Structural Regulation Framework

A Dimensional Model of Internal Regulation Capacity,
Structural Flexibility, and Externalization Dynamics

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2026

Contents

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Abstract

The Structural Regulation Framework (SRF) proposes a dimensional model of human psychological regulation organized around two distinct interacting capacity dimensions — Internal Regulation Capacity (IRC) and Structural Flexibility (SF) — and a dynamic process variable, Regulation Externalization Latency (REL).

IRC describes the maximum capacity to maintain regulatory coherence internally under unresolved activation. SF describes the capacity to hold tension, contradiction, and reality contact while shifting between regulatory strategies without fragmentation or rigidity. REL measures the time interval between unresolved activation and initiation of external regulatory behavior.

The framework further proposes externalization vectors — directional channels through which external regulation operates — and distinguishes structural levels at which regulation organizes (state, strategy, architecture, capacity).

Drawing on attachment theory, affect regulation, and differentiation of self research, the framework attempts to extend existing constructs by introducing REL as a dynamic process variable that may capture variance in regulation organization not fully measured by existing attachment, distress tolerance, or differentiation measures. This claim remains hypothetical and requires empirical testing.

This paper introduces the conceptual architecture, proposes operational definitions, outlines testable hypotheses, and acknowledges substantial limitations requiring empirical validation.

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1. Introduction

1.1 The Central Problem

Many existing psychological frameworks describe symptoms, attachment behaviors, personality patterns, and relational instability without fully modeling the structural location of psychological stability itself. The Structural Regulation Framework proposes that one of the primary differentiators between psychological structures is where and how emotional coherence is maintained.

1.2 Structural Rather Than Moral

The framework does not classify individuals as healthy or unhealthy. It interprets psychological behavior structurally. Many behaviors commonly interpreted morally may reflect adaptive attempts to regulate unresolved tension, preserve attachment, or maintain psychological continuity.

1.3 Distinguishing Stability From Flexibility

A person may appear calm, controlled, and relationally stable while depending on suppression or external regulation for coherence. Conversely, emotionally intense individuals may possess greater structural flexibility while lacking stable internal regulation capacity. The framework separates these dimensions explicitly.

1.4 Dynamic Process Contribution

The framework proposes that its primary incremental contribution lies in modeling regulation direction, regulation timing, and externalization dynamics under unresolved tension — specifically through REL, a process variable not fully captured by existing static trait measures.

1.5 Terminology

The framework uses mechanistic terminology designed to eliminate moral connotation and maintain clear construct boundaries. For popular communication, the mnemonic labels CENTER (≈ IRC) and ORBIT (≈ ERD) may be used with explicit acknowledgment that these are simplified labels, not precise equivalents.

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2. Core Definitions

2.1 Regulation

Regulation refers to the process through which a psychological system maintains coherence under conditions of unresolved activation. The critical distinction is not whether external regulation occurs, but the degree of structural dependence upon it.

2.2 Internal Regulation Capacity (IRC)

IRC refers to the maximum capacity of a psychological system to maintain regulatory coherence internally under unresolved activation without requiring immediate external input.

IRC includes: - Tolerance of unresolved activation without discharge - Maintenance of identity coherence under relational stress

IRC does NOT include: - Emotional suppression (this is Rigid Internal Regulation, not IRC) - Independence from others - Absence of distress - Behavioral delay per se (REL measures externalization timing as a separate construct; IRC provides the structural capacity that enables delay, but delay itself is an outcome, not a component of IRC)

IRC describes coherence *under* distress, not absence of it.

2.3 External Regulation Dependence (ERD)

ERD refers to the degree to which psychological stability, identity coherence, or emotional continuity require external regulatory input.

ERD is dimensional. All humans require some external regulation. ERD becomes structurally significant when external input becomes *necessary* for maintaining coherence rather than *supportive* of it.

2.4 Structural Flexibility (SF)

SF refers to the capacity to hold tension, contradiction, and reality contact while shifting between regulatory strategies without fragmentation or rigidity.

SF consists of four components:

Component	Definition	Failure mode
Tension processing	Transform held activation over time	Looping, discharge
Contradiction holding	Sustain incompatible realities simultaneously	Splitting, simplification
Reality contact	Perceive and remain with what is actually happening	Idealization, denial, projection
Regulatory flexibility	Shift between internal and external regulation adaptively	Rigidity (locked internal or locked external)

Whether these four components form a single latent factor or represent distinguishable subfacets remains the most important unresolved measurement question for SF. It is possible that an individual may demonstrate high reality contact but low contradiction holding, or high regulatory flexibility but rapid discharge under activation. The framework proposes SF as a composite for theoretical parsimony while acknowledging that factor-analytic investigation may reveal a multidimensional structure requiring decomposition.

2.5 Relationship Between IRC and SF

IRC and SF are proposed as distinct but interacting dimensions: - **IRC** answers: "How much activation can the system hold internally?" - **SF** answers: "How flexibly can the system process what it holds?"

SF is constrained by IRC (cannot flexibly process what cannot be held) but not reducible to it (holding is necessary but not sufficient for flexibility). This asymmetric constraint means the dimensions are not fully independent — high SF requires at least moderate IRC — but they are proposed as empirically separable constructs that capture different aspects of regulatory competence. Whether they prove distinguishable in factor-analytic investigation remains the framework's most important unresolved measurement question (see Section 13.3).

2.6 Tension

Tension refers to unresolved activation requiring regulatory processing.

The framework distinguishes several subclasses:

Subclass	Description	Typical triggers
Attachment tension	Unresolved relational uncertainty, separation threat	Delayed response, withdrawal, ambiguous availability
Identity tension	Self-coherence instability, evaluative threat	Criticism, failure, contradictory feedback
Contradiction tension	Simultaneous incompatible realities requiring integration	Ambivalence, moral conflict, relational paradox
Shame tension	Internally destabilizing self-evaluative affect	Exposure, perceived inadequacy, public error
Control tension	Uncertainty from unpredictability or loss of environmental control	Chaos, powerlessness, uncontrollable outcomes

These subclasses are not mutually exclusive. Multiple tension types may co-activate simultaneously.

2.7 Mirroring

Mirroring refers to external reflective input that alters perceived self-coherence, identity stability, or emotional legitimacy.

Operational distinction: ordinary social feedback informs behavior; mirroring modifies self-state stability. A comment that changes what someone *does* is feedback. A comment that changes how someone *experiences themselves* is mirroring.

Mirroring operates across all significant relationships throughout the lifespan — not exclusively through early parental relationships.

2.8 Regulation Externalization Latency (REL)

REL refers to the time interval between unresolved activation and initiation of external regulatory behavior. REL is a dynamic process metric operating at the state/strategy level.

2.9 Externalization Vectors (EV)

Externalization vectors describe the specific channels through which ERD operates. Three canonical vectors are proposed as illustrative rather than exhaustive:

Vector	Mechanism	Characteristic regulatory logic	Stabilization through
Validation	tension → insecurity → seek reflection → stabilization	"Stability requires external confirmation"	Approval, admiration, recognition
Dominance	tension → threat → control acquisition → stabilization	"Stability requires environmental predictability"	Predictability, hierarchy, power
Shame-defense	tension → shame → self-protection → distortion	"Uncontained shame becomes destabilizing"	Projection, blame-shifting, devaluation

Additional vectors (attachment, idealization, symbolic) are noted as conceptually plausible future extensions.

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3. Structural Levels

The framework distinguishes four levels of regulatory organization:

Level	Description	Temporal scale	Framework construct
State	Temporary activation	Seconds to hours	Momentary ERD activation
Strategy	Preferred regulatory response	Days to weeks	Externalization vectors

Level	Description	Temporal scale	Framework construct
Architecture	Habitual organization	Months to years	Chronic ERD vs habitual IRC use
Capacity	Maximum competence	Developmental	IRC, SF

- REL operates at state/strategy level
- Vectors operate at strategy level
- ERD/IRC operate at architecture/capacity level

A person with high IRC capacity may still enter ERD states under sufficient activation. Strategy-level patterns shift faster than architecture-level organization. Capacity represents the ceiling, not the typical operating point.

The empirical separability of these levels remains untested.

The terminology IRC, ERD, SF is mnemonic rather than normative. These terms describe regulatory location and quality, not human value.

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4. Theoretical Background

4.1 Attachment Theory

The framework builds upon attachment theory (Bowlby; Ainsworth), proposing that attachment patterns may partially reflect differing degrees of IRC vs ERD. Anxious attachment may involve rapid externalization; avoidant attachment may involve defensive suppression (RIR); secure attachment may reflect higher IRC with adequate SF.

4.2 Affect Regulation Theory

Drawing from Schore's affect regulation research, the framework adopts the assumption that regulation capacity develops relationally before becoming internalized. Disturbances in internalization may contribute to persistent ERD.

4.3 Self Psychology

Incorporating Kohut's self psychology, the framework extends mirroring from a developmental phenomenon to a dynamic regulation system. Mirror dependence is conceptualized as one component of ERD.

4.4 Object Relations Theory

Drawing from Winnicott, Klein, and Kernberg, the framework proposes that unresolved relational tension influences whether regulation remains internally organized or externally distributed. Winnicott's true self/false self distinction informs the RIR concept.

4.5 Nervous System Regulation

The framework incorporates autonomic regulation research (Porges), proposing that psychological regulation is inseparable from physiological regulation. Unresolved tension is conceptualized as nervous system

activation, not merely cognitive content.

4.6 Behavioral Genetics

Recent extended twin family research (Back et al., 2026) demonstrates that familial environmental factors shared by siblings play negligible role in narcissism-related traits specifically. The parent–child correlation in narcissism is entirely genetically driven.

The framework therefore proposes: - Genetic factors create probabilistic predispositions toward externalized regulation (e.g., heightened reward sensitivity, attachment-system reactivity) - Individual-specific environmental experiences shape how predispositions develop into regulation architectures - Mirroring operates across all significant relationships, not exclusively through early parental relationships

The framework explicitly rejects simplistic parent-blame models and single-cause developmental explanations.

4.7 Systems Theory

The framework conceptualizes the psyche as a dynamic regulation system organized around tension management and stability preservation rather than a collection of independent symptoms.

4.8 Positioning Relative to Bowen

The framework acknowledges overlap with Bowen's differentiation of self theory. It attempts to extend differentiation by focusing on regulation timing (REL) and externalization direction (vectors) — dynamic process variables not captured by existing differentiation measures.

4.9 Incremental Contribution

The framework proposes that existing constructs (attachment anxiety, differentiation, distress tolerance, self-concept clarity) do not fully capture how rapidly unresolved activation externalizes into regulatory behavior. REL is proposed as the primary empirical differentiator. This claim requires testing.

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5. The IRC × SF Space

The two capacity dimensions create a continuous two-dimensional space. For heuristic purposes, four regions can be identified — these are not fixed categories but descriptive labels for regions of a continuous landscape:

	Low SF	High SF
High IRC	RIR region: tends toward rigidity, suppression	IIR region: tends toward flexibility, integration
Low IRC	CED region: tends toward compulsive externalization	AEE region: tends toward adaptive engagement

This space describes *capacity*, not habitual behavior. An individual in the IIR capacity region may still enter ERD states under sufficient activation. An individual in the AEE region possesses the capacity for internal

regulation but may contextually choose external engagement. The quadrant labels describe where the system *can* operate, not where it permanently resides.

Individuals are not located permanently in one region. Movement across the space is expected depending on activation level, context, and developmental change.

5.1 Rigid Internal Regulation (RIR)

High IRC + Low SF. Internally located regulation maintained through suppression rather than flexibility. May appear highly functional externally while remaining structurally brittle under sufficient attachment activation.

5.2 Integrated Internal Regulation (IIR)

High IRC + High SF. Internally located, flexible, reality-contacting regulation. Can hold contradiction, tolerate uncertainty, and shift strategies adaptively.

5.3 Compulsive External Dependence (CED)

Low IRC + Low SF + High ERD. Persistent inability to maintain coherence without external input. Coherence collapses upon withdrawal of external regulation.

5.4 Adaptive External Engagement (AEE)

High SF + contextual ERD without identity dependence. The defining feature of AEE is not a specific IRC level but the quality of external engagement: the system uses external regulation adaptively rather than compulsively, and coherence survives its temporary absence. Co-regulation is mutual rather than asymmetric.

The critical distinction between CED and AEE: does coherence survive the temporary absence of external input?

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6. Externalization Vectors

6.1 Concept

The framework proposes that ERD is not a single phenomenon but a multidirectional regulatory space. Vectors describe the specific channels through which externalization proceeds.

6.2 Three Canonical Vectors

Presented as illustrative rather than exhaustive:

Validation: tension → insecurity → seek reflection → temporary stabilization - May be preferentially activated by identity tension - Conceptually consistent with vulnerable narcissistic patterns

Dominance: tension → threat perception → control acquisition → stabilization - May be preferentially activated by control tension - Conceptually consistent with some dominance-oriented interpersonal patterns

Shame-defense: tension → shame activation → self-protection → external distortion - May be preferentially activated by shame tension - Conceptually consistent with rage, devaluation, projection patterns

These correspondences are proposed as tendencies, not fixed mappings.

6.3 Additional Vectors (Future Extensions)

- Attachment: stability through proximity and fusion
- Idealization: stability through symbolic amplification
- Symbolic: stability through meaning systems and ideology

6.4 Why Vectors Rather Than Types

1. Individuals may operate through multiple vectors simultaneously
2. Vectors shift dynamically with context
3. Avoids typological degeneration
4. Preserves dimensional structure

6.5 Possible Structural Interpretations

These remain speculative: - Vulnerable narcissism may be structurally interpretable as high ERD primarily through validation + shame-defense vectors - Grandiose narcissism may be interpretable as high ERD primarily through dominance - Codependent patterns may be interpretable as high ERD through attachment + validation

These are conceptual hypotheses, not diagnostic relabelings.

6.6 Connection to Kowalchyk et al. (2021)

Research on performative self-elevation (Kowalchyk et al., 2021) is conceptually consistent with the vector distinction. Their finding that narcissism correlates with insecurity-driven self-elevation but not psychopathy suggests different underlying regulatory strategies. Their status vs. power distinction is conceptually consistent with — though not identical to — the validation vs. dominance vector distinction. The degree of structural correspondence remains an empirical question.

6.7 Relationship to REL

REL measures speed of externalization. Vectors describe direction. Together they form a complementary characterization: - REL captures *how quickly* externalization occurs - Vectors capture *through which channel* externalization proceeds

Different vectors may produce different REL profiles under different activation contexts.

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7. REL — Regulation Externalization Latency

7.1 Definition

Time interval between unresolved activation and initiation of external regulatory behavior.

7.2 Theoretical Rationale

Unresolved tension activates competing regulatory tendencies: internal processing, suppression, reassurance-seeking, relational fixation, symbolic stabilization. REL operationalizes how quickly activation becomes externally regulated.

7.3 Distinction From Existing Constructs

Existing Construct	Primary Focus
Distress tolerance	Ability to endure distress
Attachment anxiety	Fear of abandonment/rejection
Differentiation of self	Self-definition in emotional systems
Self-concept clarity	Stability of self-beliefs
REL	**Externalization timing under unresolved activation**

REL is a dynamic process variable, not a static trait description.

7.4 Neurophysiological Evidence

Recent ERP research provides preliminary neurophysiological support for the REL construct. Mück, Mattes, Porth, and Stahl (2023) demonstrated that narcissistic Rivalry — conceptually consistent with the shame-defense vector — was associated with higher error-related negativity (Ne) amplitudes within 50–150ms of error commission under ego-threatening conditions. The Ne reflects trait defensive reactivity: a stable tendency to rapidly mobilize defensive systems following endogenous threat (Weinberg, Riesel, & Hajcak, 2012).

This finding is structurally consistent with the REL construct in several ways:

1. **Temporal precision**: The Ne captures defensive activation within 150ms — demonstrating that regulation-relevant processing occurs at timescales consistent with REL's proposed measurement domain.
2. **Vector specificity**: Rivalry (shame-defense/dominance) and Admiration (validation) produced different neurophysiological profiles, consistent with the framework's prediction that different vectors produce different REL profiles under different activation contexts (H3).
3. **Dissociation of detection and awareness**: The error positivity (Pe), associated with conscious error awareness, did not vary with either narcissism dimension — suggesting that error evidence accumulates similarly regardless of narcissism level, but conscious acknowledgment may differ. This dissociation is conceptually compatible with — though not direct evidence for — the RIR pattern (high IRC + low SF), in which the system holds activation internally without flexibly processing it into awareness.

The Ne paradigm represents a potential neurophysiological correlate of the processes underlying REL — capturing the speed of internal defensive mobilization following self-relevant threat, which may function as an antecedent to behavioral externalization. The Ne does not directly measure externalization timing (REL's definitional domain) but rather the rapidity of threat detection that precedes externalization. Whether Ne-based measures predict behavioral REL measures (reassurance-seeking latency, message-checking frequency) remains an empirical question requiring convergent validation.

7.5 Proposed Experimental Paradigms

- **Delayed communication tasks**: emotionally meaningful but ambiguous communication followed by delayed response
- **Attachment ambiguity conditions**: unresolved relational uncertainty without clarification
- **Incomplete feedback paradigms**: ambiguous evaluative signals without closure

7.6 Potential Measures

- Time to reassurance-seeking
- Message-checking frequency
- Compulsive communication attempts
- Emotional escalation timing

Physiological measures (HRV, cortisol reactivity, Ne amplitude) represent potential correlates or antecedents of REL rather than direct operationalizations. REL is defined as behavioral externalization latency — the interval before external regulatory behavior initiates. Physiological activation may predict or accompany REL but is not equivalent to it.

7.7 Distinguishing REL From Suppression

Long REL alone does not indicate high IRC. REL must be interpreted alongside SF measures and suppression-control indicators. Long REL + low SF = RIR (suppression), not integration.

7.8 Temperament-Sensitive REL

REL may be partially influenced by baseline nervous system sensitivity. Short REL does not necessarily indicate weakness or pathology. It may emerge from interaction between biologically heightened sensitivity, unresolved ERD, and learned externalization patterns.

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8. Developmental Model

8.1 Probabilistic Gene–Environment Interaction

Regulation organization emerges through dynamic interaction between: - Genetic predisposition and temperament - Nervous system sensitivity and reward responsiveness - Mirroring quality across significant relationships - Co-regulation experiences - Individual-specific environmental experiences (peers, romantic partners, occupational contexts) - Later corrective relational experiences

The framework explicitly rejects deterministic developmental interpretation.

8.2 Behavioral Genetic Evidence

Extended twin family research (Back et al., 2026) demonstrates for narcissism-related traits specifically: - Genetics and individual-specific environmental factors each explain substantial variance (~50% each) - Shared familial environment contributes negligibly - Parent–child similarity in narcissism appears genetically mediated rather than environmentally transmitted - Assortative mating exists (similar narcissism levels in partners)

The framework draws on this evidence as contextually relevant rather than foundational: these findings apply to narcissism as a personality trait, not to regulation architecture directly. The framework proposes that genetic factors may create probabilistic predispositions toward externalized regulation (e.g., heightened reward sensitivity, attachment-system reactivity), while individual-specific experiences shape how these develop into regulation architectures. The degree to which IRC, SF, and ERD themselves show similar heritability patterns remains unknown and requires dedicated behavioral genetic investigation.

8.3 Differential Encoding

Individuals may encode identical relational events differently due to temperamental differences. Two siblings in the same environment may develop different regulation structures — consistent with the negligible shared environment finding.

8.4 Narcissism as Trait vs Regulation Architecture

The framework distinguishes: - **Narcissism as personality trait**: grandiosity, entitlement, status-seeking — substantially heritable - **Narcissistic regulation architecture**: externalized identity stabilization through mirroring and control — a regulation strategy developing through multiple pathways

The framework does not claim to explain narcissism as a trait. It models regulation dynamics that may accompany narcissistic functioning.

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9. Core Regulatory Model

The following is a minimal conceptual architecture — a simplified structural model identifying the primary variables the framework considers most relevant. It is not exhaustive of all factors influencing regulation (e.g., temperament, physiological state, reward sensitivity).

Regulatory Response Function

R = f(IRC, SF, EV, REL, S)

where: - IRC = Internal Regulation Capacity - SF = Structural Flexibility - EV = Dominant externalization vector - REL = Regulation Externalization Latency - S = Situational activation context (tension subclass and intensity)

Predicted Outcomes

Condition	Predicted pattern
Low IRC + low SF + short REL	Compulsive externalization (CED region)
High IRC + high SF + short REL	May reflect adaptive engagement if non-compulsive (AEE region)
High IRC + low SF + long REL	Rigid internal regulation (RIR region)
High IRC + high SF + long REL	Integrated internal regulation (IIR region)
Low IRC + high EV dependency	Chronic vector-specific ERD

Structural Constraints

1. SF is constrained by IRC, but not reducible to it
2. REL reflects interaction between IRC, SF, and S — not a fixed trait
3. Vectors are context-sensitive and may shift with tension subclass
4. Architecture-level patterns change slower than state-level responses

Falsifiability

The model is falsified if: - IRC and SF prove empirically indistinguishable - REL shows no independent predictive value beyond IRC and SF - Vector distinctions produce no differential behavioral predictions - Proposed structural levels cannot be empirically separated

This is a conceptual architecture, not a mathematical model. Quantitative formalization requires empirical grounding that does not yet exist.

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10. Testable Hypotheses

H1 — Primary Hypothesis

Individuals with lower IRC will demonstrate shorter REL under unresolved relational ambiguity, independent of attachment anxiety, distress tolerance, emotional suppression, and differentiation of self.

H2 — SF vs Suppression

Higher SF will correlate with emotional flexibility and reality contact rather than emotional suppression or reduced emotional intensity.

H3 — Vector-Specific Externalization

Individuals with comparable overall ERD but different dominant vector orientations will exhibit distinct behavioral responses under different activation contexts: - Validation vectors → stronger response to social evaluation ambiguity - Dominance vectors → stronger response to control threat - Shame-defense vectors → stronger response to criticism exposure

H4 — IRC/SF Separability

IRC and SF will show partial but not complete correlation, demonstrating that holding capacity and processing flexibility are related but distinguishable constructs.

H5 — RIR Detection

High IRC + low SF (RIR region) will be distinguishable from high IRC + high SF (IIR region) through suppression-control measures and behavioral flexibility under attachment activation.

H6 — Developmental Interaction

Regulation organization will reflect interaction between genetic predisposition and individual-specific environmental experiences, consistent with behavioral genetic evidence suggesting substantial nonshared environmental contribution to personality-related traits.

H7 — Dynamic Movement

IRC and ERD are predicted to fluctuate dynamically depending on stress load, attachment activation, and nervous system state. Even individuals with high baseline IRC may temporarily shift toward ERD under sufficient destabilization.

Falsifiability Requirement

The framework treats all hypotheses as provisional and empirically contingent. Potential falsifying outcomes include findings that IRC does not correlate with uncertainty tolerance, REL shows no meaningful relationship to regulation organization, or vector distinctions produce no differential predictions.

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11. Proposed Measurement Directions

These are presented as exploratory starting points rather than validated instruments. Construct validation must precede scale development.

11.1 Measurement Domains

Domain	Focus	Possible approach
IRC	Internal coherence under tension	Self-report + behavioral paradigm
ERD	Reliance on external stabilization	Self-report + ecological momentary assessment
SF (tension processing)	Ability to transform activation	Behavioral latency tasks
SF (contradiction holding)	Tolerance of ambivalence	Forced-choice paradigms
SF (reality contact)	Accuracy of self/other perception	Evaluative feedback paradigms
SF (regulatory flexibility)	Ability to shift strategies	Multi-context assessment
Suppression-control	Defensive inhibition (control variable)	Self-report

11.2 Example Items (Exploratory)

IRC: - “I can tolerate uncertainty in relationships without immediately seeking reassurance.” - “Emotional tension does not automatically make me lose my sense of self.”

ERD: - “I feel emotionally unstable when communication becomes uncertain.” - “My emotional state changes rapidly depending on how others respond to me.”

SF: - “I can sit with emotional discomfort without needing immediate resolution.” - “I can express disagreement without fearing complete relational loss.”

Suppression-control: - “I stay emotionally stable by shutting down what I feel.” - “My stability depends on remaining emotionally controlled.”

11.3 Behavioral and Physiological Extensions

Self-report alone is insufficient. Future operationalization should include REL paradigms, physiological measures (HRV, cortisol), and ecological momentary assessment.

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12. Predictions

12.1 Uncertainty Tolerance

Higher IRC will correlate with longer tolerance of unresolved uncertainty without requiring immediate external stabilization.

12.2 Relationship Stability

Relationships involving higher IRC + SF may produce lower initial intensity but greater long-term coherence.

12.3 Limerence and Idealization

Unresolved internal fragmentation may increase susceptibility to limerence and idealization — potentially interpretable as high ERD through idealization vectors.

12.4 Suppression vs Integration

Emotional suppression (RIR) and integrated regulation (IIR) will produce measurably different outcomes despite similar external appearance.

12.5 Therapeutic Change

Successful therapy may involve gradual increase in IRC and SF, measurable through longer REL, reduced compulsive externalization, and improved SF component scores.

12.6 Gene–Environment Interaction

The combination of genetically based disposition toward externalized regulation and repeated individual-specific experiences may be particularly strong drivers of regulation organization trajectories.

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13. Limits of the Model

13.1 Preliminary Status

The framework is conceptual rather than empirically established. Constructs have not been psychometrically validated. All claims remain hypothetical.

13.2 Overlap With Existing Theories

Substantial overlap exists with attachment theory, affect regulation, self psychology, and differentiation of self. The framework must demonstrate additional predictive value beyond re-labeling.

13.3 IRC/SF Separability

Whether IRC and SF are empirically distinguishable remains the framework's most important unresolved theoretical question.

13.4 Empirical Separability of Levels

The four structural levels (state, strategy, architecture, capacity) require longitudinal validation.

13.5 Vector Taxonomy

The three canonical vectors may appear ad hoc without empirical grounding. Their selection requires justification beyond clinical face validity.

13.6 Cultural Limitations

Whether internalized regulation provides adaptive advantage across contexts remains context-dependent. High ERD may be adaptive in collectivistic cultures or high-coordination environments.

13.7 Measurement Challenges

Self-report bias, defensive self-presentation, and situational variability present substantial methodological difficulties.

13.8 Risk of Typological Interpretation

Despite dimensional framing, the IRC × SF space and derived terms (RIR, IIR, CED, AEE) may be interpreted as fixed categories. These are heuristic regions of a continuous landscape, not personality types.

13.9 Scope

The framework attempts broad explanatory coverage. Many human experiences involve factors insufficiently captured by regulation-based models alone.

13.10 Primary Limitation

The model currently possesses greater conceptual coherence than empirical validation. Bridging this gap — particularly through REL measurement — represents the framework's central future challenge.

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14. Future Research

14.1 REL Validation

Development of behavioral paradigms measuring REL under controlled conditions. This is the highest priority.

14.2 IRC/SF Separability

Factor-analytic investigation of whether IRC and SF represent distinguishable constructs.

14.3 Vector-Specific Paradigms

Experimental designs activating different tension subclasses to test whether vectors produce differential behavioral responses.

14.4 Longitudinal Research

Investigation of stability and change in IRC, SF, and ERD across development and therapeutic intervention.

14.5 Physiological Correlates

Heart rate variability, cortisol response, autonomic recovery patterns under attachment ambiguity.

14.6 Cross-Cultural Validation

Investigation of how IRC/ERD dynamics manifest across different cultural contexts.

14.7 Gene–Environment Interaction

Combined GWAS and LEWAS approaches investigating how genetic predisposition interacts with individual-specific experiences.

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15. Terminology Note

For academic communication, the framework uses: IRC, ERD, SF, REL, EV, RIR, IIR, CED, AEE.

For popular communication, the mnemonic labels CENTER (≈ IRC) and ORBIT (≈ ERD) may be used. These are simplified labels for accessibility, not precise equivalents.

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