb]



Ever smoker: locus 149 [chr 13:97.064-97.127Mb]


## Ever smoker: locus 150 [chr 13:100.546-100.550Mb]



## Ever smoker: locus 151 [chr 13:101.103-101.159Mb]



## Ever smoker: locus 152 [chr 14:29.469-29.490Mb]



## Ever smoker: locus 153 [chr 14:77.615-77.621Mb]



## Ever smoker: locus 154 [chr 14:98.647-98.670Mb]



Ever smoker: Locus 155 [chr 15: 47.613-47.977Mb]


[^3]$r^{2}$ with reference SNP

rs1435741
rs1981919
rs1486900

## Ever smoker: locus 156 [chr 15:67.717-67.992Mb]



## Ever smoker: locus 157 [chr 15:89.900-89.942Mb]



## Ever smoker: locus 158 [chr 15:99.191-99.205Mb]



## Ever smoker: locus 159 [chr 16:0.701-0.760Mb]



## Ever smoker: locus 160 [chr 16:13.714-13.773Mb]



## Ever smoker: locus 161 [chr 16:18.059-18.059Mb]



## Ever smoker: locus 162 [chr 16:25.268-25.378Mb]



## Ever smoker: locus 163 [chr 16:69.567-69.811Mb]



Ever smoker: locus 164 [chr 16:72.937-72.979Mb]


## Ever smoker: locus 165 [chr 16:73.810-73.810Mb]



## Ever smoker: locus 166 [chr 16:75.537-75.785Mb]



## Ever smoker: locus 167 [chr 16:76.433-76.482Mb]



Ever smoker: locus 168 [chr 17:1.959-2.008Mb]


Ever smoker: Locus 169 [chr 17: 50.177-50.342Mb]

rs12600773 rs1825734 rs2202237


## Ever smoker: locus 170 [chr 17:77.769-77.801Mb]



Ever smoker: locus 171 [chr 18:0.133-0.293Mb]


Ever smoker: locus 172 [chr 18:42.669-42.736Mb]


Ever smoker: Locus 173 [chr 18: 49.841-50.024Mb]

rs1221976
rs17669415
$r^{2}$ with reference SNP


## Ever smoker: locus 174 [chr 18:53.720-53.720Mb]



Ever smoker: locus 175 [chr 18:72.457-72.657Mb]


## Ever smoker: locus 176 [chr 18:77.552-77.581Mb]



## Ever smoker: locus 177 [chr 19:4.387-4.475Mb]



## Ever smoker: locus 178 [chr 20:19.656-19.702Mb]



## Ever smoker: locus 179 [chr 20:26.118-30.435Mb]



Note: The gap in the locus is because the locus spans the centromere of the chromosome.

## Ever smoker: locus 180 [chr 20:31.094-31.188Mb]



## Ever smoker: locus 181 [chr 20:32.904-33.530Mb]



## Ever smoker: locus 182 [chr 21:40.556-40.719Mb]



## Ever smoker: locus 183 [chr 22:38.212-38.448Mb]



## LocusZoom plots for the 98 loci identified in the GWAS of number of sexual partners

## Number of sexual partners: locus 1 [chr 1:44.019-44.197Mb]



## Number of sexual partners: locus 2 [chr 1:53.661-53.752Mb]



Number of sexual partners: Locus 3 [chr 1: 61.672-61.743Mb]


[^4]$r^{2}$ with reference SNP


Number of sexual partners: locus 4 [chr 1:72.513-72.748Mb]


## Number of sexual partners: locus 5 [chr 1:91.190-91.215Mb]



Number of sexual partners: locus 6 [chr 1:97.114-97.284Mb]


Number of sexual partners: locus 7 [chr 1:204.947-204.969Mb]


## Number of sexual partners: locus 8 [chr 2:22.549-22.606Mb]



## Number of sexual partners: locus 9 [chr 2:32.497-32.860Mb]



## Number of sexual partners: locus 10 [chr 2:44.271-44.360Mb]



Number of sexual partners: Locus 11 [chr 2: 60.115-60.793Mb]


> rs6747099
> rs10202231 rs12328348 rs7560588 rs4671379 rs10490064
$r^{2}$ with reference SNP

rs6747099
rs10202231
rs12328348
rs7560588
rs4671379
rs10490064

Number of sexual partners: locus 12 [chr 2:62.711-62.780Mb]


## Number of sexual partners: locus 13 [chr 2:63.342-63.624Mb]



## Number of sexual partners: locus 14 [chr 2:77.169-77.335Mb]



## Number of sexual partners: locus 15 [chr 2:86.664-86.860Mb]



Number of sexual partners: locus 16 [chr 2:104.057-104.413Mb]


Number of sexual partners: locus 17 [chr 2:140.189-140.475Mb]


Number of sexual partners: locus 18 [chr 2:164.734-164.928Mb]


Number of sexual partners: locus 19 [chr 2:181.986-182.096Mb]


Number of sexual partners: locus 20 [chr 3:71.026-71.064Mb]


## Number of sexual partners: locus 21 [chr 3:83.871-84.043Mb]



## Number of sexual partners: locus 22 [chr 3:85.397-85.651Mb]



Number of sexual partners: Locus 23 [chr 3: 86.169-86.282Mb]

rs35384579
rs6763449
$r^{2}$ with reference SNP


## Number of sexual partners: locus 24 [chr 3:94.130-94.251Mb]



## Number of sexual partners: locus 25 [chr 3:95.083-95.220Mb]



Number of sexual partners: locus 26 [chr 3:117.517-117.822Mb]


Number of sexual partners: locus 27 [chr 3:127.166-127.190Mb]


Jumber of sexual partners: Locus 28 [chr 3: 147.094-147.141Mb

$r^{2}$ with reference SNP

rs2279829
rs7635829

Number of sexual partners: locus 29 [chr 3:160.815-161.125Mb]


Number of sexual partners: locus 30 [chr 3:174.214-174.241Mb]


## Number of sexual partners: locus 31 [chr 4:16.817-16.849Mb]



Number of sexual partners: Locus 32 [chr 4: 30.800-31.161Mb]

rs16884402
rs73214903
$r^{2}$ with reference SNP


Number of sexual partners: locus 33 [chr 4:106.064-106.202Mb]


Number of sexual partners: locus 34 [chr 4:129.741-130.156Mb]


Number of sexual partners: Locus 35 [chr 5: 46.007-49.776Mb]


Note: The gap in the locus is because the locus spans the centromere of the chromosome.
rs34948554
rs74366100

## $r^{2}$ with reference SNP



Number of sexual partners: Locus 36 [chr 5: 87.457-87.854Mb]


## rs6452792 <br> rs357508

$r^{2}$ with reference SNP


Jumber of sexual partners: Locus 37 [chr 5: 103.708-104.082Mb

rs40465
rs72780746
$r^{2}$ with reference SNP


Number of sexual partners: locus 38 [chr 5:108.992-109.024Mb]


Number of sexual partners: locus 39 [chr 5:151.925-152.340Mb]


Number of sexual partners: locus 40 [chr 5:164.472-164.680Mb]


Jumber of sexual partners: Locus 41 [chr 5: $166.929-167.241 \mathrm{Mb}$

rs13174776
rs4242224

## $r^{2}$ with reference SNP



Number of sexual partners: Locus 42 [chr 6: 26.091-30.318Mb]


rs6908726
rs2071303

## Number of sexual partners: locus $43^{*}$ [chr 6:30.653-30.653Mb]

* As described in Supplementary Information section 3.4.5, we exclude SNP rs138394556 and locus 43 from our counts of the number-of-sexual-partners lead SNPs and loci.



## Number of sexual partners: locus 44 [chr 6:67.405-67.549Mb]



Number of sexual partners: Locus 45 [chr 6: 98.298-98.891Mb]


> rs6916079 rs9320980 rs9372625
$r^{2}$ with reference SNP


Number of sexual partners: locus 46 [chr 6:100.987-101.502Mb]


Number of sexual partners: locus 47 [chr 6:151.850-151.892Mb]


## Number of sexual partners: locus 48 [chr 7:1.873-2.163Mb]



Number of sexual partners: locus 49 [chr 7:114.040-114.287Mb]


Jumber of sexual partners: Locus 50 [chr 7: 114.950-115.322Mb

$r^{2}$ with reference SNP

rs7799410
rs4377898

Number of sexual partners: locus 51 [chr 7:121.955-121.967Mb]


Number of sexual partners: locus 52 [chr 7:127.252-127.490Mb]


Number of sexual partners: locus 53 [chr 7:133.819-133.895Mb]


Number of sexual partners: locus 54 [chr 7:140.120-140.183Mb]


Number of sexual partners: locus 55 [chr 7:158.111-158.122Mb]


## Number of sexual partners: locus 56 [chr 8:9.108-9.139Mb]



## Number of sexual partners: locus 57 [chr 8:10.584-10.722Mb]



## Number of sexual partners: locus 58 [chr 8:11.421-11.421Mb]



## Number of sexual partners: locus 59 [chr 8:11.812-11.836Mb]



## Number of sexual partners: locus 60 [chr 8:65.438-65.682Mb]



## Number of sexual partners: locus 61 [chr 8:76.750-76.773Mb]



## Number of sexual partners: locus 62 [chr 8:93.184-93.262Mb]



## Number of sexual partners: locus 63 [chr 9:29.007-29.149Mb]



## Number of sexual partners: locus 64 [chr 9:74.374-74.381Mb]



## Jumber of sexual partners: locus 65 [chr 10:104.612-104.963Mb



## Jumber of sexual partners: locus 66 [chr 10:134.135-134.168Mb



Number of sexual partners: Locus 67 [chr 11: 28.588-28.698Mb]

rs7942078
rs16918024
$r^{2}$ with reference SNP

rs7942078
rs16918024

Jumber of sexual partners: locus 68 [chr 11:112.827-112.913Mb


Number of sexual partners: locus 69 [chr 12:16.311-16.329Mb]


## Jumber of sexual partners: locus 70 [chr 12:102.395-102.865Mb



## Jumber of sexual partners: locus 71 [chr 12:120.036-120.206Mb



Number of sexual partners: locus 72 [chr 13:59.631-59.647Mb]


Number of sexual partners: locus 73 [chr 14:28.256-28.397Mb]


Number of sexual partners: locus 74 [chr 14:40.911-41.053Mb]


Number of sexual partners: Locus 75 [chr 14: $98.533-98.750 \mathrm{Mb}]$

rs76284431
rs10782490
$r^{2}$ with reference SNP

rs76284431
rs10782490

## Jumber of sexual partners: locus 76 [chr 14:103.782-103.813Mb



## Jumber of sexual partners: locus 77 [chr 14:104.095-104.338Mb



Jumber of sexual partners: locus 78 [chr 14:104.610-104.620Mb


Number of sexual partners: locus 79 [chr 15:47.613-47.685Mb]


Number of sexual partners: locus 80 [chr 15:91.417-91.429Mb]


Number of sexual partners: locus 81 [chr 16:13.748-13.773Mb]


Number of sexual partners: Locus 82 [chr 16: $17.562-17.621 \mathrm{Mb}]$

rs36183315
rs4781978
$r^{2}$ with reference SNP


Number of sexual partners: locus 83 [chr 16:49.592-49.627Mb]


Number of sexual partners: locus 84 [chr 16:53.799-53.845Mb]


## Number of sexual partners: locus 85 [chr 16:71.580-72.025Mb]



Number of sexual partners: locus 86 [chr 16:72.928-72.934Mb]


Number of sexual partners: locus 87 [chr 16:77.054-77.157Mb]


Number of sexual partners: locus 88 [chr 17:2.230-2.248Mb]


Number of sexual partners: locus 89 [chr 17:43.463-44.866Mb]


Number of sexual partners: locus 90 [chr 17:65.825-66.098Mb]


Number of sexual partners: locus 91 [chr 18:40.324-40.324Mb]


Number of sexual partners: locus 92 [chr 18:41.660-42.183Mb]


Number of sexual partners: Locus 93 [chr 18: 49.966-50.026Mb]


[^5]$r^{2}$ with reference SNP


Number of sexual partners: Locus 94 [chr 18: $52.965-53.165 \mathrm{Mb}]$

rs72930774
rs149344987
rs1011392
$r^{2}$ with reference SNP

rs72930774
rs149344987
rs1011392

Number of sexual partners: Locus 95 [chr 18: 53.432-53.744Mb]

rs1549319 rs1531518 rs72932563 rs784242
$r^{2}$ with reference SNP

rs1549319
rs1531518
rs72932563
rs784242

Number of sexual partners: locus 96 [chr 18:77.552-77.581Mb]


Number of sexual partners: locus 97 [chr 19:18.207-18.280Mb]


Number of sexual partners: locus 98 [chr 21:31.316-31.352Mb]


## LocusZoom plots for the 89 loci identified in the GWAS of the first PC of the risky behaviors

First PC risky behaviors: locus 1 [chr 1:33.776-33.916Mb]


First PC risky behaviors: locus 2 [chr 1:57.863-57.881Mb]


First PC risky behaviors: locus 3 [chr 1:61.672-61.743Mb]


First PC risky behaviors: locus 4 [chr 1:66.370-66.485Mb]


First PC risky behaviors: Locus 5 [chr 1: 91.190-91.215Mb]

rs12042107
rs10922907
$r^{2}$ with reference SNP


First PC risky behaviors: locus 6 [chr 1:208.709-208.730Mb]


First PC risky behaviors: locus 7 [chr 2:32.497-32.860Mb]


First PC risky behaviors: locus 8 [chr 2:44.296-44.300Mb]


First PC risky behaviors: locus 9 [chr 2:45.121-45.176Mb]


First PC risky behaviors: locus 10 [chr 2:48.778-48.807Mb]


First PC risky behaviors: Locus 11 [chr 2: 60.000-60.528Mb]


[^6]
## $r^{2}$ with reference SNP



First PC risky behaviors: locus 12 [chr 2:62.917-63.448Mb]


First PC risky behaviors: locus 13 [chr 2:74.334-74.334Mb]


First PC risky behaviors: locus 14 [chr 2:77.038-77.195Mb]


First PC risky behaviors: locus 15 [chr 2:104.057-104.381Mb]


First PC risky behaviors: locus 16 [chr 2:137.223-137.625Mb]


First PC risky behaviors: locus 17 [chr 2:146.167-146.316Mb]


First PC risky behaviors: locus 18 [chr 2:155.655-156.109Mb]


First PC risky behaviors: locus 19 [chr 2:181.828-182.096Mb]


First PC risky behaviors: locus 20 [chr 2:202.843-202.849Mb]


First PC risky behaviors: locus 21 [chr 3:52.537-52.848Mb]


First PC risky behaviors: locus 22 [chr 3:62.391-62.391Mb]


First PC risky behaviors: locus 23 [chr 3:71.026-71.064Mb]


First PC risky behaviors: locus 24 [chr 3:82.590-82.736Mb]


First PC risky behaviors: Locus 25 [chr 3: 83.536-83.920Mb]

$r^{2}$ with reference SNP

rs4552369
rs4856463

First PC risky behaviors: Locus 26 [chr 3: 84.899-86.195Mb]

rs12494510
rs113919848
rs10865612
rs6790699
rs9853563
$r^{2}$ with reference SNP

|  |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- |
|  |  |  |  |  |

rs12494510
rs113919848
rs10865612
rs6790699
rs9853563

First PC risky behaviors: locus 27 [chr 3:94.590-94.808Mb]


First PC risky behaviors: locus 28 [chr 3:100.893-101.206Mb]


First PC risky behaviors: Locus 29 [chr 3: 117.347-117.822Mb]

$r^{2}$ with reference SNP


First PC risky behaviors: locus 30 [chr 3:127.166-127.190Mb]


First PC risky behaviors: Locus 31 [chr 3: 146.862-147.141Mb]

$r^{2}$ with reference SNP


First PC risky behaviors: locus 32 [chr 4:47.272-47.272Mb]


First PC risky behaviors: locus 33 [chr 4:57.710-57.893Mb]


First PC risky behaviors: locus 34 [chr 4:100.239-100.239Mb]


First PC risky behaviors: locus 35 [chr 4:103.002-103.198Mb]


First PC risky behaviors: Locus 36 [chr 4: 106.048-106.272Mb]


[^7]$r^{2}$ with reference SNP

rs2647249
rs2647257

First PC risky behaviors: locus 37 [chr 4:110.515-110.648Mb]


First PC risky behaviors: locus 38 [chr 4:143.510-143.655Mb]


First PC risky behaviors: locus 39 [chr 5:50.584-50.800Mb]


First PC risky behaviors: locus 40 [chr 5:80.241-80.263Mb]


First PC risky behaviors: locus 41 [chr 5:103.791-104.049Mb]


First PC risky behaviors: locus 42 [chr 5:166.985-167.056Mb]


First PC risky behaviors: locus 43 [chr 5:173.273-173.369Mb]


First PC risky behaviors: locus 44 [chr 6:28.271-28.657Mb]


First PC risky behaviors: locus 45 [chr 6:30.243-30.296Mb]


First PC risky behaviors: locus 46 [chr 6:32.107-32.146Mb]


First PC risky behaviors: Locus 47 [chr 6: 98.479-98.592Mb]

rs2388334 rs56081191
$r^{2}$ with reference SNP


First PC risky behaviors: locus 48 [chr 6:111.578-111.887Mb]


First PC risky behaviors: locus 49 [chr 7:1.852-1.982Mb]


First PC risky behaviors: locus 50 [chr 7:3.526-3.623Mb]


First PC risky behaviors: locus 51 [chr 7:114.963-115.113Mb]


First PC risky behaviors: locus 52 [chr 7:127.677-127.788Mb]


First PC risky behaviors: Locus 53 [chr 7: 153.451-153.497Mb]

$r^{2}$ with reference SNP

rs6951574
rs2533148

First PC risky behaviors: locus 54 [chr 7:158.111-158.122Mb]


First PC risky behaviors: locus 55 [chr 8:59.799-59.817Mb]


First PC risky behaviors: locus 56 [chr 8:92.749-92.815Mb]


First PC risky behaviors: locus 57 [chr 8:93.184-93.262Mb]


First PC risky behaviors: locus 58 [chr 9:10.963-11.076Mb]


First PC risky behaviors: locus 59 [chr 9:86.728-86.756Mb]


First PC risky behaviors: locus 60 [chr 9:109.326-109.364Mb]


First PC risky behaviors: Locus 61 [chr 10: 104.226-104.960Mb]

rs12244388 rs11592299

## $r^{2}$ with reference SNP


rs12244388
rs11592299

First PC risky behaviors: Locus 62 [chr 11: 27.646-27.731Mb]

rs2049045
rs10767658
$r^{2}$ with reference SNP


First PC risky behaviors: Locus 63 [chr 11: 28.588-28.698Mb]

rs4923555
rs16918024
$r^{2}$ with reference SNP

rs4923555
rs16918024

First PC risky behaviors: locus 64 [chr 11:41.415-41.445Mb]


First PC risky behaviors: locus 65 [chr 11:47.372-47.947Mb]


First PC risky behaviors: locus 66 [chr 11:112.827-112.913Mb]


First PC risky behaviors: locus 67 [chr 12:108.594-108.630Mb]


First PC risky behaviors: locus 68 [chr 13:100.708-100.783Mb]


First PC risky behaviors: locus 69 [chr 14:98.647-98.670Mb]


First PC risky behaviors: locus 70 [chr 14:104.610-104.620Mb]


First PC risky behaviors: locus 71 [chr 15:47.613-47.685Mb]


First PC risky behaviors: locus 72 [chr 15:91.404-91.437Mb]


First PC risky behaviors: locus 73 [chr 15:99.179-99.207Mb]


First PC risky behaviors: locus 74 [chr 16:13.657-13.805Mb]


## First PC risky behaviors: locus 75 [chr 16:25.268-25.378Mb]



First PC risky behaviors: locus 76 [chr 16:28.619-28.621Mb]


First PC risky behaviors: locus 77 [chr 16:49.592-49.627Mb]


First PC risky behaviors: Locus 78 [chr 16: 69.567-69.811Mb]


> rs2917666 rs1837016
$r^{2}$ with reference SNP


First PC risky behaviors: locus 79 [chr 16:71.340-71.434Mb]


First PC risky behaviors: Locus 80 [chr 16: 72.068-72.614Mb]

rs76513770
rs11075924
$r^{2}$ with reference SNP


First PC risky behaviors: locus 81 [chr 16:72.928-72.934Mb]


First PC risky behaviors: Locus 82 [chr 17: 44.059-44.865Mb]

rs62062288
rs2471739
$r^{2}$ with reference SNP


First PC risky behaviors: locus 83 [chr 17:65.876-65.985Mb]


First PC risky behaviors: locus 84 [chr 17:77.769-77.801Mb]


First PC risky behaviors: locus 85 [chr 17:79.409-79.427Mb]


First PC risky behaviors: locus 86 [chr 18:8.368-8.399Mb]


First PC risky behaviors: locus 87 [chr 18:49.965-50.018Mb]


First PC risky behaviors: Locus 88 [chr 18: 52.972-53.183Mb]

rs624244
rs72930755
rs28602385


First PC risky behaviors: locus 89 [chr 22:42.692-42.703Mb]



[^0]:    rs7192890 rs918755

[^1]:    rs11686776

[^2]:    rs61902492
    rs7938812 rs7115027 rs17417989

[^3]:    rs1435741 rs1981919 rs1486900

[^4]:    rs332828
    rs446952

[^5]:    rs8093255 rs1145247

[^6]:    rs4672373
    rs10174860
    rs12621229
    rs7585579

[^7]:    rs2647249
    rs2647257

