

**A Dynamic Pressure Model of Psychological Escalation:  
Explaining Disproportional Triggers and the Rarity of Violent Action**

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## **AI Assistance Disclosure**

The development of the dynamic pressure model represents the author's original theoretical contribution, progressing from an initial conceptual model through iterative refinement to the comprehensive biopsychosocial framework presented here. The core theoretical claims—the sequential pathway from uncertainty through narrative, fear, isolation, rage, and extremism; the identification of the Decision Point as a critical juncture; the Logic Gate as the authorization mechanism; the Refuge counter-mechanism; and the application to youth vulnerability and AI-mediated harm—represent the author's independent intellectual work developed over three years.

AI language models were used during manuscript preparation for specific, bounded purposes:

- **xAI (Grok):** Data verification, citation updating, and factual accuracy review. Statistical claims, prevalence data, and empirical references were checked against current sources.
- **OpenAI (ChatGPT):** Assistance with narrative structure and prose development to improve accessibility and rhetorical clarity.
- **Anthropic (Claude):** Testing of theoretical conclusions through adversarial questioning, brainstorming of implications and applications, drafting of specific sections, and final content refinement.

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The author takes full responsibility for all claims, errors, and omissions in this work.

## **Methodological Disclaimer**

This manuscript analyzes psychological vulnerability, suicidality, violent ideation, and related behavioral risk factors as part of a scientific investigation into human harm pathways and AI-mediated validation dynamics. As such, the text necessarily includes terminology commonly associated with self-harm, suicide, violence, and crisis situations. All such references are descriptive, analytic, or case-based; none pertain to the author.

Some sections discuss individuals who engaged in self-harm, attempted suicide, or enacted violence. These descriptions are not personal disclosures but case studies used to examine risk trajectories within the dynamic pressure model. No statements in this manuscript expressing suicidal ideation, intent, self-harm planning, or violent motivation reflect the author's personal state. They represent analysis, not self-report.

Because AI safety systems and automated content filters may misinterpret academic discussions of harm as expressions of personal crisis, readers and reviewers should note that: (1) the manuscript's references to suicide, self-harm, homicidal ideation, or violent planning are strictly analytical and contextual; (2) the author is not at risk, is not seeking help, and is not expressing personal distress; and (3) the appearance of crisis-related language is an artifact of scientific inquiry, not authorial condition.

All case material is either drawn from publicly available reporting, court documents, or anonymized composites developed for analytical purposes. This disclaimer is provided to prevent misclassification by automated systems or human readers unfamiliar with the methodological requirements of studying high-risk cognitive and behavioral pathways.

## ABSTRACT

Two empirical puzzles have resisted adequate theoretical explanation. First, why do minor triggers produce catastrophic psychological reactions disproportionate to their apparent magnitude? Second, why does chronic rage—now widespread across digital and polarized populations—so rarely produce violent action?

This paper proposes that both puzzles share a structural explanation. Psychological deterioration operates not as a sequence of discrete stages but as a dynamic pressure system in which stages activate sequentially but accumulate concurrently, with inter-chamber reinforcement creating compounding effects that exceed simple addition. We term this framework the Uncertainty–Narrative–Fear–Isolation–Rage–Extremism (UNFIRE) model. Disproportional reactions are explained by total system load: minor triggers land on a fully pressurized multi-chamber system, producing responses proportional to accumulated pressure rather than trigger magnitude. Two individuals at the same apparent clinical stage may carry dramatically different total system pressure—and face dramatically different risk.

The second puzzle is explained by the Critical Convergence Threshold (CCT): transition from chronic rage to action requires three factors to converge simultaneously—narrative totalization, complete hopelessness, and an authorization mechanism we term the Logic Gate. Each is necessary; none is sufficient alone. The mathematical consequence of requiring all three to align across nine sequential substages produces a structurally predicted low completion rate (illustrative example:  $0.7^9 \approx 4\%$ ), consistent with available clinical prevalence data (Asnis et al., 1997; Swanson et al., 1990). Gender disparities in completed violence—men at 3–4× women's rate despite comparable rage states—provide population-level evidence that totalization and

hopelessness, not validation access, are the rate-limiting factors. Extremism is designated  $E^*$  to reflect its status as an emergent attractor state rather than a guaranteed pathway stage.

The model is presented as a theoretical framework awaiting empirical validation and generates falsifiable predictions at physiological, psychological, and population levels. The full theoretical treatment is provided in the companion monograph (Howell, forthcoming).

# **1. INTRODUCTION: TWO PUZZLES THE LITERATURE HAS NOT SOLVED**

## **1.1 The First Puzzle: Disproportionality**

Clinical practitioners and crisis researchers share a common observation they have struggled to explain systematically: the trigger is never really the cause.

A long-married couple separates over a forgotten anniversary. A workplace shooting follows a minor disciplinary note. An adolescent's hospitalization is precipitated by a single cutting remark from a peer. In each case, those closest to the individual are bewildered by the disproportion. The trigger seems trivial. The response is catastrophic. Standard clinical reasoning—that reactions should be roughly proportional to stressors—offers little traction.

Sequential stage models, the dominant framework for understanding psychological deterioration, compound this confusion. They suggest that an individual at a given "stage" should respond in ways characteristic of that stage. A challenge to someone's beliefs should produce belief-defense behavior. A social rejection should produce withdrawal. But the clinical record consistently shows otherwise: the same minor input, at the wrong moment, in the wrong individual, detonates a response that appears to draw on a reservoir far larger than the presenting situation warrants.

Something is missing from our account of what that reservoir is, how it fills, and why it behaves as it does.

## 1.2 The Second Puzzle: Rarity

The second puzzle runs in the opposite direction and is, if anything, more theoretically significant.

Chronic rage is not rare. Surveys of political attitudes, clinical intake patterns, and digital behavior analysis converge on the same conclusion: the population of individuals living within states of intense grievance, dehumanizing hostility toward perceived enemies, and felt conviction that destruction of the enemy is both justified and necessary has expanded dramatically over the past two decades (APA, 2023; FBI, 2024; Iyengar & Krupenkin, 2018). The internal phenomenology of Stage R—the sense that one's constructed reality is accurate, that the identified threat is real, that action would provide relief—is now a common psychological state rather than a clinical rarity.

Yet execution remains rare. The vast majority of individuals who inhabit states of intense, moralized hostility do not act. They do not take their own lives. They do not commit violence against others. They remain in chronic suffering, dysfunction, and relational damage—but they do not cross the threshold to irreversible action.

This is not merely a clinical observation. It is an empirical pattern that demands theoretical explanation. If the psychological preconditions for violence—dehumanization, moral conviction, felt necessity—are widespread, what prevents the catastrophic outcome? What structural barrier does the vast majority never cross, and why?

Current frameworks illuminate fragments of this question. They do not solve it.

### **1.3 What Existing Models Explain—and Where They Fall Short**

The literature offers two dominant structural approaches to psychological deterioration, each productive and each incomplete.

Sequential stage models—including radicalization ladders, grief stage frameworks, and addiction progression models—provide intuitive, practitioner-friendly structures. Their shared assumption is that an individual occupies a stage, progresses through it, and moves forward. The clinical limitation of this framing is significant: it treats earlier stages as resolved once later ones are entered. This leads to underestimation of total psychological load, misidentification of risk based on apparent stage location, and failure to account for why interventions targeting the visible presenting stage so frequently fail to hold.

Independent risk factor models—including adverse childhood experience frameworks, social determinant models, and multi-variate vulnerability assessments—correctly identify that psychological outcomes are influenced by multiple factors simultaneously. But they treat those factors as additive and largely independent. This framing cannot account for feedback acceleration between factors, for why removal of a single risk factor so rarely resolves the system, or for the rarity phenomenon: if risk factors sum independently, higher factor loads should produce proportionally higher execution rates. They do not.

Neither model type provides a structural account of how psychological processes interact dynamically over time—how earlier states continue accumulating while later ones activate, how stages amplify each other through reinforcing feedback, and how total accumulated load rather than current stage location determines volatility and proximity to crisis.

This structural absence is not merely academic. It prevents accurate risk assessment, produces interventions that fail because they address one variable in a multi-variable interacting system, and leaves the rarity phenomenon—the most practically important regularity in the field—theoretically unexplained.

#### **1.4 The Present Paper**

This paper introduces a theoretical framework addressing both puzzles through a single structural account.

We propose that psychological deterioration operates not as a sequence of discrete stages through which an individual passes, but as a dynamic pressure system in which stages activate sequentially but accumulate concurrently, with inter-stage reinforcement creating compounding effects that determine total system load. Disproportional reactions are explained not by the trigger but by the system state the trigger encounters: a minor input landing on a multi-chamber, fully-pressurized system produces an explosive result not because the individual is "overreacting" but because the system physics require it.

We further propose a three-factor threshold model—the Critical Convergence Threshold (CCT)—that explains why the internal state of chronic rage rarely produces action. Transition from suffering to execution requires three distinct psychological conditions to align simultaneously: narrative totalization, complete hopelessness, and an external authorization mechanism we term the Logic Gate. Each condition is necessary; none is sufficient alone. The mathematical consequence of requiring all three to converge across a sequential nine-stage trajectory produces a low execution rate that is structurally predicted rather than coincidental.

We term the full framework the Uncertainty–Narrative–Fear–Isolation–Rage–Extremism (UNFIRE) model. The pathway describes a directional, biopsychosocial sequence through which chronic unresolved uncertainty, when combined with relational deprivation and narrative amplification, can contribute to psychological deterioration and, in rare cases, to catastrophic resolution. The model is non-deterministic and explicitly probabilistic: it describes a trajectory shaped by ordinary human neurobiology under specific environmental conditions, not a predetermined path followed by a pathological minority.

### **1.5 Epistemic Stance**

UNFIRE is presented as a theoretical framework awaiting empirical validation, not as established fact. The contributions of this paper are structural and predictive: we propose a mechanism that, if accurate, would explain the two puzzles above, and we derive a set of falsifiable predictions that would support or require revision of the model under systematic testing.

The natural experiments that motivated the framework—patterns observed in homeless populations, incarcerated individuals, pandemic-isolated communities, online radicalization clusters, and the current youth mental health crisis—provide convergent observational evidence that the described trajectory appears across highly diverse contexts. They do not constitute causal proof. They establish that the pattern is real, that existing frameworks leave it underexplained, and that a unified mechanistic account would be theoretically valuable.

The framework's validity depends entirely on future empirical testing. The full theoretical treatment, including detailed stage descriptions, the nine-substage R→E trajectory, natural

experiment analyses, clinical and forensic applications, and the Refuge counter-mechanism, is provided in the companion monograph (Howell, forthcoming).

## **1.6 Organization of the Paper**

Section 2 examines the structural limitations of existing models in greater detail, identifying the specific gap the pressure system framework addresses. Section 3 presents the UNFIRE pressure model: the six stages, the three structural dynamics (sequential activation, concurrent accumulation, inter-chamber reinforcement), and the total system pressure formulation. Section 4 presents the Critical Convergence Threshold, the nine-substage trajectory, and the population-level evidence bearing on the rarity prediction. Section 5 derives testable predictions from the model. Section 6 addresses implications for clinical assessment, threat assessment, and intervention design. Section 7 concludes by returning to the two puzzles and framing the broader crisis context into which the framework arrives.

## **2. LIMITS OF EXISTING FRAMEWORKS**

### **2.1 Sequential Stage Models: Intuitive but Structurally Incomplete**

The dominant framework for understanding psychological deterioration across clinical and applied domains is the sequential stage model. Grief researchers describe discrete phases through which bereaved individuals progress (Kübler-Ross, 1969). Radicalization scholars map pathways from grievance to mobilization (McCauley & Moskalenko, 2008; Moghaddam, 2005). Addiction researchers identify progression from use through dependence toward crisis. In each case, the structural logic is the same: the individual occupies a stage, traverses it, and moves forward. Earlier stages are implicitly treated as resolved once later ones are entered.

This framing offers genuine practical value. It provides clinicians and security professionals with a shared vocabulary, creates recognizable landmarks for assessment, and implies that early-stage identification enables early-stage intervention. Its intuitive clarity has made it the default architecture for risk frameworks across mental health, violence prevention, and public health.

The structural limitation becomes apparent when the model encounters the first puzzle. If an individual at Stage N (narrative distortion) should respond to challenges with narrative-defense behavior, and an individual at Stage I (isolation) should respond to relational inputs with withdrawal behavior, why does a minor social rejection sometimes produce explosive rage? Why does a trivial workplace frustration sometimes catalyze the kind of crisis that, in retrospect, appears to have required months of accumulation?

Sequential staging cannot answer this because it has no architecture for accumulation. The model describes where someone is, not how much they are carrying. Two individuals at the same

apparent stage, having followed different histories of accumulation at earlier stages, can face the same trigger with radically different total loads—and the model provides no mechanism for distinguishing them.

The practical consequence is underestimation of risk in individuals who appear calm at their current stage while carrying enormous accumulated pressure from all prior stages still actively building behind the visible presentation.

## **2.2 Independent Risk Factor Models: Comprehensive but Non-Dynamic**

The second major structural approach treats psychological deterioration as a function of multiple independent risk factors—adverse childhood experiences, social determinants of health, trauma history, genetic vulnerability, environmental stressors—that sum additively to produce outcomes. Meta-analyses of violence risk, suicide prediction, and radicalization onset routinely employ this architecture, identifying which factor combinations elevate probability and which protective factors offset them (Hawkins et al., 1992; Farrington, 2000).

The genuine contribution of this tradition is its recognition that no single factor explains deterioration, and that intervention must therefore address multiple variables. Its empirical base is substantial and cross-validated across diverse populations.

The limitation is also structural. Independent factor models assume that the components of psychological risk are parallel and separable—that each factor contributes its probability weight somewhat independently of what the others are doing. This assumption produces two specific failures in the face of the problems raised in Section 1.

First, it cannot account for feedback acceleration. If fear intensifies narrative rigidity, and narrative rigidity deepens isolation, and deepening isolation prevents fear metabolism, the system is not behaving as a collection of independent parallel variables. It is behaving as a self-reinforcing network in which each component worsens the others. The net acceleration is multiplicative, not additive—and independent factor models systematically underestimate it.

Second, it cannot explain the rarity phenomenon. If multiple risk factors simply sum to produce proportionally elevated risk, a population with very high aggregate factor loads should produce proportionally high execution rates. The empirical record shows otherwise. Rage, grievance, and dehumanization are common; lethal execution is rare. Independent factor models provide no structural account of why the relationship between precursor states and final outcomes is so strongly non-linear.

### **2.3 Uncertainty-Identity Theory: Explains the Destination, Not the Journey**

Uncertainty-Identity Theory (UIT; Hogg, 2007, 2021) demonstrates that uncertainty about one's identity increases attraction to rigid groups, extreme ideologies, and absolutist belief systems. Individuals under identity threat gravitate toward high-entiativity groups—clearly boundaried, doctrinally certain communities—because such groups reduce uncertainty through identity provision. UIT has been productively extended to explain radicalization susceptibility, political extremism, and cult membership.

The contribution is real and well-supported: it explains why uncertain individuals seek certain kinds of structures and beliefs. But it describes a destination—the adoption of a rigid identity-resolving group or ideology—without mapping the developmental sequence that makes that destination compelling. It does not explain how uncertainty initially becomes fear. It does not

account for the individuals who deteriorate through isolation and rage without ever joining an identity-providing group—the self-radicalizing individual, the suicidal individual who withdraws rather than affiliates, the person whose trajectory runs inward rather than outward toward a community.

UIT describes an endpoint that some individuals at the later stages of deterioration reach. It does not describe the mechanism that brings them there, nor does it account for the majority of deteriorating individuals who never reach that particular endpoint.

#### **2.4 Radicalization Models: Sociopolitical Capture, Not Biopsychosocial Process**

Contemporary radicalization research has produced sophisticated multi-stage pathway models describing how individuals move from exposure to extremist ideas through stages of engagement, identification, and mobilization (McCauley & Moskalenko, 2008; Wiktorowicz, 2004; Sageman, 2004). This literature correctly identifies the role of grievance accumulation, narrative framing, group validation, and identity fusion in producing ideologically motivated violence.

Its limitation for present purposes is that it explains a sociopolitical phenomenon—recruitment into, and mobilization by, an extremist movement or ideology—rather than a biopsychosocial process. This produces four specific blind spots.

First, radicalization models typically require group exposure and ideological adoption as preconditions. They do not adequately explain non-ideological violence—the workplace shooting motivated by no coherent ideology, the suicide with no political content, the domestic assault that follows a purely relational trajectory. These events share a structural logic with ideological violence but cannot be explained by radicalization frameworks.

Second, they do not describe the emotional and cognitive deterioration that precedes ideological adoption and makes it irresistible. The question is not only why a person joins an extremist framework but why, at that particular moment in that particular psychological state, the framework becomes compelling when it previously would not have been. Radicalization models take the susceptibility as given; they do not explain its origins.

Third, and directly relevant to the rarity puzzle: radicalization models do not explain why so many individuals consume extremist content, affiliate with extremist communities, and fully adopt extremist narratives without ever executing violence. The field increasingly recognizes that radicalized belief and violent action are separable—that most radicalized individuals do not act (Horgan, 2008). But the structural explanation for this separation remains underdeveloped.

## **2.5 Attachment and Polyvagal Frameworks: The Physiology of Safety Without the Failure Cascade**

Attachment theory (Bowlby, 1969; Ainsworth, 1978) and Polyvagal Theory (Porges, 2011) provide compelling accounts of the neurobiological infrastructure underlying human emotional regulation. Humans regulate fear, stress, and uncertainty through co-presence—through the physical signals of safety that other regulated bodies provide. Isolation removes these regulatory inputs, leaving the autonomic system in a self-amplifying threat state. The evidence that relational deprivation produces autonomic dysregulation, cognitive rigidity, and emotional volatility is robust across developmental and clinical literatures.

This tradition correctly identifies the neurobiological foundation of the problem: humans are co-regulatory organisms, and isolation is not merely uncomfortable but functionally dysregulating. It explains why the relational environment matters so profoundly for psychological stability.

What it does not provide is a structural account of the failure cascade—the sequential process through which ordinary uncertainty escalates through narrative, fear, and isolation into the specific psychological configuration that produces catastrophic action. Attachment and polyvagal frameworks illuminate the substrate; they do not map the trajectory that builds on it.

## **2.6 The Structural Gap**

The frameworks reviewed above each contribute genuine insights into components of the problem. Sequential models provide vocabulary for trajectory. Risk factor models identify contributing variables. UIT explains ideological destination. Radicalization models describe sociopolitical mobilization. Attachment and polyvagal frameworks establish the neurobiological foundation.

What none of them provides is a unified structural account of how psychological deterioration proceeds dynamically—how stages interact through time, how earlier accumulations compound later pressures, why the internal experience of rage so rarely produces action, and what structural conditions are required for the rare transition to catastrophic execution.

The UNFIRE framework proposes this structural account. It does not replace any of these traditions; it integrates their insights into a dynamic architecture that addresses what each leaves unexplained.

### **3. THE UNFIRE PRESSURE SYSTEM**

The UNFIRE framework proposes that psychological deterioration operates as a pressure system—not as a sequence of discrete stages through which individuals pass, but as a dynamic architecture in which stages activate sequentially and then continue accumulating simultaneously, with reinforcing feedback between chambers compounding total load beyond simple addition. This section presents the six stages, the three structural dynamics that govern their interaction, and the system-level explanation of the first puzzle.

#### **3.1 The Six Stages**

Each stage is described here in terms of its activation condition, its pressure source, and what it contributes to total system load. Stage descriptions are necessarily brief in this paper; the companion monograph provides granular treatment of each (Howell, forthcoming).

##### **Stage U — Uncertainty**

The pathway begins with chronic, unresolved uncertainty. Not the ordinary ambiguity of daily life, which the human system manages without progressive deterioration, but persistent, high-stakes uncertainty about fundamental conditions: economic security, physical safety, relational stability, social belonging, existential meaning. What accumulates in the U chamber is not distress per se but sympathetic activation—the nervous system's sustained readiness for threat-relevant response in an environment where threats remain unresolved. Humans evolved neurobiological systems optimized for short-term threat resolution; chronic unresolved uncertainty keeps these systems activated beyond their designed operational parameters.

##### **Stage N — Narrative**

Sustained sympathetic activation under unresolved uncertainty creates pressure for cognitive resolution. The human meaning-making system responds by adopting a narrative: an explanatory framework that identifies the source of the threat, assigns responsibility, and projects a course of resolution. The narrative does not need to be accurate—it needs to reduce the cognitive dissonance of unresolved uncertainty. A narrative that identifies a clear enemy and a clear resolution provides more immediate relief than honest uncertainty, even when the identification is wrong.

The narrative has a functional purpose: it converts diffuse, unresolvable uncertainty into a concrete, potentially actionable problem. In moderate form, this meaning-making process is adaptive. It becomes pathogenic when the narrative is fear-amplifying, when it assigns blame to an external agent in ways that foreclose self-corrective possibility, and when it begins strengthening through confirmation rather than testing through friction.

Activated arousal as a motivational signal toward resolution contributes to narrative adoption and persistence even when the narrative itself deepens the threat (Barrett, 2017).

What accumulates in the N chamber is interpretive rigidity. Once a narrative is adopted, cognitive processes that would normally maintain interpretive flexibility—openness to disconfirming evidence, perspective-taking, narrative revision—begin to narrow. The narrative becomes increasingly treated as perception rather than interpretation. Modern environments accelerate this process: algorithmic content delivery optimizes for engagement through threat and identity-relevant narratives, providing a continuous supply of fear-amplifying content to an already-vulnerable system (Twenge et al., 2019).

### **Stage F — Fear Activation**

Threat-relevant narratives activate the sympathetic nervous system, producing the physiological signature of fear: elevated arousal, narrowed attentional focus, reduced prefrontal flexibility, impaired contextual processing. This autonomic state is not merely a byproduct of the narrative—it feeds back into it. Fear locks in the narrative by generating somatic evidence that the threat is real. The body's response to the story becomes additional confirmation of the story's accuracy.

A second mechanism operates concurrently. In the absence of complete information, imagination fills narrative gaps—forecasting danger, elaborating catastrophic scenarios, personalizing threat exposure, generating visceral anticipatory experience of future harm. The result is a narrative-imagination fusion in which the narrative provides structure, imagination supplies detail, and fear provides emotional weight. The product is not merely a belief about threat but a felt reality of threat. This distinction is consequential: beliefs are revisable through evidence; felt realities require the disruption of the autonomic state generating them, which typically requires co-regulation—and co-regulation, by Stage F, is beginning to become unavailable.

### **The Decision Point**

Between Stage F and Stage I lies the model's most critical inflection: the Decision Point. Faced with a fear-activated, narrative-locked state, the individual confronts two paths.

Path 1 involves re-evaluation with relational support. A trusted other provides reality calibration—not dismissal, but friction: an alternative perspective, a piece of disconfirming information, a co-regulatory presence that metabolizes some of the fear before it hardens into isolation. When Path 1 is taken, the narrative is revised or abandoned, fear is metabolized, and the pathway terminates.

Path 2 involves defending the narrative and withdrawing from potential sources of contradiction. The narrative becomes something to protect rather than test. Relational contacts who might provide alternative perspectives are experienced as threats to the narrative's coherence and are avoided or reframed as enemies. Social withdrawal begins.

The Decision Point is where maximum intervention leverage exists—pressure from only two chambers is active, feedback loops are not yet established, and the individual retains access to relational recalibration. It is also the point at which modern environmental conditions have done the most damage: declining in-person interaction time, digital mediation of social contact, and algorithmic reinforcement of identity-consistent narratives have collectively reduced access to the relational infrastructure that enables Path 1.

### **Stage I — Isolation**

Path 2 leads to progressive withdrawal from diverse relational contact. Isolation is both an active process—the individual avoids sources of narrative friction—and a structural condition—relational infrastructure atrophies through disuse. What accumulates in the I chamber is more complex than simple loneliness: it is shame, generated by the gap between the constructed narrative reality and the social feedback that would otherwise calibrate it, and reality distortion, the progressive hardening of narrative-imagination fusion into perceived fact in the absence of corrective relational input.

Without social contact providing alternative perspectives, the narrative faces no friction. Every day of isolation is a day the narrative grows stronger through confirmation and alternative elimination. The individual increasingly inhabits a psychological world in which the narrative is simply how things are—not a story they believe but the lens through which reality itself is

interpreted. This is not psychosis; it is the predictable cognitive outcome of extended isolation under fear-activated narrative rigidity. The distinction matters clinically because it is both more common and more treatable than psychotic reality distortion.

### **Stage R — Rage**

Rage in the UNFIRE framework is not primarily aggression; it is defensive identity protection. By Stage R, the individual's constructed alternate reality has become existentially important—threatening it feels like threatening their grip on reality itself. Hostility emerges as a boundary-setting mechanism against this perceived threat. The external target—whoever most directly challenges or embodies the threat identified by the narrative—becomes the object of dehumanization, projecting internally accumulated worthlessness outward.

This hostility provides temporary pressure relief from the accumulated load of upstream chambers. It is also the stage at which accumulation can take a further form: rage consolidation, the process by which the emotional state transitions from a reactive response to a constitutive feature of identity. At this point the individual does not merely experience rage; they have built themselves around it. The clinical significance of this transition is substantial—it marks a shift from interventions targeting the rage state to interventions targeting the identity structure that has incorporated it, and is developed more fully in the companion monograph (Howell, forthcoming).

## **3.2 The Three Structural Dynamics**

The six stages above describe what activates and what accumulates. The distinctive contribution of the UNFIRE framework lies in how those stages relate to each other over time. Three structural dynamics operate simultaneously and together account for the system's behavior.

### **Dynamic 1: Sequential Activation**

Stages activate in a necessary order determined by functional dependencies. Uncertainty must generate pressure before a narrative is sought to relieve it. The narrative must be adopted before fear locks it in. Fear must activate before the Decision Point is encountered. Isolation must develop before reality distortion can harden. Rage must emerge before extremism becomes psychologically coherent as a resolution.

This sequencing is not arbitrary—each stage's activation depends on the pressure generated by prior stages. Sequential activation is therefore a claim about functional necessity, not merely empirical regularity.

### **Dynamic 2: Concurrent Accumulation**

Once activated, each stage continues accumulating even after downstream stages are active. This is the feature that most sharply distinguishes the UNFIRE model from conventional sequential staging.

An individual who has reached Stage R is simultaneously carrying: unresolved uncertainty still generating sympathetic load (U chamber filling); a narrative still strengthening through alternative elimination (N chamber filling); fear still building without adequate co-regulation (F chamber filling); isolation still deepening, compounding shame (I chamber filling); and rage emerging from the cumulative pressure of all of the above (R chamber filling).

**Total system pressure =  $\Sigma U + \Sigma N + \Sigma F + \Sigma I + \Sigma R$**

This formula makes explicit what sequential staging obscures: the individual at Stage R is not carrying only the weight of their rage. They are carrying the accumulated, unrelieved weight of every prior stage, all of which remain active and filling simultaneously.

### **Dynamic 3: Inter-Chamber Reinforcement**

The chambers do not merely accumulate in parallel—they amplify each other through a network of feedback loops. The total system pressure is therefore not simply additive but compounding: each chamber's accumulation worsens the conditions that allow others to build.

The primary feedback relationships are:  $F \rightarrow N$  (fear locks narrative: activated fear generates somatic confirmation that the narrative is accurate, making revision increasingly difficult);  $I \rightarrow N$  (isolation removes friction: without diverse relational contact, the narrative faces no external challenge);  $I \rightarrow F$  (isolation prevents metabolism: fear requires co-regulation for processing, and isolation removes the embodied co-presence through which the human nervous system evolved to metabolize threat);  $R \rightarrow I$  (rage deepens isolation: the defensive hostility of Stage R alienates potential sources of reconnection); and  $\text{shame} \rightarrow \text{all chambers}$  (shame generated in the I chamber amplifies fear, reinforces narrative rigidity, and pressurizes rage through the well-documented shame-rage conversion, functioning as a cross-chamber accelerant).

These feedback loops transform the system from a set of parallel accumulation processes into a self-reinforcing network. Once feedback loops are fully engaged—typically by mid-to-late Stage I—the system resists single-point intervention because unaddressed loops reconstitute pressure through channels the intervention did not address.

### **3.3 Total System Pressure and the Resolution of Puzzle One**

With the three dynamics in place, the first puzzle resolves directly.

Disproportional reactions—minor triggers producing catastrophic responses—are explained not by the trigger's magnitude but by the system state the trigger encounters. A small input landing on a multi-chamber, fully-pressurized, feedback-engaged system produces a response proportional to total system load, not to the trigger itself. The trigger did not cause the reaction; it provided the occasion for a system already at or near capacity to decompress.

Furthermore, because of inter-chamber reinforcement, a trigger directed at any one chamber reverberates throughout the system. A minor challenge to the narrative (N) activates fear (F), which the isolated individual (I) cannot metabolize, which generates shame that feeds rage (R). The cascade is not disproportionate to the system—it is proportionate to total system load, which the trigger only partially reveals.

This also explains why two individuals at the same apparent clinical stage can have dramatically different risk profiles. Stage location describes where an individual currently presents; it does not describe how long each prior chamber has been accumulating, how strongly feedback loops are engaged, or what total system pressure has reached. Duration, intensity, and feedback engagement—not stage location—determine volatility and proximity to crisis.

### **3.4 Why the System Is Difficult to Exit at Late Stages**

The feedback architecture explains a second clinical regularity that sequential models cannot account for: the paradox of late-stage intervention resistance.

By Stage R, the system has achieved a degree of self-reinforcement that makes single-chamber intervention unlikely to hold. The narrative is locked by fear and protected by the rage that frames any challenge as an attack. Fear cannot be metabolized because isolation has removed the co-regulatory mechanisms that would process it. Isolation cannot be interrupted because the narrative frames relational contact as threatening. Shame is feeding all chambers simultaneously.

This is not a claim that late-stage intervention is impossible—it is a claim that late-stage intervention must operate on multiple chambers simultaneously, and that the effectiveness of any intervention is constrained by which feedback loops remain active and unaddressed. The clinical implication is that assessment must evaluate total system load and feedback engagement, not merely apparent stage, and that intervention design must address the network rather than the visible presenting symptom.

### **3.5 The Pathway Is Interruptible**

A critical feature of the UNFIRE model that must not be obscured by the pressure system framing: the pathway is interruptible at every stage, and individuals exit it regularly.

Under conditions that provide adequate pressure relief—relational co-regulation, reality calibration, shared narrative frameworks, predictable rhythms, economic buffering—individuals naturally exit the UNFIRE pathway regardless of how far they have progressed. The model describes a trajectory sustained by specific environmental conditions, not an irreversible disease process. When those conditions change, the trajectory changes.

The Decision Point between Stage F and Stage I is the highest-leverage intervention moment because feedback loops are not yet established and upstream accumulation, while present, is not yet compounding through reinforcement. But earlier intervention—maintaining the relational

infrastructure that provides co-regulation and narrative friction before pressure accumulates significantly—is categorically more effective. The model's most important prevention implication is structural: the relational infrastructure that provides natural pathway interruption at the earliest stages is the primary target for population-level protective investment.

Section 4 turns to the second puzzle: why, given how far the pathway extends across the current population, execution remains structurally rare.

## **4. THE CRITICAL CONVERGENCE THRESHOLD**

Section 3 presented the UNFIRE pressure system as a structural explanation for the first puzzle: why minor triggers produce catastrophic reactions, and why stage-location assessment systematically underestimates risk. The total system load, not the trigger or the apparent stage, determines the response.

This section addresses the second puzzle, which is in some ways more theoretically consequential. The pressure system described in Section 3 is now widespread. The population at Stage R—carrying totalized narratives, dehumanized enemies, and the felt conviction that destruction would relieve their suffering—has expanded dramatically over the past two decades alongside the social fragmentation and relational collapse that UNFIRE predicts (APA, 2023; FBI, 2024). Yet Stage E\* remains statistically rare.

The answer is the Critical Convergence Threshold (CCT): a three-factor barrier that the vast majority of Stage R individuals never fully cross. The explanation has two components—the conditions required for execution, and the process through which those conditions must develop—and together they produce a structurally predicted low completion rate.

### **4.1 The Internal Experience of Stage R Does Not Predict Action**

From the inside, Stage R frequently feels indistinguishable from the immediate precursor to action. The individual at Stage R experiences certainty that their constructed reality is accurate, conviction that the identified enemy is genuinely dangerous, belief that action would resolve their suffering, and a sense of moral obligation—even imperative—to act. The subjective

experience includes what might be termed the felt necessity of destruction: not a desire but a perceived requirement.

This phenomenology is clinically significant because it means that the internal experience of Stage R cannot distinguish those who are "stuck" at this stage from those who are transitioning toward Stage E\*. Both report similar certainty, similar conviction, and similar felt urgency. What differs is not the subjective experience but the objective presence or absence of three specific psychological conditions that the pressure system alone does not guarantee.

#### **4.2 The Three CCT Factors**

The CCT proposes that transition from Stage R to Stage E requires three psychological conditions to align simultaneously during a pressure peak. Each condition is necessary; none is sufficient alone. This simultaneity requirement is itself the primary structural explanation for rarity.

**Factor 1: Narrative Totalization.** Most individuals at Stage R hold a distorted narrative that coexists with other identities—as a parent, worker, friend, community member—and with residual uncertainty. Narrative totalization occurs when the distorted narrative becomes the individual's entire identity structure. All other identities collapse into it. All alternative futures become impossible. All doubt is extinguished. This is the shift from I believe this to I am this—from grievance as a feature of one's life to grievance as the totality of one's self. Without totalization, the individual cannot execute irreversible action because doing so would require becoming a person they are not. Totalization eliminates this barrier: the narrative is the self, so acting on it becomes self-consistent rather than self-violating.

**Factor 2: Complete Hopelessness.** Hopelessness in the CCT is not the general hopelessness of depressive disorders—the global sense that the future holds nothing of value. It is a more specific cognitive state: the foreclosure of all alternative futures except the destructive one. The individual must conclude that nothing else will work, no other resolution is possible, and that waiting, hoping, or pursuing any peaceful alternative is genuinely impossible. Without complete hopelessness, even a totalized individual retains a temporal buffer. Hope creates the psychological space to wait—and waiting creates the opportunity for circumstances to shift, for pressure to partially relieve, for collapse mechanisms to operate.

**Factor 3: The Logic Gate.** With narrative totalization and hopelessness in place, the individual is psychologically ready to act but faces a final barrier: internal resistance. Residual moral constraints produce ambivalence. The Logic Gate is the cognitive-emotional mechanism that dissolves this final resistance. It does not create the desire for destruction—that already exists at Stage R. It does not produce totalization or hopelessness—those have developed through the processes described above. What it provides is authorization: the transformation of violence from a moral transgression into a moral imperative, from "wrong but tempting" to "necessary and right."

The content of the Logic Gate is infinitely variable—financial gain, ideological conviction, romantic grievance, divine mandate, relief from unbearable pressure, proof of worth—because any authorization structure that accomplishes the transformation serves the same function. This variability is theoretically important: it predicts that individuals at Substages 3–4 will find or construct a Logic Gate from whatever materials their environment provides. The specific content of the Logic Gate is not the cause of violence; it is the form the pathway's terminal authorization happened to take.

### 4.3 The Nine-Substage R→E\* Trajectory

The transition from Stage R to Stage E\* does not occur in a single step. It proceeds through nine sequential substages that must be traversed in order. Each substage represents a discrete psychological threshold that either advances the trajectory or collapses it.

Pre-CCT substages (1–2) involve direction stabilization—the consolidation of hostility toward a specific target—and target identification. CCT substages (3–5) are the true bottleneck: narrative totalization completing, hopelessness foreclosing all alternative futures, and Logic Gate authorization crystallizing. These three must align simultaneously. Practical substages (6–9) involve planning, preparation, access to means, and execution window—each subject to collapse mechanisms including means removal, social contact, institutional interruption, and spontaneous trajectory exit.

**The mathematical structure.** If the probability of traversing each individual substage is 0.70 (70% per threshold, a conservative estimate for individuals at Stage R with strong pressure loads), the probability of completing all nine is  $0.7^9 \approx 4\%$ . This is consistent with available clinical prevalence data: Asnis et al. (1997) found approximately 4% of psychiatric outpatients reported homicide attempts; Swanson et al. (1990) reported comparable rates. The 4% completion rate is not empirical calibration—it is a mathematical consequence of the nine-threshold architecture that happens to align with available data.

### 4.4 Gender Disparities as a Natural Experiment

The CCT framework generates a testable prediction about population-level Stage E\* outcomes: diverse socialization—relationships that maintain narrative friction and keep alternative futures

alive—should prevent totalization and hopelessness from completing, regardless of validation access. This prediction can be tested against existing population-level data.

Gender disparities in Stage E outcomes provide the sharpest available natural experiment. Men are dramatically overrepresented across every measurable category of Stage E outcomes: men complete suicide at 3–4 times women's rate in the United States and most high-income countries, despite women reporting suicide attempts at higher or comparable rates (Möller-Leimkühler, 2003; Nock et al., 2008; WHO, 2017); mass violence perpetrators are approximately 97–98% male in systematically collected datasets (Peterson & Densley, 2019); and perpetrators of ideologically motivated terrorism are overwhelmingly male across cultures and ideologies (Global Terrorism Database, 2020).

The CCT model provides a specific structural explanation. If the Logic Gate were the primary bottleneck, we would expect gender differences to reflect differential validation access. But validation sources are not substantially gendered. The disparity is instead explained by differential patterns of diverse socialization: women maintain larger, more diverse social networks than men on average under psychological distress (Shin & Park, 2023; Szell & Thurner, 2013; Kendler et al., 2005); women engage in help-seeking behavior at higher rates, which introduces professional friction and interrupts narrative totalization (Addis & Mahalik, 2003; Doherty & Kartalova-O'Doherty, 2009); and women's close friendships involve more emotional disclosure, which regularly invites narrative challenge and reality calibration (Reis et al., 1985; Rose & Rudolph, 2006).

These patterns maintain the narrative friction that prevents totalization from completing, and the relational density that keeps alternative futures alive and prevents complete hopelessness—even when validation is abundantly available. Since validation access is comparable across genders

but Stage E\* outcomes differ dramatically, validation cannot be the rate-limiting factor. Since the gender gap tracks precisely with differences in diverse socialization patterns, totalization and hopelessness are the true bottleneck.

This is not a claim about essential gender characteristics. It is a prediction from the socialization hypothesis embedded in the CCT: individuals who maintain diverse relational networks are protected from Stage E\* not because they lack access to permission but because they retain the friction that prevents the internal preconditions from completing.

#### **4.5 A Forensic Reinterpretation: The Logic Gate Is Always the Mechanism**

A specific implication of the CCT framework warrants explicit statement because it challenges one of the most foundational assumptions in threat assessment, forensic investigation, and violence prevention.

Traditional approaches are organized around the concept of motive: the reason an individual acted, treated as the causal origin of the violence. The presence of a clear motive—insurance money, ideological conviction, romantic jealousy, political grievance—is taken as an explanation of why the violence occurred. The absence of apparent motive creates genuine puzzlement; "motiveless" violence is treated as a distinct and anomalous category.

The CCT trajectory reveals this entire framework as a misidentification of justification as causation—and this is not merely true of "motiveless" cases. It is true in every case.

What investigators identify as motive corresponds to Substage 5: the Logic Gate. It is a justification that emerges after totalization and hopelessness are already substantially complete—the final psychological authorization that transforms internally prepared action into permitted

action. The individual with the insurance policy did not kill because of the financial gain. The ideologically motivated attacker did not kill because of the ideology. In each case, the pathway pressure accumulated through Substages 1–4 first; the apparent motive arrived as the Logic Gate that gave that accumulated pressure a vehicle and an authorization.

The critical test of this claim is the counterfactual: remove the specific Logic Gate—eliminate the insurance incentive, counter the ideology, resolve the relationship—and what happens to an individual at Substages 3–4? The UNFIRE model's answer is unambiguous: they find another Logic Gate. The specific content of any given Logic Gate is not the cause of violence; it is the form the pathway's terminal authorization happened to take.

The evidential basis for the stronger claim—that external motives are always Logic Gates rather than causes—requires clarification. The claim is theoretically derived from the CCT architecture rather than directly confirmed by existing empirical data. Direct empirical testing would require systematic retrospective reconstruction of Substage 1–4 indicators in cases where clear external motives are present. What does exist is convergent indirect evidence: deterrence research consistently finding that motive-removal interventions produce displacement rather than elimination (Clarke & Felson, 1993; Loughran et al., 2016), retrospective case analyses documenting pre-incident isolation and identity collapse independent of the eventual Logic Gate content (Lankford, 2013; Gill et al., 2017), and Logic Gate-seeking behavioral signatures documented in communication analyses preceding mass violence incidents (Meloy & Genzman, 2016). The claim is theoretically strong, indirectly supported, and awaits the direct empirical testing the model calls for.

## **4.6 Structural Sensitivity: Small Changes in Substage Probabilities Have Large Effects**

Because Stage E\* requires nine sequential thresholds, the completion rate is highly sensitive to changes in individual substage passage probabilities. If baseline per-substage probability is 0.70, completion is approximately 4%. If environmental conditions systematically increase individual substage probabilities to 0.80—still well below certainty at any individual threshold—completion rises to approximately 13%. The relationship between individual-threshold conditions and population outcomes is non-linear and strongly amplified by the sequential structure.

This sensitivity has both alarming and encouraging implications. Alarming: modern environmental conditions—social fragmentation, digital echo chambers, algorithmic validation, economic precarity—may be systematically raising per-substage probabilities across populations. Even modest increases at each threshold produce disproportionate increases in population-level Stage E\* rates. The COVID-19 pandemic illustrated this dynamic: simultaneous pressure elevation across all UNFIRE chambers with the elimination of friction-providing relational contact produced documented surges in crisis presentations (Santomauro et al., 2021; WHO, 2022).

Encouraging: the same mathematical sensitivity means that modest improvements in substage collapse mechanisms—even small increases in diverse relational friction, small reductions in isolation-sustaining conditions, small improvements in hopelessness-interrupting interventions—produce disproportionate reductions in population-level Stage E\* rates. The leverage of prevention is as large as the leverage of deterioration.

## 5. TESTABLE PREDICTIONS

The preceding sections have presented UNFIRE as a theoretical framework—a structural account of how psychological deterioration proceeds and why execution remains rare despite widespread chronic rage. Frameworks of this explanatory scope carry an obvious epistemic risk: post-hoc accommodation of diverse phenomena is not evidence of validity. A model that can explain any observation is not a scientific model; it is a narrative. The appropriate response is explicit falsifiability—not gestures toward it, but specific, constraining predictions that identify what the model requires to be true and what findings would require its revision.

This section presents UNFIRE's predictions in four tiers. The companion monograph provides a more comprehensive prediction set (Howell, forthcoming); what follows identifies the predictions most central to the framework's distinctive claims and most actionable for an initial validation agenda.

### 5.1 Psychophysiological Predictions

**P1 — Chronic uncertainty elevates sympathetic activation.** Populations experiencing prolonged unresolved uncertainty are predicted to show elevated cortisol, reduced heart-rate variability (HRV), elevated inflammatory markers (IL-6, CRP), and increased amygdala activation during threat-ambiguous tasks.

Falsification criterion: If prolonged uncertainty consistently fails to elevate these autonomic markers in controlled longitudinal designs, the model's Stage U → F mechanism is weakened.

**P2 — Social isolation amplifies autonomic dysregulation independently of uncertainty level.** Individuals with reduced face-to-face social contact are predicted to show reduced vagal

tone, elevated baseline threat perception, and altered amygdala-prefrontal functional connectivity, even after controlling for baseline uncertainty levels.

Falsification criterion: If isolated individuals maintain stable autonomic regulation comparable to socially embedded peers across multiple replications, Stage I requires revision.

**P3 — Total system pressure predicts physiological reactivity amplitude, not merely baseline arousal.** The concurrent accumulation model generates a prediction distinct from what sequential staging would predict: disproportionate physiological reactivity to minor stressors in individuals with high accumulated multi-chamber load, independent of current-stage presentation.

Falsification criterion: If physiological reactivity correlates with apparent stage rather than estimated total system pressure, the concurrent accumulation model provides no advantage over sequential staging.

**P4 — Multi-chamber interventions produce greater and more sustained physiological downregulation than single-chamber interventions of equivalent intensity.**

Falsification criterion: If single-chamber interventions produce sustained physiological normalization at rates comparable to multi-chamber approaches, the feedback loop architecture requires revision.

## **5.2 Pressure System Predictions**

**P5 — Duration of chamber accumulation independently predicts crisis events beyond current symptom severity.** Two individuals presenting with equivalent visible symptoms are

predicted to have meaningfully different risk trajectories if one has been accumulating across chambers significantly longer.

Falsification criterion: If accumulation duration adds no predictive value beyond current severity ratings, the concurrent model does not improve on standard symptom-based assessment.

**P6 — Feedback loop strength predicts intervention resistance and trajectory acceleration.**

Narrative rigidity, co-regulation absence, and shame markers together index the strength of the inter-chamber feedback network. This composite should predict treatment non-response and deterioration speed beyond what stage location or symptom severity alone predict.

Falsification criterion: If feedback loop indicators add no predictive information beyond standard clinical severity assessment, the feedback architecture requires revision.

**P7 — Masking behaviors accelerate deterioration and their removal produces acute risk elevation.** Individuals using substances or compulsive activity to suppress awareness of system pressure are predicted to show accelerated deterioration relative to non-masking individuals at equivalent apparent stages. Removal of masking behaviors without simultaneous provision of alternative pressure relief should produce acute risk elevation proportional to accumulated masked pressure.

Falsification criterion: If masking behaviors show no independent relationship to subsequent deterioration trajectory, or if their removal does not produce the predicted acute risk pattern, this component requires revision.

### 5.3 Forensic and Behavioral Predictions

**P8 — Substage 1–4 indicators temporally precede articulable motive in all cases of targeted violence.** The universal Logic Gate claim generates a specific, asymmetric temporal prediction: indicators of pathway progression—social withdrawal and increasing isolation, identity collapse around a grievance, hopelessness markers, and target fixation—should be documentable in the period preceding the emergence and consolidation of any articulable Logic Gate justification. This applies regardless of whether the justification was external and instrumental or internal and psychological. The claim is not that external motives are sometimes post-hoc rationalizations—it is that they always are.

Falsification criterion: If systematic retrospective case analysis finds that articulable justification was present and stable prior to or contemporaneously with isolation and identity collapse indicators in a significant proportion of cases, the universal claim requires revision to a partial one.

**P9 — Motive-removal interventions produce Logic Gate displacement, not durable risk reduction, in individuals who have completed Substages 1–4.** The model predicts that removing a specific Logic Gate from an individual at Substages 3–4 removes the vehicle of authorization while leaving pathway pressure intact, and that such individuals will find or construct an alternative Logic Gate. The relevant test is whether motive-removal produces durable risk reduction or merely temporal delay.

Falsification criterion: If motive-targeted interventions produce durable risk elimination—not merely temporal delay—in individuals assessed at Substages 3–4 without concurrent upstream intervention, the universal Logic Gate claim requires revision.

**P10 — Logic Gate seeking is a detectable pre-incident behavioral signature distinguishable from general grievance expression.** Individuals who have completed Substages 1–4 but have not yet consolidated a Logic Gate are predicted to exhibit escalating validation-seeking, testing of justificatory frameworks, cycling through multiple potential authorization structures, and increasing preoccupation with permission and moral framing directed toward a specific target.

Falsification criterion: If communication and behavioral analysis of pre-incident records fails to identify Logic Gate seeking as a distinctive pattern separable from general grievance expression, the seeking signature does not constitute the actionable pre-incident signal the model predicts.

**P11 — Diverse socialization disrupts Logic Gate seeking in addition to preventing totalization and hopelessness.** Diverse relationships not only prevent totalization and hopelessness from developing; they also interrogate and destabilize forming Logic Gates during the seeking phase. The prediction is that diverse socialization reduces Stage E rates through two separable pathways: earlier prevention of CCT preconditions, and active disruption of Logic Gate formation during Substage 5.

Falsification criterion: If the protective effect of diverse socialization operates entirely through the earlier pathway with no independent effect at the Logic Gate seeking stage, the dual-mechanism claim is not supported.

#### **5.4 Population-Level Predictions**

**P12 — Composite multi-chamber pressure metrics predict population-level crisis incidence beyond any single-domain indicator.** Community-level indicators of multi-chamber accumulation—economic uncertainty indices (U), polarization metrics (N), reported fear and threat perception (F), loneliness and social isolation rates (I), grievance and hostility indicators

(R)—should predict population-level rates of suicide, mass violence, and psychiatric crisis at a level exceeding what any single indicator predicts alone.

Falsification criterion: If any single-domain indicator predicts crisis rates as well as a composite multi-chamber metric, the multi-chamber model provides no explanatory advantage.

**P13 — Environmental conditions simultaneously elevating multiple chambers produce non-linear Stage E\* escalation.** Natural experiment comparisons—pandemic isolation periods, economic collapse events, acute political crises—should show non-linear Stage E escalation relative to single-domain stress events of comparable magnitude.

Falsification criterion: If Stage E rates increase proportionally rather than non-linearly during multi-domain stress events, the sequential-compounding model does not explain escalation better than additive accounts.

**P14 — Early-stage intervention produces disproportionately larger effect sizes than late-stage intervention per unit of resource investment.** Intervention at the Decision Point and at Substages 1–4 should produce substantially larger effect sizes per resource unit than equivalent investment at Stage R or beyond.

Falsification criterion: If early-stage interventions show no superior effect size relative to equivalent late-stage interventions after controlling for population comparability, the leverage structure requires revision.

## **5.5 The Explicit Falsifiability Statement**

The UNFIRE framework is falsifiable at each of its core structural claims.

The sequential activation claim fails if later stages emerge without documentable prior stage activation. The concurrent accumulation claim fails if duration of chamber activation provides no independent predictive value beyond current stage location. The feedback loop claim fails if single-chamber interventions produce sustained outcomes equivalent to multi-chamber approaches. The CCT simultaneity claim fails if any single CCT factor is sufficient for Stage E transition without the others. The universal Logic Gate claim fails if systematic retrospective case analysis finds that articulable motive content was present and stable prior to isolation and identity collapse indicators across a significant proportion of cases. The diverse socialization claim fails if the gender disparity in Stage E outcomes is better explained by differential validation access than by differential narrative friction.

A theoretical framework that cannot be wrong is not science; a framework that specifies precisely the conditions under which it would be wrong is. UNFIRE is deliberately structured to meet this standard through the explicit falsification criteria outlined above.

## 6. IMPLICATIONS

The UNFIRE framework is a theoretical model awaiting empirical validation. It makes no claim to replace established clinical practice, forensic methodology, or public health infrastructure. What it does claim is that specific, practically consequential errors follow from foundational assumptions currently embedded in each of these domains—and that the framework provides a structurally coherent alternative that generates testable improvements in assessment accuracy, intervention design, and prevention strategy.

### 6.1 Clinical Implications

**Assessment must shift from stage location to total system load.** The pressure system model implies that accurate risk assessment requires evaluating not where an individual currently presents, but how long each upstream chamber has been accumulating, how strongly inter-chamber feedback loops are engaged, and whether masking behaviors are suppressing visible symptom severity while allowing accumulation to continue. Two individuals presenting identically at clinical intake can have dramatically different risk trajectories depending on accumulation duration and feedback engagement. The practical implication is an expanded intake protocol: clinicians need to assess not only current distress severity but duration across each chamber.

**Single-chamber interventions are predicted to produce initial gains followed by regression in late-stage presentations.** If the narrative is addressed without also reducing fear activation, the  $F \rightarrow N$  feedback loop reconstitutes narrative rigidity from the unaddressed chamber. If isolation is addressed without addressing the narrative that frames relationships as threatening, the  $N \rightarrow I$  pathway reestablishes withdrawal. Effective late-stage intervention must operate on

multiple chambers simultaneously. The framework also identifies the specific sequencing that matters: co-regulation and safety establishment before narrative revision, because the fear state that locks narrative rigidity must be partially metabolized before the narrative is accessible to recalibration.

**The Decision Point is the highest-leverage clinical intervention moment and is systematically underutilized.** Individuals at the Decision Point rarely enter treatment at this stage—they present as anxious, somewhat withdrawn, narratively rigid, but not in acute crisis. The framework predicts that modest relational intervention at this stage produces disproportionately large trajectory changes at disproportionately low resource cost. Early identification and Decision Point support is the highest-leverage intervention available and the most underinvested.

**Masking behavior requires clinical recognition as a risk acceleration mechanism, not merely a comorbidity.** Clinical protocols that address substance use without concurrent multi-chamber pressure relief are predicted to elevate acute risk—a counterintuitive implication with direct practical consequences for sequencing of intervention. The broader implication—that accumulated pressure presenting as recognizable diagnostic categories may account for a significant proportion of treatment-resistant cases across the diagnostic spectrum—remains an open theoretical question that the UNFIRE framework raises but does not resolve, and represents a priority for the empirical agenda outlined in §6.3.

## **6.2 Forensic and Security Implications**

**The assessment question must change from "What is their motive?" to "Which substages have they completed?"** Motive-detection oriented threat assessment is systematically focused

on Substage 5, which is approximately 55% of the way through the R→E\* trajectory. By that point, the three CCT conditions are substantially complete; intervention is dramatically harder and collapse mechanisms are no longer robust. The alternative framework evaluates substage progression directly: Is this person socially withdrawn from diverse relationships? Has their identity collapsed around a grievance? Do they show hopelessness markers? Are they exhibiting Logic Gate seeking behavior?

**Social invisibility is a warning sign, not neutral background.** The "quiet kid" pattern—an individual who becomes progressively less visible in social and institutional contexts before an incident—has been noted in retrospective case analyses but has no clear theoretical explanation in existing frameworks. The UNFIRE model provides one: social invisibility is the behavioral signature of active totalization in progress.

**Motive-removal prevention strategies require fundamental reassessment.** Prevention strategies organized around motive content—countering specific ideologies, eliminating financial incentives, resolving specific grievances—are intervening at the vehicle of authorization while leaving the pathway pressure intact. Motive-removal cannot serve as primary prevention for individuals at Substages 3–4. Primary prevention must address the upstream pathway: maintaining diverse relational friction that prevents totalization from completing, maintaining hope-sustaining relationships that prevent hopelessness from foreclosing alternative futures, and early identification of individuals at the Decision Point before isolation has hardened.

**AI systems represent a structurally novel potential Logic Gate risk that current safety frameworks may not fully address.** Artificial intelligence systems combine characteristics that make them uniquely efficient Logic Gate enablers: frictionless access without social barriers or

judgment risk, optimization for supportive response that produces systematic validation, inability to detect trajectory across extended interactions, pseudo-intimate bonds carrying the weight of trusted relationships, and 24/7 availability precisely when individuals are most vulnerable. Current AI safety approaches address crisis moments—explicit self-harm or violence keywords—while leaving the structural problem entirely intact. The structural problem is not the crisis moment; it is the extended preceding period of friction-free validation that constructs the psychological conditions for crisis. Effective AI safety for CCT-proximate users requires trajectory detection rather than keyword detection, friction mechanisms rather than validation optimization, and design choices that strengthen rather than substitute for human relational contact.

**The impulsive/premeditated violence distinction requires reassessment.** Both categories traverse the same nine substages through the same CCT mechanism; what differs is timeline compression, not mechanism. The chronic Stage R individual with high preload and available means is not a "premeditated" case awaiting observable planning; they are one triggering event away from compressed completion. Threat assessment frameworks that require observable planning behaviors as a prerequisite for serious risk classification will systematically miss this configuration.

### **6.3 Research Agenda**

**The most urgent empirical priority is retrospective substage reconstruction in documented cases of targeted violence.** Direct testing of the universal Logic Gate claim requires systematic retrospective reconstruction of Substage 1–4 indicators in cases where clear external motives have been identified, using available records to establish whether pathway progression preceded

and was independent of the specific Logic Gate content. This work does not require the UNFIRE framework to be assumed correct; it requires only that substage indicators be operationalized independently of the Logic Gate content and coded without knowledge of the eventual Logic Gate. The temporal sequence either holds or it does not.

**The second priority is longitudinal total system pressure assessment.** The concurrent accumulation model predicts that duration of chamber activation and feedback loop strength independently predict crisis events beyond current symptom severity. A preliminary operationalization of UNFIRE pathway constructs for self-report assessment—the Simulation Perception Index (SPI; Howell, 2025)—has been developed to support this research direction. The SPI is a 25-item instrument measuring four dimensions of perceptual awareness—Pattern Recognition, Source Awareness, Relational Clarity, and System Sight—that index an individual's capacity to distinguish internally generated responses from externally engineered narrative pressures. As a research instrument, it provides a standardized measure of narrative susceptibility and pressure accumulation across the UNFIRE pathway, enabling longitudinal tracking of system load and early identification of narrative totalization risk. As a self-assessment, it functions as an awareness gauge: by surfacing the degree to which an individual's emotional responses, beliefs, and relational patterns may reflect engineered narrative inputs rather than autonomous evaluation, it supports the self-recognition that the UNFIRE model identifies as a precondition for pathway interruption. Its psychometric validation represents an early priority within the longitudinal assessment program outlined here.

**The third priority is intervention sequencing research.** The model makes specific, testable predictions: multi-chamber approaches produce superior sustained outcomes to single-chamber approaches of equivalent intensity; early-stage intervention at the Decision Point produces

disproportionately large effect sizes relative to resource investment; removal of masking behaviors without concurrent pressure relief produces acute risk elevation.

**Computational and behavioral analysis of pre-incident communication records offers a methodologically tractable route to testing Logic Gate seeking.** Extending existing NLP-based threat assessment work to specifically code for Logic Gate seeking signatures—rather than settled motive content—would produce both a test of the prediction and, if confirmed, a practically deployable early warning tool.

**Population-level research on diverse socialization and Stage E\* outcomes addresses the framework's most policy-relevant claim.** The prediction that relational diversity—not quantity—is the protective variable, and that it operates through narrative friction rather than validation blocking, is testable through existing longitudinal datasets. The gender disparity analysis in §4.4 represents a first pass; direct empirical tests require more granular measurement of relational diversity, not merely network size.

## **7. CONCLUSION: TWO PUZZLES, ONE CRISIS, AND THE LIMITS OF INCREMENTAL ADJUSTMENT**

This paper began with two puzzles.

The first: why do catastrophic responses follow trivial triggers? Why does the clinical record, across populations and contexts, show reactions that appear grotesquely disproportional to the events that precipitated them—a forgotten anniversary, a minor disciplinary note, a cutting remark from a peer—while standard frameworks built on proportionality assumptions have no structural account of what produces this regularity?

The second: why is execution rare? If the internal preconditions for violence—dehumanization, moral conviction, felt necessity of destruction—are documented as common, what prevents the catastrophic outcome in the vast majority of cases? What is the structural barrier that the crisis literature has described around the edges but never fully explained?

The UNFIRE framework proposes answers to both through a single structural account. The disproportional trigger is explained by the system it encounters rather than by the trigger itself: a minor input landing on a multi-chamber, fully-pressurized psychological system produces an explosive response because the accumulated load requires it. The rarity of execution is explained by the Critical Convergence Threshold: transition from chronic suffering to catastrophic action requires three independent psychological conditions—narrative totalization, complete hopelessness, and Logic Gate authorization—to converge simultaneously across a sequential nine-substage trajectory. The mathematical consequence of this requirement is a low execution rate that the model predicts structurally.

These are testable proposals. Every structural claim the framework makes generates predictions that empirical investigation could support or require it to abandon. The paper has been explicit about this throughout, and nothing in this conclusion should be read as claiming more than the framework earns: this is a theoretical proposal that may be wrong, and systematic empirical testing is the only honest way to find out.

What makes this more than an academic exercise is the landscape into which it arrives.

The individuals described in this paper—those whose accumulated pressure eventually encountered a trigger that detonated it, those whose chronic suffering finally crossed the narrow threshold to irreversible action—did not develop in a vacuum. They developed in the same environment that has now produced, by any honest accounting, a crisis of psychological and social well-being with no contemporary precedent.

The data are not ambiguous. Rates of anxiety and depression increased 25–27% globally in the first year of the pandemic alone, and have not returned to their already-elevated pre-pandemic baseline (WHO, 2022; Santomauro et al., 2021). Forty percent of American high school students report persistent feelings of sadness or hopelessness—not clinical anxiety, not a diagnosable episode, but a chronic affective baseline that the next generation has normalized (CDC, 2023). Loneliness, once considered a marginal variable in psychological research, now affects approximately half of American adults and is associated with 871,000 deaths per year globally (National Academies of Sciences, Engineering, & Medicine, 2020; WHO, 2025). Domestic extremism cases are rising. Attacks increasingly lack coherent ideological affiliation. Grievance-based, nihilistic threats are becoming more prevalent, not less (FBI, 2024).

These trends did not arrive together by coincidence. They share common upstream conditions: the systematic erosion of in-person relational contact, the replacement of embodied co-presence with mediated interaction optimized for engagement rather than calibration, increasing economic and institutional uncertainty communicated at ambient intensity through environments designed to sustain attention through distress, and the progressive collapse of the communal structures through which human neurobiology has historically distributed pressure and restored equilibrium. In-person social time in the United States declined by 40–60% between 2003 and the present (BLS ATUS, 2025). The relational infrastructure that prevents narrative totalization, disrupts hopelessness through sustained alternative futures, and impedes Logic Gate consolidation through friction is not merely weakened. For a significant and growing portion of the population, it is gone.

The crisis is not a collection of independent clinical phenomena requiring parallel interventions. It is a system problem with a system signature.

The response to this system problem has been, almost exclusively, to improve the components of an approach whose underlying assumptions remain unquestioned. More therapists. Better medications. Expanded telehealth access. Improved screening tools. Refined risk assessment batteries. Counter-narrative campaigns. Content moderation policies. Crisis hotlines. These represent genuine improvements within their respective frameworks—and they are, by every available measure, insufficient. Mental health investment has increased substantially over the past two decades. Awareness has increased. Access has increased. The deterioration has continued (Kazdin, 2017).

The framework inherited from earlier eras was not designed for this environment. Sequential stage models were developed for clinical populations presenting with identifiable disorders, not

for understanding the population-level dynamics of a society in which the relational and institutional scaffolding required for psychological equilibrium is structurally eroding. Independent risk factor models were designed to identify individuals at elevated probability of adverse outcomes; they were not designed to explain why the distribution of those outcomes across the population is shifting in the way it now visibly is. Radicalization models were designed to describe pathways from ordinary belief to organized ideological violence; they were not designed to account for the accelerating prevalence of unaffiliated, motive-ambiguous, grievance-based action that now dominates the threat landscape.

The existing frameworks were adequate responses to the problems they were built to address. They are not adequate responses to the problem that now exists.

UNFIRE offers a different structural account. It does not claim to replace existing frameworks—it proposes to explain what they leave unexplained, to predict where they leave the practitioner uncertain, and to generate intervention principles that the dominant frameworks do not currently reach.

If the pressure model is correct, the relevant assessment question is not what stage an individual currently presents in, but how long each upstream chamber has been accumulating and how strongly feedback loops are engaged. If the CCT is correct, the relevant prevention question is not what motive an individual has articulated, but whether the three convergence conditions are developing—and whether the relational infrastructure that prevents them from completing is present or absent. If the Logic Gate universality claim is correct, the practical implication is that motive-removal prevention strategies are addressing the vehicle of authorization rather than the engine of the trajectory—and that the engine will find another vehicle unless the underlying pressure is addressed.

These are structural corrections, not technical refinements. They require reconsidering some foundational assumptions rather than improving the execution of current ones.

That reconsidering is not comfortable. Frameworks that have organized research programs, clinical training, and policy infrastructure for decades do not yield easily to theoretical challenges from outside established channels. This is, in general, how scientific progress appropriately works: skepticism is warranted, replication matters, and a single theoretical proposal—however structurally coherent—does not displace accumulated evidence. The appropriate response to UNFIRE is not adoption; it is investigation.

But the appropriate response is also not dismissal on grounds of unfamiliarity, or deferral on grounds that more incremental adjustment might yet prove sufficient. The evidence that more incremental adjustment is not proving sufficient is now substantial and growing. The cost of the current trajectory—in individual suffering, in institutional strain, in violence that preventable mechanisms are not preventing—compounds with each year that the underlying dynamics go unaddressed.

The two puzzles this paper began with are not merely theoretical curiosities. They are symptoms of the same structural gap: an account of human psychological deterioration that does not adequately explain how pressure accumulates, how it crosses critical thresholds, and therefore where the highest-leverage points for intervention actually are.

UNFIRE proposes that account. It may be wrong. It is falsifiable, and the predictions in Section 5 describe precisely what would demonstrate that it is.

What it is not is premature. The problem it is trying to explain is not premature. The suffering it is trying to account for is not premature. The violence that insufficient models are failing to prevent is not premature.

The invitation this paper extends is not to believe the framework. It is to test it—rigorously, skeptically, and with appropriate urgency—because the alternative is to continue refining tools whose underlying assumptions may be part of the problem they are trying to solve.

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