

# Cognitive Basis of Depression Pt 3: Roots of Rumination

Is depression about weak minds and chosen negativity?

Fall 2025

How can we re-understand depressive minds for self-compassion?

Ruminatory thinking and depression are indisputably linked. Let's talk about their connections and dive into the neurobiological causes of rumination... ultimately reaching the root cause of the disturbing thought habit.

## summary

This show discusses the complexities of the human mind and its neurophysiological components. Research suggests that rumination has a central cause, emphasizing the necessity of connection, safety, and meaning in our lives. This episode explores how these elements contribute to the hellish thought patterns of rumination and depression.

## takeaways

- Rumination is linked to depression onset, maintenance, and chronicity.
- Anxiety symptoms increase with rumination.
- Stressful life events are hypothesized to create rumination.
- The gap between real and ideal conditions can cause the mind to seek resolution indefinitely.
- Rumination is a thought pattern that persists even years after stressful events.
- There are several brain structures responsible for rumination.
- The neurophysiology of rumination suggests there's a central cause of the thought pattern.

## keywords

rumination, depression, anxiety, PFC, DMN, Hippocampus, Amygdala, meaning, human condition, connection, safety, mental health, ape brains, self

Last time we discussed the findings that more negative semantic (explicit, verbal) memories and the phenomenon of over general memories are correlated with cognitive depression.

*Joormann & Gotlib (2008) also found that difficulty removing negative irrelevant words from WM was highly correlated with self-reported rumination, even after controlling for level of depressive symptoms.*

*Theorists have suggested that deficits in cognitive inhibition lie at the heart of biases in memory and attention in depression and set the stage for ruminative responses to negative events and negative mood states.*

*Once negative material has become the focus of attention, depressed individuals are prone to elaborate on it and have difficulty stopping or inhibiting the processing of this material. This specific difficulty... may represent an important link between cognition and emotion dysregulation in this disorder.*

Which causes a Fuckler to ask.... Okay, maybe there are neggy nancy neural networks, memory games, interpretative biases, challenges clearing working memory of irrelevant information, and limitations to available emotional regulation strategies within the depressive experience.

But is the cause of all these experiences attributable to rumination?

Rumination, recollections we repetitively spit up and chew, verbally, attempting to make sense of them, without ever successfully digesting the material. Is it taking up cognitive resources, maintaining negative narratives, and reducing access to alternative, positive, thoughts and behaviors – overall, creating the experience of clinical depression?

We've discussed it before and we're here to talk about it again. How strong of a link IS there between depression and rumination? Which comes first? What's the neurobiological mechanism? How bout the psycho-social one? And what can we do with this info?

Returning, quickly, to our paper

## **Cognition and Depression: Current Status and Future Directions**

**Ian H. Gotlib, Jutta Joormann**

***Annu Rev Clin Psychol.* 2010**

They said (and I didn't tell you last times):

*According to Nolen-Hoeksema and her colleagues, rumination is a particularly detrimental response to negative affect that hinders recovery from negative mood and prolongs depressive episodes (Nolen-Hoeksema et al. 2008). What characterizes rumination and differentiates it from negative automatic thoughts is that it is a style of thought rather than just negative content (Nolen-Hoeksema et al. 2008).*

*Rumination is defined by the process of recurring thoughts and ideas (often described as a recycling of thoughts). In an extensive program of experimental and correlational studies, Nolen-Hoeksema and colleagues investigated rumination in depression and dysphoria and examined how this response style exacerbates sad moods and predicts future depressive episodes.*

*Self-reported levels of rumination have been found to predict higher levels of dysphoria. Moreover, studies have shown that rumination predicts higher levels of depressive symptoms and onset of major depressive episodes.*

And now, to jump into our more focused paper:

## **Rumination as a Mechanism Linking Stressful Life Events to Symptoms of Depression and Anxiety: Longitudinal Evidence in Early Adolescents and Adults**

**Louisa C. Michl, Katie A. McLaughlin, Kathrine Shepherd, Susan Nolen-Hoeksema**

***J Abnorm Psychol.* 2013**

*Rumination involves repetitive and passive focus on the causes and consequences of one's symptoms of distress without engagement in active coping or problem solving to alleviate dysphoric mood (Nolen-Hoeksema, 1991).*

*Numerous studies suggest that the tendency to ruminate is associated prospectively with increases in depressive symptoms, heightened risk for new onsets of major depression, and greater chronicity of depressive episodes. Rumination is also associated with elevated risk for anxiety symptomology.*

Meaning, rumination potentially causes, deepens, sustains, and creates recurrence of... depression. It's an important cognitive behavior.

Then they tell us in 50 different ways that rumination is associated with emotional suffering and prolonged symptoms of mental illness. Trust, the studies show it is the case.

But why?

*Control theories provide the most direct explanation for how stressful experiences might lead to rumination. Negative events can create discrepancies between goals or desired states and one's current state and lead to rumination about how to reduce such discrepancies.*

*Uncontrollable or chronic stressors may be especially likely to lead to rumination.*

(Because)

*If the discrepancy cannot be resolved, the individual may continue to ruminate about it.*

*Stress may also induce rumination by undermining self-regulation, or the capacity to engage in self-control over one's behavior. Limited regulatory abilities may impair an individual's ability to engage in problem solving or active coping and increase the likelihood of engagement in rumination.*

And this is where I want to jump over most of the paper, hit the discussion, and get to the real point. What specifically causes rumination? It's not just negative affect or life events.

Their study?

They conducted self-reporting interviews at time 0 and one year later – you'll love this – by randomly calling phone numbers around the Bay Area, pre-screening, and following up with those selected participants. The 90's were wild.

*Interviews lasted approximately 90 min. Interviewers read the instructions aloud to the respondent for each measure and recorded the responses.*

And they measured stressful life events, rumination, depression and anxiety. To which they found:

*In a longitudinal community-based sample of adults, self-reported exposure to stressful life events predicted increases in rumination 1 year later. Heightened rumination was a significant mediator of the association between self-reported stressful life events and subsequent increases in symptoms of both depression and anxiety in adults. (and) did not vary by gender in adults.*

*As predicted, self-reported stressful life events were associated with increased engagement in rumination over time.*

Secondly, stressful events are linked with increases in depression and anxiety, mediated by rumination.

These are things we expect. Now onto the findings that have deeper implications; the role of self-doubt. With a small s.

*Given the length of follow-up between our assessment of life events and rumination, the persisting elevation in rumination among those who reported greater exposure to stressful life events suggests a potentially lasting change in characteristic styles of responding to distress.*

They're saying rumination becomes the default response to stress, and it's regular usage maintains the individual's suffering. Rumination becomes a cognitive pattern – a way of thinking – that becomes mentally imprisoning.

*Why might experiences of stress increase engagement in rumination?*

*One possible explanation is that negative events increase self-focused rumination as an attempt to reduce discrepancies between goals or desired states and current states.*

*Following stressful events a variety of other cognitive mechanisms might also increase... attention to negative thoughts and feelings, heightened memory for previous negative events, negative expectations of the future, and activation of existing negative (say it with me) self-schemas.*

And with that, we return to our first episode in this series, suggesting that negative neural networks may cause the curtain-falling experience of depression, during which mentality suddenly swings in one direction, blocking out all memories and perceptions that are not contained within the same neural framework.

But... we have the added information that might clear up any remaining mysteries.

*Activation of negative schemas may be particularly likely when stressors occur in life domains considered central to one's **self-concept**.*

## Neurobiology of Rumination

And this is where I'm going to break from our paper and tell you about the research that I was doing in late September.

It suggested that rumination leads to, worsens, and maintains depression, in particular, when it cycles around.... Self-concept, self-safety, and self-worth.

Which, as usual, sounds like a throwaway line until you're in the depths of it. And suddenly realize your thoughts circle back to a negative, obsessive, scarcity-based, sense of self, even if they appear to be about external topics at first glance.

Here's why.

Rumination is an outcome of several brain structures becoming stickily activated in a vicious cycle. The research is still a little controversial, but the amygdala, hippocampus, PFC –

specifically the medial PFC and dorsal medial PFC – as well as the ole default mode network seem to be implicated across studies.

Here's how it works.

The amygdala, of course, drums up and directs attention towards negative affect after a stressful event.

The hippocampus, then, activates similar memories, causing the bad vibes to extend backwards in history, making the emotional experience more than a momentary sensation, and causing a sense of similar suffering across time.

The prefrontal cortex, meanwhile, tries to predict the future. When the current emotional state and all memories of past emotional states are shitty, so become anticipations of what's to come. This has the extra side effect of limiting resources for planning and functioning, because working memory becomes jammed up with disturbing information that can't be cleared.

While this is taking place, the medial prefrontal cortex is specifically activated by data that suggests the individual is unsafe – often socially. Because this is the self-referential part of the brain that constitutes “self-reflection” or “self-image” or “self-concept.”

If a stressful event has been socially mediated or otherwise undermines the individual's understanding of self, fear for one's safety is elicited. Which is very difficult for a brain to disengage from. Because if it doesn't feel like it can trust itself to keep itself safe, then everything is a risk. Re-activating the amygdala and any associated memories of fear or suffering.

And it “can't quit” because the dorsal-lateral prefrontal cortex, part of the cognitive control network, which should supply inhibitory control over these thoughts, isn't doing its job.

Whilst the dorsal-*medial* prefrontal cortex attempts to appraise the mind's thoughts. Sparking more negative affect, bringing up more negative memories, causing more negative self-conceptualizing, feeding back into, again, more negative emotion.

AND

All the while, the default mode network which is responsible for episodic, explicit, autobiographical memory recollection churns away whenever the mind isn't entirely focused on other tasks. It's active when the brain is resting. And remember, the DMN is believed to feature wonky connectivity in PTSD sufferers compared with non-PTSD sufferers, causing difficulty in processing and hyperactivation of unintegrated memories that need to be stitched into the larger biographical story.

#### self-Doubt and Rumination

Taken all together, these areas of the brain are concerned with self-identity and the safety or danger that can be expected as a result.

The mind becomes obsessed with trying to understand how recent stressful or emotionally negative events evidence or threaten this state of safety.

And cannot make sense of the material, because the negative neural networks that have been implicated as "relevant" continue to provide upsetting, disjointed, information - causing the aforementioned brain structures to re-activate cyclically, without a more positive or neutral interpretation becoming available, so that the fear-center of the brain can calm down and stop hyperactivating this disturbing circuit.

We can't just disconnect from our negative thoughts and replace our feelings with positive ones because the brain is assessing a survival threat within the very identity of the individual. And until new material is presented, somewhat consistently, to let the amygdala relax... to bring up different memories within the hippocampus... to permit the prefrontal cortex to return to a more balanced self-appraisal... to allow the default mode network to make autobiographical sense of the stressful events that kicked off the whole parade...

We ruminate. Endlessly.

And create our own depression.

Remember. Still, for easily comprehensible, compassion-deserving, reasons that are beyond our control.

The human condition: requiring connection, requiring a sense of safety within one's own skin, and requiring meaning made from every event due to the nature of these ape brains... is the cause of rumination, leading to long-lasting and highly recurrent depression.

Let's end on a familiar note, tying in our rejection sensitive dysphoria series from earlier this year.

### Social Rejection and Rumination

Our authors said:

*In particular, social rejection is associated with activation in brain regions involved in emotional awareness and emotion regulation that are activated during self-reflection (Johnson et al., 2006). Thus, brain regions that are sensitive to social rejection stressors are also centrally involved in the core self-reflective process that underlies rumination, suggesting a potential neurobiological mechanism linking interpersonal stressors to increased engagement in rumination.*

*It is possible that rumination represents a mechanism that explains the relationship between stress exposure and the onset of internalizing psychopathology.*

In other words, stressful events – especially those experienced from other humans – don't have to cause mental illness. But the human penchant for making external events about us; for finding negative meaning in negative happenings and blaming ourselves; for seeking signs of our own weaknesses and shortcomings so we can more safely understand our place on earth....

Often creates a negative whirlpool of mental behaviors and neurophysiological responses that sucks us under. As each of us tries to comprehend who we are and what we're worth on this wet rock, hurling through space, among all the other fleshy monkeys.

And doesn't that make you feel a little less.... Ruminatory? To realize that you're not in it alone? And suffering under the constraints of a homo sapien brain, desperately needing to know who it

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is, as a person, often to its own detriment, by default... especially if its ever had reason to wonder, negatively, in the past?

For me, it does.

I hope it's given your brain something else to chew on. And perhaps a route towards actually digesting the material that keeps coming up.

If not?

Don't worry, we're going to come back next time to talk implications of these papers. Knowing what we know, how can we help ourselves escape from or prevent cognitive depression?

A task always easier said than done... but still worth making the effort, when backed with evidential solutions instead of "look on the bright sides."

I'll talk to you then.

And until then?

You know what I'm going to say.

Take care of yourself. Hail yourself. And, as possible, stop worrying about your self's worth to navigate this ball of dust. Cheers y'all.

**Notes (fill in blank)**

Joormann & Gotlib (2008) found that difficulty removing \_\_\_\_\_ from Working Memory was highly correlated with self-reported rumination, even after controlling for level of depressive symptoms.

Once negative material has become the focus of attention, depressed individuals are prone to elaborate on it and have difficulty \_\_\_\_\_ of this material. This specific difficulty... may represent an important link between cognition and emotion dysregulation in this disorder.

Self-reported levels of rumination have been found to predict higher levels of dysphoria. Moreover, studies have shown that rumination predicts \_\_\_\_\_ and \_\_\_\_\_ of major depressive episodes.

Rumination involves \_\_\_\_\_ on the causes and consequences of one's symptoms of distress without engagement in \_\_\_\_\_ or \_\_\_\_\_ to alleviate dysphoric mood (Nolen-Hoeksema, 1991).

Numerous studies suggest that the tendency to ruminate is associated prospectively with increases in depressive symptoms, heightened risk for \_\_\_\_\_, and greater \_\_\_\_\_ of depressive episodes.

Rumination is also associated with elevated risk for \_\_\_\_\_.

Negative events can create discrepancies between \_\_\_\_\_ and one's current state and lead to rumination about how to reduce such discrepancies.

\_\_\_\_\_ stressors may be especially likely to lead to rumination.

*In a longitudinal community-based sample of adults, self-reported exposure to stressful life events predicted increases in rumination \_\_\_\_\_ later.*

*Self-reported \_\_\_\_\_ were associated with increased engagement in rumination over time.*

*Following stressful events a variety of other cognitive mechanisms might also increase... attention to negative \_\_\_\_\_, heightened memory for previous negative events, negative \_\_\_\_\_, and activation of existing negative \_\_\_\_\_-schemas.*

*Activation of \_\_\_\_\_ may be particularly likely when stressors occur in life domains considered central to one's **self-concept**.*

*Rumination is an outcome of \_\_\_\_\_ becoming stickily activated in a vicious cycle.*

*The amygdala drums up and directs attention towards \_\_\_\_\_ after a stressful event.*

*The hippocampus, then, activates \_\_\_\_\_, causing the bad vibes to extend backwards in history, making the emotional experience more than a momentary sensation, and causing a sense of similar suffering across time.*

*The prefrontal cortex, meanwhile, tries to \_\_\_\_\_. When the current emotional state and all memories of past emotional states are shitty, so become anticipations of what's to come.*

*If a stressful event has been socially mediated or otherwise \_\_\_\_\_, fear for one's safety is elicited. Which is very difficult for a brain to disengage from. Because if it doesn't feel like it can trust itself to keep itself safe, then everything is a risk.*

*Rumination doesn't end because the dorsal-lateral prefrontal cortex, part of the cognitive control network, which should supply \_\_\_\_\_ over these thoughts, isn't doing its job.*

*The default mode network which is responsible for episodic, explicit, autobiographical \_\_\_\_\_ churns away whenever the mind isn't entirely focused on other tasks.*

*Taken all together, these areas of the brain are concerned with self-identity and the safety or danger that can be expected as a result. The mind becomes obsessed with trying to understand how recent stressful or emotionally negative events evidence or \_\_\_\_\_.*

*The \_\_\_\_\_, one might say, is the cause of rumination.*

*The human condition includes: requiring \_\_\_\_\_, requiring a sense of safety within \_\_\_\_\_, and requiring \_\_\_\_\_ from every event. When we can't do these things? We ruminate.*

*Brain regions that are sensitive to \_\_\_\_\_ are also centrally involved in the core self-reflective process that underlies rumination, suggesting a potential neurobiological mechanism linking interpersonal stressors to increased engagement in rumination.*

*In other words, stressful events – especially those experienced from other humans – don't have to cause mental illness. But the human penchant for making \_\_\_\_\_ about us; for finding \_\_\_\_\_ in negative happenings and blaming ourselves; for seeking signs of \_\_\_\_\_ so we can more safely understand our place on earth.... Often creates a negative whirlpool of mental behaviors and neurophysiological responses that sucks us under.*

## Notes Key

Joormann & Gotlib (2008) found that difficulty removing \_\_\_\_\_ from Working Memory was highly correlated with self-reported rumination, even after controlling for level of depressive symptoms.

negative irrelevant words

Once negative material has become the focus of attention, depressed individuals are prone to elaborate on it and have difficulty \_\_\_\_\_ of this material. This specific difficulty... may represent an important link between cognition and emotion dysregulation in this disorder.

stopping or inhibiting the processing

Self-reported levels of rumination have been found to predict higher levels of dysphoria. Moreover, studies have shown that rumination predicts \_\_\_\_\_ and \_\_\_\_\_ of major depressive episodes.

higher levels of depressive symptoms ; onset

Rumination involves \_\_\_\_\_ on the causes and consequences of one's symptoms of distress without engagement in \_\_\_\_\_ or \_\_\_\_\_ to alleviate dysphoric mood (Nolen-Hoeksema, 1991).

repetitive and passive focus ; active coping or problem solving

Numerous studies suggest that the tendency to ruminate is associated prospectively with increases in depressive symptoms, heightened risk for \_\_\_\_\_, and greater \_\_\_\_\_ of depressive episodes.

new onsets of major depression ; chronicity

Rumination is also associated with elevated risk for \_\_\_\_\_.

anxiety symptomology

Negative events can create discrepancies between \_\_\_\_\_ and one's current state and lead to rumination about how to reduce such discrepancies.

goals or desired states

\_\_\_\_\_ stressors may be especially likely to lead to rumination.

*Uncontrollable or chronic*

*In a longitudinal community-based sample of adults, self-reported exposure to stressful life events predicted increases in rumination \_\_\_\_\_ later.*

*1 year*

*Self-reported \_\_\_\_\_ were associated with increased engagement in rumination over time.*

*stressful life events*

*Following stressful events a variety of other cognitive mechanisms might also increase... attention to negative \_\_\_\_\_, heightened memory for previous negative events, negative \_\_\_\_\_, and activation of existing negative \_\_\_\_\_-schemas.*

*thoughts and feelings ; expectations of the future ; self*

*Activation of \_\_\_\_\_ may be particularly likely when stressors occur in life domains considered central to one's self-concept.*

*negative schemas*

Rumination is an outcome of \_\_\_\_\_ becoming stickily activated in a vicious cycle.

*several brain structures*

The amygdala drums up and directs attention towards \_\_\_\_\_ after a stressful event.

*negative affect*

The hippocampus, then, activates \_\_\_\_\_, causing the bad vibes to extend backwards in history, making the emotional experience more than a momentary sensation, and causing a sense of similar suffering across time.

*similar memories*

The prefrontal cortex, meanwhile, tries to \_\_\_\_\_. When the current emotional state and all memories of past emotional states are shitty, so become anticipations of what's to come.

predict the future

If a stressful event has been socially mediated or otherwise \_\_\_\_\_, fear for one's safety is elicited. Which is very difficult for a brain to disengage from. Because if it doesn't feel like it can trust itself to keep itself safe, then everything is a risk.

undermines the individual's understanding of self

Rumination doesn't end because the dorsal-lateral prefrontal cortex, part of the cognitive control network, which should supply \_\_\_\_\_ over these thoughts, isn't doing its job.

inhibitory control

The default mode network which is responsible for episodic, explicit, autobiographical \_\_\_\_\_ churns away whenever the mind isn't entirely focused on other tasks.

memory recollection

Taken all together, these areas of the brain are concerned with self-identity and the safety or danger that can be expected as a result. The mind becomes obsessed with trying to understand how recent stressful or emotionally negative events evidence or \_\_\_\_\_.

threaten this state of safety

The \_\_\_\_\_, one might say, is the cause of rumination.

Human condition

The human condition includes: requiring \_\_\_\_\_, requiring a sense of safety within \_\_\_\_\_, and requiring \_\_\_\_\_ from every event. When we can't do these things? We ruminate.

Connection ; one's own skin ; meaning made

*Brain regions that are sensitive to \_\_\_\_\_ are also centrally involved in the core self-reflective process that underlies rumination, suggesting a potential neurobiological mechanism linking interpersonal stressors to increased engagement in rumination.*

*social rejection stressors*

In other words, stressful events – especially those experienced from other humans – don't *have* to cause mental illness. But the human penchant for making \_\_\_\_\_ about us; for finding \_\_\_\_\_ in negative happenings and blaming ourselves; for seeking signs of \_\_\_\_\_ so we can more safely understand our place on earth.... Often creates a negative whirlpool of mental behaviors and neurophysiological responses that sucks us under.

external events ; negative meaning ; our own weaknesses and shortcomings

## Multiple Choice Notes/Quiz

*Joormann & Gotlib (2008) found that difficulty removing negative irrelevant words from Working Memory was highly correlated with \_\_\_\_\_, even after controlling for level of depressive symptoms.*

*depression*

*self-reported rumination*

*anxiety*

*life dissatisfaction*

*Once negative material has become the focus of attention, depressed individuals are prone to \_\_\_\_\_ and have difficulty stopping or inhibiting the processing of this material. This specific difficulty... may represent an important link between cognition and emotion dysregulation in this disorder.*

*avoid it*

*ignore it*

*elaborate on it*

*have intrusive dreams about it*

*Self-reported levels of rumination have been found to predict higher levels of \_\_\_\_\_. Moreover, studies have shown that rumination predicts higher levels of depressive symptoms and onset of major depressive episodes.*

*Insomnia*

*Functioning*

*Relationship rehabilitation*

*Dysphoria*

*Rumination involves repetitive and passive focus on the \_\_\_\_\_ - without engagement in active coping or problem solving to alleviate dysphoric mood.*

*life history and current status of one's life*

*causes and consequences of one's symptoms of distress*

*difficulties succeeding in work and romantic relationships*

*sensory details of one's disjointed memories*

*Numerous studies suggest that the \_\_\_\_\_ is associated prospectively with increases in \_\_\_\_\_, heightened risk for \_\_\_\_\_ of major depression, and \_\_\_\_\_ of depressive episodes.*

*tendency to ruminate ; depressive symptoms ; new onsets ; greater chronicity*

*neurotic personality ; anxiety ; cognitive deficits ; longer remission*

*anxious thinking pattern ; OCD ; memory corruption ; longer duration*

*tendency to ruminate ; anxious symptoms ; self-obsession ; increased impact*

*\_\_\_\_\_ is also associated with elevated risk for anxiety symptomology.*

*Depression*

*Obsessive thinking*

*Rumination*

*Attentional disorder*

*Negative events can create discrepancies between goals or desired states and one's current state and lead to rumination about how to \_\_\_\_\_.*

*self-defend against these realizations*

*explain failure to others*

*avoid future shortcomings*

*reduce such discrepancies*

Uncontrollable or chronic stressors may be \_\_\_\_\_ rumination.

protective against

avoidance factors discouraging

especially likely to lead to

desensitizing towards patterns of

In a longitudinal community-based sample of adults, self-reported exposure to \_\_\_\_\_ predicted increases in rumination 1 year later.

environmental toxins

abusive relationships

stressful life events

new social opportunities

Self-reported stressful life events were associated with \_\_\_\_\_ over time.

greater personal growth

stronger dissociation habits

greater baseline anxiety

increased engagement in rumination

Following stressful events a variety of other cognitive mechanisms might also increase... attention to negative thoughts and feelings, heightened memory for \_\_\_\_\_, negative expectations of the future, and activation of existing \_\_\_\_\_.

antithetically positive times ; addictions

previous negative events ; negative self-schemas

similarly anxiety-provoking experiences ; self-doubts

historical events ; emotional dysregulation patterns

Activation of negative schemas may be particularly likely when stressors occur in life domains \_\_\_\_\_ to one's self-concept.

*considered central*

*unrelated*

*correlated*

*positively associated*

Rumination is an outcome of several brain structures becoming stickily activated in a \_\_\_\_\_.

clarity providing way

series of processing events

vicious cycle

tight neural network

The \_\_\_\_\_ drums up and directs attention towards negative affect after a stressful event.

Hippocampus

PFC

Amygdala

DMN

The \_\_\_\_\_, then, activates similar memories, causing the bad vibes to extend backwards in history, making the emotional experience more than a momentary sensation, and causing a sense of similar suffering across time.

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The \_\_\_\_\_, meanwhile, tries to predict the future. When the current emotional state and all memories of past emotional states are shitty, so become anticipations of what's to come.

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If a stressful event has been socially mediated or otherwise undermines the individual's understanding of self, \_\_\_\_\_ is elicited. Which is very difficult for a brain to disengage from. Because if it doesn't feel like it can trust itself to keep itself safe, then everything is a risk.

significant shame

dissociative behavior

protective vigilance

fear for one's safety

Rumination doesn't end because the dorsal-lateral \_\_\_\_\_, part of the cognitive control network, which should supply inhibitory control over these thoughts, isn't doing its job.

Amygdala

DMN

Hippocampus

PFC

The \_\_\_\_\_ which is responsible for episodic, explicit, autobiographical memory recollection churns away whenever the mind isn't entirely focused on other tasks.

DMN

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Taken all together, these areas of the brain are concerned with \_\_\_\_\_ and the safety or danger that can be expected as a result. The mind becomes obsessed with trying to understand how recent stressful or emotionally negative events evidence or threaten this state of safety.

emotional regulation

self-identity

cognitive control

financial earnings

The \_\_\_\_\_ is the cause of rumination.

PFC

Post-capitalistic world

Human condition

Depressive network

The human condition includes: requiring \_\_\_\_\_, requiring a sense of safety within one's own skin, and requiring \_\_\_\_\_ made from every event. When we can't do these things? We ruminate.

Connection ; meaning

Connection ; memories

Esteem ; emotion

Clarity ; positive outcomes

*Brain regions that are sensitive to social rejection stressors are also centrally involved in the core self-reflective process that underlies rumination, suggesting a potential neurobiological mechanism linking \_\_\_\_\_ to increased engagement in rumination.*

*environmental toxins*

*high self-esteem*

*interpersonal stressors*

*strong egoic tendencies*

In other words, the human penchant for making external events about us; for finding negative meaning in negative happenings and \_\_\_\_\_; for seeking signs of our own weaknesses and shortcomings so we can \_\_\_\_\_.... Often creates a negative whirlpool of mental behaviors and neurophysiological responses that sucks us under.

seeking rehabilitation ; rectify our mistakes

blaming ourselves ; overcome failings

projecting outward ; dissociate from pain

blaming ourselves ; understand our place on earth

**Notes/Multiple Choice with Key**

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**self-reported rumination**

anxiety

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without engagement in active coping or problem solving to alleviate dysphoric mood.

life history and current status of one's life

**causes and consequences of one's symptoms of distress**

difficulties succeeding in work and romantic relationships

sensory details of one's disjointed memories

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*correlated*

*positively associated*

Rumination is an outcome of several brain structures becoming stickily activated in a \_\_\_\_\_.

clarity providing way

series of processing events

**vicious cycle**

tight neural network

The \_\_\_\_\_ drums up and directs attention towards negative affect after a stressful event.

Hippocampus

PFC

**Amygdala**

DMN

The \_\_\_\_\_, then, activates similar memories, causing the bad vibes to extend backwards in history, making the emotional experience more than a momentary sensation, and causing a sense of similar suffering across time.

Amygdala

**Hippocampus**

PFC

DMN

The \_\_\_\_\_, meanwhile, tries to predict the future. When the current emotional state and all memories of past emotional states are shitty, so become anticipations.

Amygdala

**PFC**

Hippocampus

DMN

If a stressful event has been socially mediated or otherwise undermines the individual's understanding of self, \_\_\_\_\_ is elicited. Which is very difficult for a brain to disengage from. Because if it doesn't feel like it can trust itself to keep itself safe, then everything is a risk.

significant shame

dissociative behavior

protective vigilance

**fear for one's safety**

Rumination doesn't end because the dorsal-lateral \_\_\_\_\_, part of the cognitive control network, which should supply inhibitory control over these thoughts, isn't doing its job.

Amygdala

DMN

Hippocampus

**PFC**

The \_\_\_\_\_ which is responsible for episodic, explicit, autobiographical memory recollection churns away whenever the mind isn't entirely focused on other tasks.

**DMN**

Amygdala

PFC

Hippocampus

Taken all together, these areas of the brain are concerned with \_\_\_\_\_ and the safety or danger that can be expected. The mind becomes obsessed with trying to understand how recent stressful or emotionally negative events evidence or threaten this state of safety.

emotional regulation

### **self-identity**

cognitive control

financial earnings

The \_\_\_\_\_ is the cause of rumination.

PFC

Post-capitalistic world

### **Human condition**

Depressive network

The human condition includes: requiring \_\_\_\_\_, requiring a sense of safety within one's own skin, and requiring \_\_\_\_\_ made from every event. When we can't? We ruminate.

### **Connection ; meaning**

Connection ; memories

Esteem ; emotion

Clarity ; positive outcomes

*Brain regions that are sensitive to social rejection stressors are also centrally involved in the core self-reflective process that underlies rumination, suggesting a potential neurobiological mechanism linking \_\_\_\_\_ to increased engagement in rumination.*

*environmental toxins*

*high self-esteem*

***interpersonal stressors***

*strong egoic tendencies*

In other words, the human penchant for making external events about us; for finding negative meaning in negative happenings and \_\_\_\_\_; for seeking signs of our own weaknesses and shortcomings so we can \_\_\_\_\_.... Often creates a negative whirlpool of mental behaviors and neurophysiological responses that sucks us under.

seeking rehabilitation ; rectify our mistakes

blaming ourselves ; overcome failings

projecting outward ; dissociate from pain

**blaming ourselves ; understand our place on earth**

**Reflection Qs**

**Does rumination take place alongside your anxiety and/or depression?**

**Does it ever provide clarity or resolution?**

**Does it seem to perpetuate the disorders?**

**Can you tell which comes first? Rumination or persistent anxiety?**

**Do you think often/torturously about what you expect compared to what you experience(d)?**

**Could the gap between ideal and merely real cause your mind to seek reasons and resolutions for the discrepancy?**

**If you were happy with how things transpired, would your brain be a less convoluted place?**

**Could you explain how the difference between desires and reality leads to an overactive, repetitive, brain to an outsider?**

**After a stressful event, do you notice an uptick in rumination?**

**Does it occur immediately after the event?**

**Does it increase gradually?**

**What does this suggest about your mind's analysis of actual vs. ideal?**

**What makes the rumination stop or decrease?**

**Have you ever noticed a tight correlation between negative affect and persistent thoughts?**

**Can it be difficult to separate the two?**

**Do you intellectualize or self-explain your emotions rather than feeling them?**

**Does this grouping of looping analysis + emotion ever benefit you?**

**Have you ever experienced pure emotion without narrating it? What were the results?**

**If you observe your own rumination, do you notice aspects of emotional uprisings, memory recollections, future anticipation, event confusion, self-doubt, and incohesive autobiographical recall?**

**Which seems to come first? How do they proceed?**

**Does it feel like your mind lacks a “stop sign” when additional thinking simply isn’t going to resolve a problem or mystery?**

**Does the circuit of the amygdala (emotion), hippocampus (memory), PFC (anticipation, planning, event understanding, self-awareness), and DMN (overarching autobiography) help to explain these experiences?**

**When you ruminate is the underlying (sometimes hidden) theme your own self-worth ; actions ; confidence in yourself past, present, or future?**

**At face value what have you been ruminating about recently?**

**Would this issue be an issue if you were ruthlessly self-assured of your correct actions and worthiness?**

**Do you have a sense of fear or insecurity when your mind is very active?**

**When you lie down at night and struggle to fall asleep because your brain is too busy, is it cycling through thoughts and feelings about your actions or nonactions?**

**Do you engage in past-scorning? About what?**

**Do you engage in future-tripping? About what?**

**Would these issues be issues if you were ruthlessly self-assured of your correct actions and worthiness?**

**How does the world (and your journey on it) feel when you're not sure of your self or your actions?**

**Does it make sense that the brain would be obsessed with considering the potential threats created by fear of low self-aptitude?**

**Could you explain this to an outsider?**

**Does lack of self or self-confidence seem like it could be the foundation of rumination?**

**What might be a solution for the cognitive habit of rumination?**