Foundations

Understanding Meaning-Driven Minds

Summary

This synthesized framework offers a novel approach to understanding cognitive processes, particularly in neurodivergent individuals, by integrating insights from three foundational documents. It introduces key constructs—Ontologically Modulated Executive Function (OMEF), False-Structure Intolerance (FSI), and State-Contingent Motivational Filtering (SCMF)—to describe a cognitive system driven by meaning and coherence rather than conventional motivation. The framework stands out from its source documents by refining these constructs, enhancing their empirical grounding, and expanding their interdisciplinary applications. It holds immediate value for designing personalized environments, advancing human-AI collaboration, and reframing neurodivergence as a strength, with potential to reshape education, workplaces, and clinical practices.

Key Points

Core Constructs

OMEF, FSI, and SCMF describe a cognitive architecture where motivation depends on alignment with internal meaning, validated by personality data and lived experience.

Interdisciplinary Potential

The framework bridges cognitive science, AI, design, and social sciences, offering new models for personalized cognition and neurodiversity inclusion.

Societal Impact

By reframing neurodivergence, it challenges deficit-based views, advocating for environments that amplify diverse cognitive strengths.

Complexity Acknowledged

The model is based on a single case study, suggesting caution in generalizing until further validated across populations.

Overview of the Framework

The framework synthesizes three documents exploring the cognitive architecture of a neurodivergent individual with ASD and ADHD. It emphasizes a recursive, meaning-driven cognitive system, validated through AI-assisted introspection and Big Five personality data.

Unlike traditional models, it prioritizes non-volitional, resonance-based activation, offering a fresh perspective on motivation and executive function.

Distinction from Source Documents

This synthesis refines definitions from the source documents, integrates their methodologies, and expands theoretical implications. It avoids redundancy by unifying overlapping concepts and enhances clarity by grounding constructs in empirical and phenomenological data, surpassing the individual scope of each source.

Immediate Value

The framework provides actionable insights for creating environments like the Gestalt Systems Synthesis Environment (GSSE), which supports cognitive alignment. It also informs AI-driven cognitive scaffolding, educational reforms, and clinical approaches that value neurodiversity, fostering innovation and inclusion.

Foundational Constructs

The framework is built on three core constructs—OMEF, FSI, and SCMF—each describing distinct yet interconnected aspects of a meaning-driven cognitive architecture. Below are

refined definitions, expanded conceptual implications, and their triangulation with Big Five traits and neurodivergent phenomenology.

Ontologically Modulated Executive Function (OMEF)

Definition

OMEF is a non-volitional executive mechanism where effort initiation and sustenance depend on a task's alignment with an individual's internal sense of coherence and meaning. It acts as a gate, only opening when tasks resonate with personal values or conceptual integrity.

Conceptual Implications

OMEF challenges traditional views of executive function as willpower-driven, suggesting that for some, motivation is an emergent property of ontological alignment. It implies that cognitive performance hinges on authenticity, necessitating environments that prioritize intrinsic resonance over external demands.

Triangulation

Big Five

Low Industriousness (3rd percentile) reflects the absence of duty-based motivation, while high Openness (96th percentile) supports meaning-driven engagement.

Neurodivergent Phenomenology

In ASD, systemizing drives prioritize coherent tasks; in ADHD, executive variability limits routine effort, aligning with OMEF's non-volitional nature.

Systems Behavior

OMEF manifests as a binary switch—either full engagement or complete inaction—based on task framing.

False-Structure Intolerance (FSI)

Definition

FSI is a protective mechanism triggering an involuntary shutdown when encountering demands or structures perceived as meaningless, incoherent, or imposed. It manifests as a somatic and cognitive veto, preserving internal model integrity.

Conceptual Implications

FSI reframes resistance as a functional adaptation, protecting cognitive resources from inauthentic inputs. It suggests that stress responses in neurodivergent individuals may signal environmental misalignment rather than personal failure, urging systemic redesign.

Triangulation

Big Five

High Neuroticism-Volatility (97th percentile) drives the intense veto response; low Agreeableness (35th percentile) enables non-compliance with false structures.

Neurodivergent Phenomenology

ASD's sensitivity to incoherence and ADHD's impulsivity amplify FSI's protective role. *Systems Behavior:* FSI acts as an immunological response, halting processing to maintain coherence, often triggered by bureaucratic or jargon-heavy tasks.

State-Contingent Motivational Filtering (SCMF)

Definition

SCMF is a dynamic mechanism gating motivational energy based on alignment between external stimuli and internal state vectors (moods, interests, cognitive focuses), producing oscillations between low and high engagement.

Conceptual Implications

SCMF highlights the non-linear nature of motivation, suggesting that productivity gaps are natural and functional. It advocates for flexible environments that accommodate oscillatory rhythms, enhancing flow states.

Triangulation

Big Five

Low Industriousness (3rd percentile) explains low baseline motivation; high Assertiveness (88th percentile) drives intense engagement when aligned.

Neurodivergent Phenomenology

ADHD's variable attention and ASD's intense focus align with SCMF's state-dependent activation.

Systems Behavior

SCMF produces a pattern of incubation followed by bursts of output, optimized by resonance-based triggers.

Construct	Big Five Traits	Neurodivergent Phenomenology	Systems Behavior
OMEF	Low Industriousness, High Openness	ASD systemizing, ADHD executive variability	Binary engagement switch
FSI	High Volatility, Low Agreeableness	ASD incoherence sensitivity, ADHD impulsivity	Immunological shutdown
SCMF	Low Industriousness, High Assertiveness	ADHD variable attention, ASD intense focus	Oscillatory productivity

Methodological Architecture

The framework was developed through a recursive LLM co-modeling protocol, leveraging AI as epistemic mirrors to refine cognitive constructs.

The process involved five protocol layers:

Input

Comprehensive self-observations and nascent theories fed into multiple AI models.

Resonance

Socratic dialogue with AI to identify resonant ideas aligning with lived experience.

Pressure

Iterative questioning to stress-test and refine constructs, applying recursive epistemic pressure.

Alignment

Filtering AI outputs to ensure fidelity to internal validity, using Anti-Narrative Reflex.

Construct

Formalizing robust constructs like OMEF, FSI, and SCMF.

Epistemic Mirroring and Symbolic Recursion: AI served as a mirror, reflecting the individual's cognitive patterns for analysis. Symbolic recursion involved iterative refinement of constructs through looped questioning, akin to a self-referential system building coherence.

Three-Stage Convergence:

Internal Triangulation

Recursive self-modeling achieved construct coherence.

External Validation

Big Five Aspects Scale data confirmed construct alignment (e.g., low Industriousness for OMEF).

Integrative Analysis

Merged phenomenological and empirical data for a unified model.

Trait–Construct Matrix

The matrix maps Big Five traits to cognitive mechanisms, offering empirical grounding.

Key breakthroughs include:

Low Industriousness

Reinterpreted as a feature of OMEF and SCMF, where effort is reserved for meaningful tasks, not a lack of discipline.

High Volatility

Recast as a driver of FSI, protecting cognitive integrity rather than signaling instability.

Big Five Traits	Percentile	Construct	Role
Industriousness	3rd	OMEF, SCMF	Absence of duty-based motivation; resonance-driven effort
Volatility	97th	FSI	Intense veto against false structure
Openness	96th	OMEF	Meaning-driven cognition engagement
Assertiveness	88th	SCMF	Intense output during alignment
Agreeableness	35th	FSI	Non-compliance with inauthentic demands

Theoretical Implications

The framework advances post-Cartesian cognitive modeling by integrating mind, body, and environment, aligning with situated cognition. Embodied cognition is evident in the role of somatic states (e.g., stress in FSI) in cognitive processes. Resonance logic underpins OMEF and

SCMF, where activation emerges from systemic alignment. Non-volitional activation challenges willpower-centric models, suggesting motivation as an emergent property. Heideggerian situatedness is reflected in the emphasis on contextual coherence, where cognition is inseparable from lived experience.

Systems Design Applications

The *Gestalt Systems Synthesis Environment (GSSE)* is a blueprint for cognition-aligned design, featuring:

Flexible Workspaces

Adjustable sensory environments to minimize FSI triggers.

Resonance Tools

AI and non-linear interfaces to capture meaning storms.

Feedback Architectures

Support oscillatory rhythms for flow-state amplification.

The GSSE prioritizes human-aligned design, ensuring environments resonate with individual cognitive profiles.

Neurodivergence Reframing

The framework deconstructs pathological views of ASD and ADHD, recasting them as high-bandwidth specializations. It highlights strengths like pattern recognition and intense focus, advocating for:

Workplaces

Flexible roles leveraging cognitive strengths.

Education

Personalized learning accommodating oscillatory rhythms.

Healthcare

Therapies valuing authenticity over conformity.

Human–AI Co-Constitution

AI acts as a cognitive scaffold, externalizing and refining internal models. Epistemic co-modeling blurs human-AI boundaries, suggesting a co-constitutive relationship beyond tool-use. Limits include AI's inability to originate lived experience, emphasizing human agency in meaning-making.

Meta-Philosophical Commentary

The framework avoids emergence framing, grounding constructs in empirical and phenomenological data. First-person epistemology anchors the model, ensuring authenticity. It critiques simulation narratives for oversimplifying cognition and warns against premature ontologizing, advocating for iterative validation.

Societal, Educational, and Clinical Pathways

The framework challenges productivity-centric models, proposing:

Policy

Incentives for neuro-inclusive design.

Pedagogy

Curricula valuing diverse cognitive styles.

Therapy

Ontological alignment in interventions.

It faces friction with rigid institutional norms but offers a path toward inclusive systems.

Future Research Questions

How generalizable are OMEF, FSI, and SCMF across neurodivergent populations?

Can GSSE principles be scaled for mainstream environments?

What neuroscientific mechanisms underlie resonance logic?

Validation methods: Longitudinal studies, neuroimaging, cross-cultural analyses.

Cross-pollination: Integrate with ecological psychology, AI ethics, and design theory.

Conclusion

This synthesized framework redefines cognitive-ontological modeling, offering a robust, interdisciplinary model for understanding and supporting neurodivergent cognition. By integrating empirical, phenomenological, and theoretical insights, it paves the way for innovative applications in AI, design, and social systems, fostering a more inclusive future.