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How cognitive signature and music signature inform each other

CREATED: STATUS: FRAMEWORK:

The Core Hypothesis

> **Your cognitive signature (BrainID) and your listening signature (TasteID) are two views of the same underlying system.**

How you think → How you listen → How you think

They should **correlate** (patterns in one domain appear in the other), **predict** (one can inform recommendations in the other), and **calibrate** (explicit data like music ratings can ground inferred cognitive states).

Network Mapping

Yeo 7-Network ↔ TasteID Listening Modes

COGNITIVE NETWORK		MUSIC MODE	
DMN		**COMFORT**	
Default Mode Network		Self-reflection, familiar territory	
	↔		
COGNITIVE NETWORK		MUSIC MODE	
FP		**DISCOVERY**	
Frontoparietal		Planning, novelty-seeking	
	↔		
COGNITIVE NETWORK		MUSIC MODE	
LIM		**EMOTION**	
Limbic		Affect, feeling processing	
	↔		
COGNITIVE NETWORK		MUSIC MODE	
DA		**DEPTH**	
Dorsal Attention		Focused analysis, technical appreciation	

Testable Predictions

BRAINID PATTERN	EXPECTED TASTEID BEHAVIOR
FP-dominant thinkers	Higher Discovery scores
DMN-dominant thinkers	Higher Comfort scores
High Polarity Score (cognitive range)	High Adventureness Score (music range)
Challenge-Before-Accept pattern	Critical reviewer (lower avg ratings, detailed reviews)
High FP↔DMN oscillation	High Discovery↔Comfort oscillation

Integration Points

1. Mood-Aware Recommendations

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IF current_brainid.dominant_network == "LIM" (high emotional): → Suggest from TasteID.comfort_zone → Avoid Discovery music that requires cognitive load IF current_brainid.dominant_network == "FP" (planning/focus): → Suggest from TasteID.discovery OR focus_conducive genres → Match the "get stuff done" energy IF current_brainid.dominant_network == "DMN" (reflective): → Suggest from TasteID.depth OR contemplative artists → Match the introspective mood
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2. Review Language → Cognitive Calibration

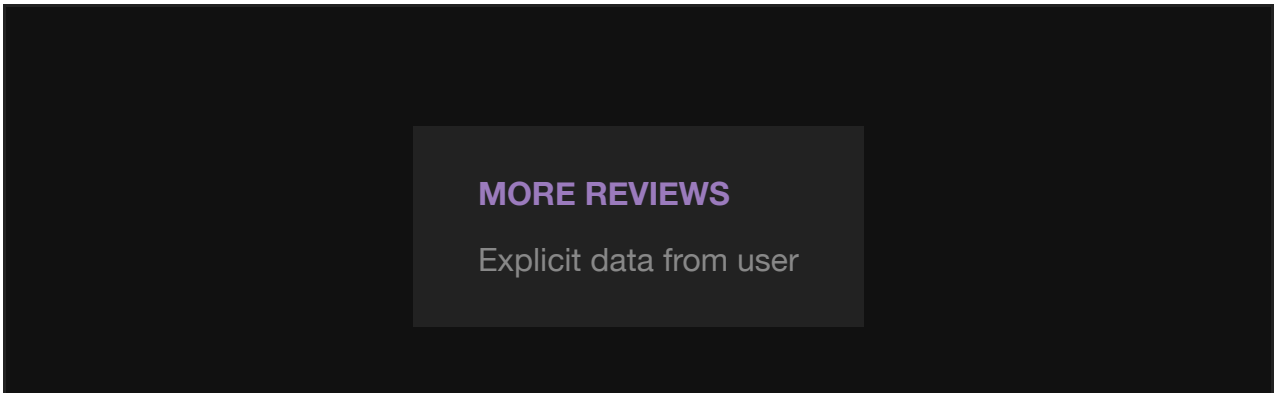
Music reviews are explicit. Cognitive states are inferred. Use one to calibrate the other.

REVIEW LANGUAGE	INFERRED NETWORK	CALIBRATION EFFECT
"This makes me feel..."	LIM	Strengthen LIM detection patterns
"Technically impressive"	DA/FP	Strengthen analytical markers
"Reminds me of..."	DMN	Strengthen self-referential markers
"Wait, this part is..."	VA	Strengthen salience markers

3. Listening Patterns → Cognitive State Proxy

LISTENING BEHAVIOR	INFERRED COGNITIVE STATE
Playing comfort albums	DMN dominant, reflective/relaxed
Exploring new genres	FP dominant, seeking/planning
Replaying emotional songs	LIM dominant, processing feelings
Deep album listening (start to finish)	DA dominant, focused attention
Skipping frequently	VA dominant, seeking salience

The Integration Flywheel



TasteID gets more accurate

→ Better listening signature

→ Better genre predictions

→ Better music recommendations

Review language calibrates BrainID

→ "This makes me feel X" → LIM markers

→ "Technically impressive" → DA/FP markers

→ "Reminds me of..." → DMN markers

BrainID gets more accurate

→ Better cognitive signature

→ Better mood detection

→ Better response personalization

Mood-aware music recommendations

→ LIM high → Comfort music

→ FP high → Discovery music

→ More engagement → More reviews

Implementation Roadmap

1 Data Collection

Now

→ Add cognitive markers to review schema

→ Track review language patterns automatically

→ Link TasteID computation to Polarity patterns

→ Build dataset of music-cognition relationships

2 Cross-Prediction

Later

→ Predict cognitive state from listening (Spotify integration)

→ Predict music from cognitive state

→ Validate correlation hypotheses

3 Unified Profile

Future

→ Single Polarity profile includes BrainID + TasteID

→ Cross-domain pattern detection

→ Signature-based user matching

Research Questions

#	QUESTION
1	How stable is the cognitive-music correlation? Does it vary by context?
2	Can music shift cognitive state? Music as cognitive intervention?
3	Are there cognitive-music archetypes? "The Analytical Explorer" (FP + Discovery)
4	Can we identify someone from music alone? How unique is TasteID?

Cognitive modeling that extends from how you think to how you listen.

Generated by Claude Opus 4.5 | 2026-01-24