

Cognitive Loop Pattern Detection Library

1. RUMINATION LOOP

Core Pattern: Past-focused mental replay with unresolved questioning

Key Detection Markers:

- **Primary Vocabulary:** "should have," "could have," "would have," "if only," "why did I," "why didn't I," "regret," "replaying," "going over and over"
- **Temporal Focus:** 85% past-tense verbs, minimal present/future reference
- **Question Pattern:** Multiple "why" questions about past events
- **Emotional Signature:** Regret (0.8), Guilt (0.7), Helplessness (0.6)
- **Structural Indicators:** Circular reasoning, no forward progress, same event repeated
- **Absence Markers:** No solution-seeking language, no actionable steps

Detection Thresholds:

- Minimum 3 past-focused "why" questions
- Past-tense verb density >60%
- Cosine similarity >0.75 with regret vocabulary
- Absence of forward-looking language (<10%)

Common Expressions:

- "I can't stop thinking about..."
- "I keep replaying..."
- "Why did I...?"
- "I should have..."
- "If only I had..."

2. WORRY/ANTICIPATORY ANXIETY LOOP

Core Pattern: Future-focused catastrophizing with imagined threats

Key Detection Markers:

- **Primary Vocabulary:** "what if," "might happen," "could ruin," "disaster," "nightmare," "prevent," "avoid"
- **Temporal Focus:** 70% future-oriented, conditional tense dominance
- **Question Pattern:** "What if" statements about negative outcomes
- **Emotional Signature:** Anxiety (0.8), Fear (0.7), Urgency (0.6)
- **Structural Indicators:** Chain of catastrophic possibilities, overestimation of threat
- **Absence Markers:** No probability assessment, no coping resource mention

Detection Thresholds:

- Minimum 3 "what if" statements
- Catastrophe vocabulary density >25%
- Future focus >70%
- Absence of present-moment grounding (<5%)

Common Expressions:

- "What if [worst case] happens?"
- "I'm worried that..."
- "This could ruin everything..."
- "I need to prepare for..."
- "I can't stop imagining..."

3. NEGATIVE SELF-JUDGMENT LOOP

Core Pattern: Global identity condemnation from specific behaviors

Key Detection Markers:

- **Primary Vocabulary:** "I am [negative adjective]," "always," "never," "worthless," "failure," "stupid," "broken"
- **Temporal Focus:** Present tense, permanent state declarations
- **Pattern Structure:** Specific behavior → global identity label
- **Emotional Signature:** Shame (0.9), Self-disgust (0.7), Worthlessness (0.8)

- **Structural Indicators:** Absolutist language, no behavioral specifics
- **Absence Markers:** No exception finding, no self-compassion

Detection Thresholds:

- "I am" + negative adjective pattern appears 2+ times
- Absolute language density >30%
- No behavioral specifics mentioned
- Shame vocabulary similarity >0.8

Common Expressions:

- "I'm such a failure"
 - "I always mess up"
 - "I'll never be good enough"
 - "I'm completely worthless"
 - "I'm permanently broken"
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4. COMPARISON & INFERIORITY LOOP

Core Pattern: Using others as benchmarks for self-worth

Key Detection Markers:

- **Primary Vocabulary:** "they," "their," "everyone else," "better than," "ahead of," "behind," "perfect life"
- **Social Focus:** 3:1 ratio of "they/their" to "I/my" statements
- **Pattern Structure:** Upward social comparison with inevitable unfavorable outcome
- **Emotional Signature:** Envy (0.7), Inadequacy (0.8), Resentment (0.6)
- **Structural Indicators:** Selective attention to others' successes, own shortcomings
- **Absence Markers:** No recognition of others' struggles, no unique personal strengths

Detection Thresholds:

- Social pronoun density >40%

- Comparison verbs appear 3+ times
- Zero downward comparisons
- Absence of personal strengths mentioned

Common Expressions:

- "Everyone else has..."
 - "Their life is perfect"
 - "I'm so far behind"
 - "Why can't I be like them?"
 - "They have it so easy"
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5. LONELINESS & ABANDONMENT LOOP

Core Pattern: Certainty of future emotional abandonment

Key Detection Markers:

- **Primary Vocabulary:** "alone," "lonely," "abandoned," "will leave," "always end up," "destined to," "no one"
- **Temporal Focus:** Future predictions stated as certainty
- **Pattern Structure:** Neutral signals → rejection interpretation → abandonment certainty
- **Emotional Signature:** Abandonment fear (0.9), Panic (0.6), Desperation (0.7)
- **Structural Indicators:** Hypervigilance to relationship cues, misinterpretation of neutral actions
- **Absence Markers:** No secure attachment memories, no relationship nuance

Detection Thresholds:

- Abandonment vocabulary density >30%
- Future certainty statements 2+ times
- Hypervigilance language present
- Absence of secure attachment memories

Common Expressions:

- "I'll always be alone"
 - "They're going to leave me"
 - "No one will ever love me"
 - "I always get abandoned"
 - "I'm destined to be alone"
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6. EMOTIONAL SUPPRESSION LOOP

Core Pattern: Judging natural emotions as unacceptable

Key Detection Markers:

- **Primary Vocabulary:** "shouldn't feel," "must not be," "push away," "ignore," "control," "weak," "pathetic"
- **Pattern Structure:** Primary emotion → secondary shame → suppression attempt
- **Emotional Signature:** Shame about emotions (0.8), Frustration (0.7), Emotional exhaustion (0.7)
- **Structural Indicators:** "Should" statements about feelings, control language, toxic positivity
- **Absence Markers:** No emotion acceptance, no validation of emotional experience

Detection Thresholds:

- Emotion control vocabulary >25%
- "Should not feel" pattern appears 2+ times
- Secondary emotion present
- Absence of emotion acceptance language

Common Expressions:

- "I shouldn't feel this way"
- "I need to push this feeling away"
- "It's weak to feel..."

- "I have to stay positive"
 - "I can't let myself feel..."
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7. HOPELESSNESS & FUTILITY LOOP

Core Pattern: Certainty that improvement is impossible

Key Detection Markers:

- **Primary Vocabulary:** "nothing," "never," "no point," "exhausted," "empty," "won't change," "impossible"
- **Temporal Focus:** Future appears infinite and unchanging
- **Pattern Structure:** Global negative statements across all life domains
- **Emotional Signature:** Hopelessness (0.9), Despair (0.8), Emotional exhaustion (0.8)
- **Structural Indicators:** Universal negatives, energy depletion language, solution rejection
- **Absence Markers:** No exception finding, no small hope statements

Detection Thresholds:

- Universal negative density >40%
- Future constriction language present
- Energy depletion mentioned
- Absence of exception finding

Common Expressions:

- "Nothing ever gets better"
- "There's no point in trying"
- "I'll never be happy"
- "Everything is hopeless"
- "Why bother?"