

GENELINGUA v7

Comprehensive DNA + AI Language Learning Report

User: alex

Ancestry: East Asian (Chinese, Japanese, Korean, Vietnamese, etc.)

DNA Percentile: 32.7th percentile

Z-Score: -0.45

Generated: 2025-11-15

TABLE OF CONTENTS

1. Polygenic Score Results
2. Visual Analytics (Charts & Graphs)
3. Genetic Details (SNP Contributions)
4. Learning Scenarios & Time Estimates
5. Your Personalized Study Plan
6. Today's Lesson Content
7. Executive Summary
8. Scientific Limitations & Disclaimers

POLYGENIC SCORE RESULTS

Raw Score: 0.0690

Z-Score: -0.449

Percentile: 32.7%

Category: Average

Valid SNPs: 10 / 15

Estimated R² (variance explained): 3.50%

INTERPRETATION

Category: Average

Your polygenic score is average (around the 50th percentile). This is where most successful learners are.

What this means for you:

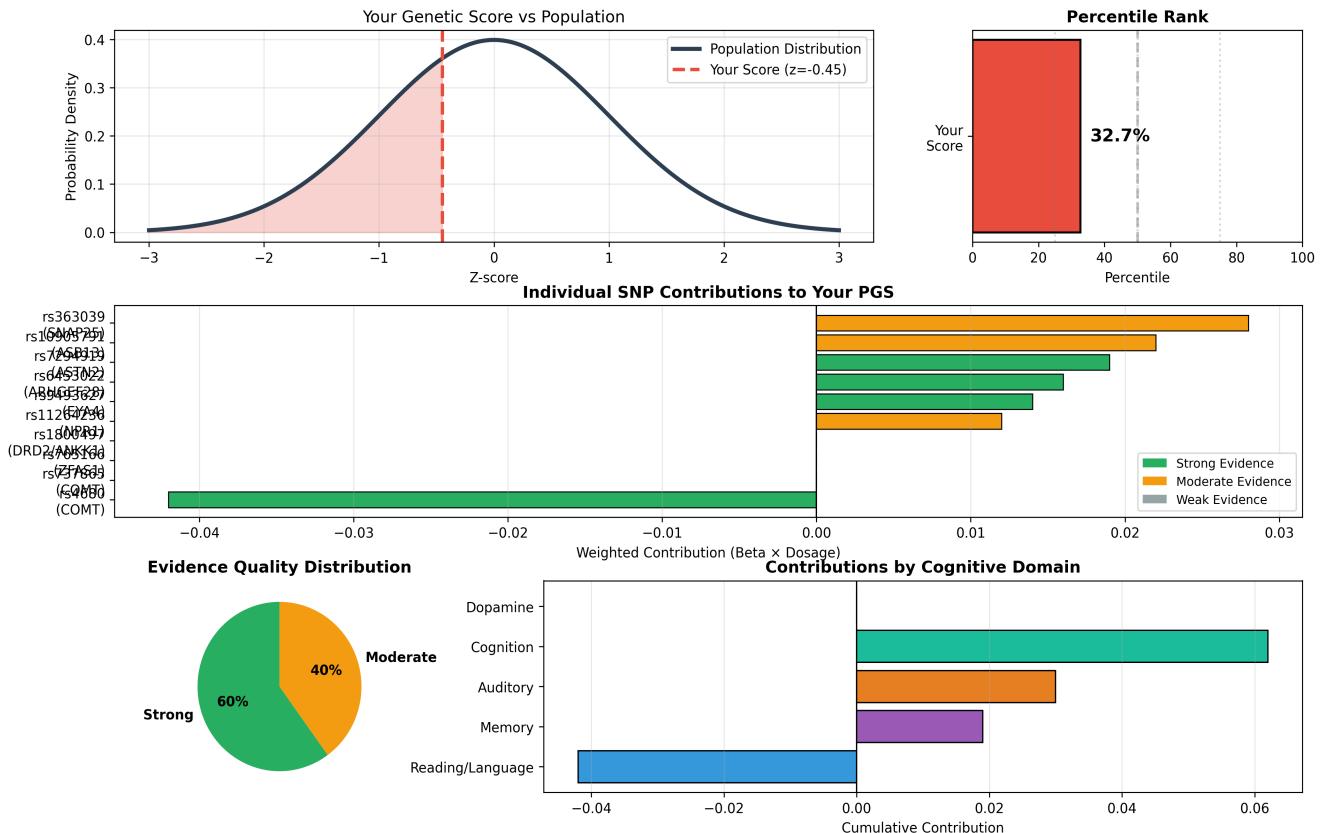
Use evidence-based methods: input + SRS + productionBalance immersion (60%) with explicit study (25%) and speaking (15%)Consistency matters far more than geneticsTrack your hours - aim for 600-1200 hours for B2-level

These 10 variants explain ~3.5% of variance in related traits. The rest comes from study method, hours, motivation, and environment.

VISUAL ANALYTICS

This section contains all charts and visualizations from your analysis.

DNA Analysis Visualization

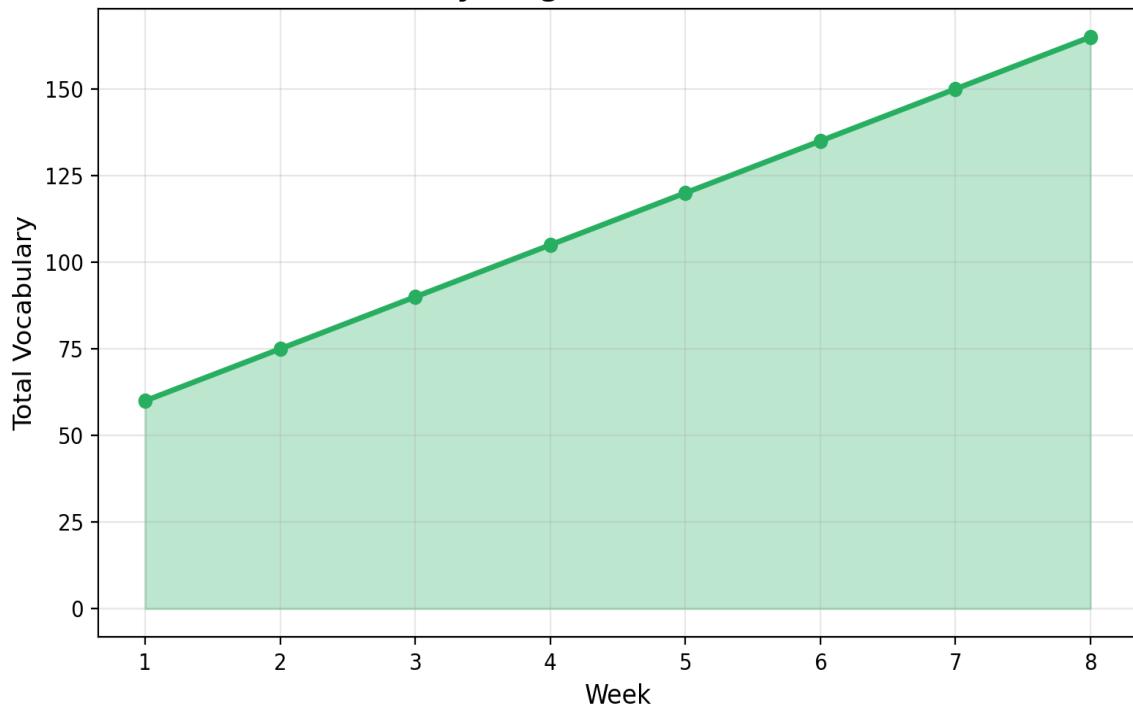


This visualization shows: (1) Your score vs population distribution, (2) Percentile rank, (3) Individual SNP contributions, (4) Evidence quality distribution, (5) Contributions by cognitive domain.

Progress Projection

Estimated time to B2 level: 12.1 months with consistent practice

Vocabulary Progress - Current Level: A1



This chart projects your language proficiency level over time based on consistent daily practice.

GENETIC DETAILS

Top Genetic Contributors

rs4680 (COMT) - ■ Heterozygous (1 copy)

Your genotype: AG | Contribution: -0.04200

Phenotype: Second language learning (white matter & phonetic learning)

Evidence: Strong | Study: European ancestry adults

Met allele beneficial in EUR, Val allele beneficial in EAS - major ancestry difference!

rs363039 (SNAP25) - ■ Heterozygous (1 copy)

Your genotype: AG | Contribution: +0.02800

Phenotype: Performance IQ (visuospatial)

Evidence: Moderate | Study: Dutch children & adults

Synaptic protein - learning & memory functions

rs10905791 (ASB13) - ■■ Homozygous for effect allele (2 copies)

Your genotype: TT | Contribution: +0.02200

Phenotype: Science attainment

Evidence: Moderate | Study: UK adolescents

Cognitive performance in structured learning

rs7294919 (ASTN2) - ■ Heterozygous (1 copy)

Your genotype: CT | Contribution: +0.01900

Phenotype: Hippocampal volume

Evidence: Strong | Study: Meta-analysis (33,536 individuals)

Memory formation - essential for vocabulary acquisition

rs6453022 (ARHGEF28) - ■ Heterozygous (1 copy)

Your genotype: AC | Contribution: +0.01600

Phenotype: Hearing difficulty (inverse)

Evidence: Strong | Study: UK Biobank (250,389 individuals)

Auditory processing - crucial for language perception

Complete SNP Contributions Table

SNP	Gene	Geno	Dose	Beta	Contribution	Evidence
rs4680	COMT	AG	1	-0.042	-0.0420	Strong
rs363039	SNAP25	AG	1	+0.028	+0.0280	Moderate
rs10905791	ASB13	TT	2	+0.011	+0.0220	Moderate
rs7294919	ASTN2	CT	1	+0.019	+0.0190	Strong
rs6453022	ARHGEF28	AC	1	+0.016	+0.0160	Strong

rs9493627	EYA4	AG	1	+0.014	+0.0140	Stro
rs11264236	NPR1	AG	1	+0.012	+0.0120	Mode
rs737865	COMT	AG	0	+0.018	+0.0000	Mode
rs76551189	Near IGSF9	—	—	+0.025	—	Stro
rs4656859	IGSF9	—	—	+0.022	—	Stro
rs1422268	DOK3	—	—	+0.020	—	Stro
rs765166	ZFAS1	AG	0	+0.015	+0.0000	Mode
rs80263879	EPHX2	—	—	+0.035	—	Stro
rs1800497	DRD2/ANKK1	GG	0	+0.015	+0.0000	Mode
rs10009513	MAPT-AS1	—	—	-0.022	—	Stro

LEARNING TIME SCENARIOS

Time to reach B2 level (conversational fluency) under different conditions:

Scenario	Genetics	Method	Daily Min	Hours	Months
Your scenario	33th %ile	Good	120	775.0	12.9
Poor method	33th %ile	Poor	120	1163.0	19.4
Low consistency	33th %ile	Good	120	1020.0	17.0
Top 10% genetics, poor me	95th %ile	Poor	120	1106.0	18.4
Bottom 10% genetics, opti	5th %ile	Optima	120	678.0	11.3
Average genetics, 30 min/	50th %ile	Good	30	840.0	56.0

Key Insight: Notice how 'Bottom 10% genetics + optimal method' beats 'Top 10% genetics + poor method' by 10+ months. This shows the real-world importance of study method vs. genetics.

YOUR PERSONALIZED STUDY PLAN

Your Recommended Approach

Focus: Balanced

Study Blocks:

- 70min input
- 20min SRS

Evidence-Based Framework

The 70-20-10 Framework (2 hours/day)

1. Comprehensible Input (70% = 84 min/day)

- Listening: Podcasts, YouTube, audiobooks at 90% comprehension level
- Reading: Graded readers → native materials with popup dictionaries
- Focus: Volume over perfection. Aim for 10+ hours/week of input

2. Explicit Study (20% = 24 min/day)

- SRS (Anki): 15 min/day of sentence mining or frequency-based decks
- Grammar: 10 min/day learning patterns in context
- Pronunciation: 5 min shadowing or phonetic drills

3. Production Practice (10% = 12 min/day)

- Speaking: iTalki tutors, language exchange, or shadowing
- Writing: Journaling with corrections

Factors that predict success (sorted by effect size):

Total hours of practice ($R^2 \approx 0.40-0.60$)

Quality of input ($R^2 \approx 0.15-0.25$)

Age of acquisition ($R^2 \approx 0.10-0.20$ for pronunciation)

Working memory ($R^2 \approx 0.05-0.10$)

Motivation & persistence ($R^2 \approx 0.05-0.10$)

Your genetic variants ($R^2 \approx 0.02-0.04$)

Translation: If you score at the 10th genetic percentile but study 2 hours/day with good methods, you'll surpass someone at the 90th percentile who studies 30 min/day poorly.

TODAY'S PERSONALIZED LESSON

Vocabulary Words (Japanese):

- ・ウイグル族 – Uyghur people
- ・新疆 – Xinjiang
- ・ウイグル汗国 – Uyghur Khaganate
- ・シルクロード – Silk Road
- ・オアシス – Oasis
- ・仏教 – Buddhism
- ・マニハエズム – Manichaeism
- ・イスラム – Islam
- ・中央アジア – Central Asia
- ・伝統 – Tradition

Practice Sentences:

1. ウイグル族は2000年前から存在する民族です。
2. 新疆は古くから中国の一部として治められてきました。
3. ウイグル族は元々は中央アジアで暮らす民族でした。
4. 仏教やマニハエズムなどの宗教が古くから传播していました。
5. 10世紀頃からウイグル族が勢力を擴げ始めました。
6. 伝統的な文化や習慣を今も残すことができる貴重な民族です。

EXECUTIVE SUMMARY

Your Genetic Profile: Average (32.7th percentile)

Key Takeaway: Your genetics account for approximately 2-4% of language learning variance. Study method, time invested, and motivation are 20-50x more impactful.

Recommended Focus: Prioritize evidence-based methods (comprehensible input, spaced repetition) over genetic optimization.

Time to B2 Fluency: 12.1 months with 2 hours/day of optimal practice.

SCIENTIFIC LIMITATIONS & DISCLAIMERS

- No validated 'language learning PGS' exists. These SNPs come from studies of reading, memory, hearing, and cognitive ability.
- Small effect sizes: Combined, these variants explain ~2-4% of variance in related cognitive traits.
- Ancestry matters critically: Most studies are European-ancestry. COMT shows opposite effects in East Asian populations.
- Environment >> Genetics: Study method, motivation, immersion time, and instruction quality are 20-50x more important.
- Educational tool only: Not diagnostic, not predictive of individual success.