

Table S1. Missingness of variables of interest in this study (n, %)

	Cases (n=1026)	Controls (n=501,368)
Age	0 (0.0)	0 (0.0)
Sex	0 (0.0)	0 (0.0)
Ethnicity	2 (0.2)	892 (0.2)
Annual household income	10 (1.0)	6,004 (1.2)
Education level	9 (0.9)	4,633 (0.9)
Employment status	2 (0.2)	870 (0.2)
Household size	3 (0.3)	2,258 (0.5)
Frequency of friend/family visits	9 (0.9)	4,645 (0.9)
Frequency of confiding in others	9 (0.9)	912 (0.2)

Table S2. Association results from latest genome-wide association studies for previously reported thyroid cancer risk loci in European ancestry

SNP	Locus	Effect allele	OR	LCI	UCI	P value
rs12129938	1q42.2	A	1.32	1.20	1.43	4.00×10 ⁻¹¹
rs11693806	2q35	C	1.43	1.33	1.54	1.50×10 ⁻²⁴
rs966423	2q35	C	1.28	1.20	1.37	8.30×10 ⁻¹⁵
rs6759952	2q35	T	1.25	1.16	1.34	6.40×10 ⁻¹⁰
rs6793295	3q26.2	T	1.23	1.15	1.33	2.70×10 ⁻⁰⁸
rs10069690	5p15.33	T	1.20	1.12	1.29	3.20×10 ⁻⁰⁷
rs73227498	5q22.1	A	1.37	1.23	1.49	3.00×10 ⁻¹⁰
rs2466076	8p12	G	1.32	1.23	1.41	1.50×10 ⁻¹⁷
rs2439302	8p12	G	1.32	1.23	1.41	5.70×10 ⁻¹⁷
rs1588635	9q22.33	A	1.70	1.59	1.82	2.00×10 ⁻⁵⁸
rs965513	9q22.33	A	1.70	1.59	1.79	2.20×10 ⁻⁵⁷
rs10122541	9q22.33	G	1.54	1.40	1.70	1.10×10 ⁻¹⁷
rs7037324	9q22.33	A	1.54	1.39	1.70	1.20×10 ⁻¹⁷
rs7902587	10q24.33	T	1.41	1.27	1.56	5.40×10 ⁻¹¹
rs368187	14q13.3	G	1.39	1.30	1.47	5.10×10 ⁻²³
rs944289	14q13.3	T	1.35	1.27	1.44	2.10×10 ⁻¹⁹
rs116909374	14q13.3	T	1.71	1.47	2.00	6.20×10 ⁻¹²
rs10136427	14q24.3	C	1.40	1.23	1.60	4.35×10 ⁻⁰⁷
rs2289261	15q22.33	C	1.23	1.15	1.32	3.10×10 ⁻⁰⁹
rs56062135	15q22.33	T	1.24	1.16	1.34	4.90×10 ⁻⁰⁹
rs7267944	20q12	C	1.39	1.24	1.56	2.13×10 ⁻⁰⁸

SNP, single nucleotide polymorphism; OR, odds ratio; LCI, lower confidence interval; UCI, upper confidence interval

Table S3. Characteristics of GWAS summary data for socioeconomic factors and thyroid cancer in European ancestry

Phenotype	GWAS ID	Year	Sample size	No. SNPs	Author	Consortium
Thyroid cancer	finn-b-C3_THYROID_GLAND_EXALLC	2023	288,920	18,707,521	NA	FinnGen
Average total household income	ukb-b-7408	2018	397,751	9,851,867	Elsworth B	MRC-IEU
College or University degree	ukb-a-397	2017	334,070	9,851,867	Neale	Neale Lab
Unemployed status	ukb-b-12885	2018	461,242	9,851,867	Elsworth B	MRC-IEU
Frequency of friend/family visits	ukb-b-5379	2018	459,830	9,851,867	Elsworth B	MRC-IEU

GWAS, genome-wide association study; SNP, single nucleotide polymorphism