Morbid Curiosity as an Adapted Motivation to Explore Ambiguous but Survival-Relevant Stimuli

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March, D. S. (in press). Morbid Curiosity as an adapted approach motivation to ambiguous but survival relevant stimuli. *Psychological Review.*

No content of this manuscript has been previously presented or disseminated in any form.

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Word count: 12,060

Abstract

Morbid curiosity, or the seemingly paradoxical drive to engage with aversive or grotesque stimuli, has long puzzled psychologists, who have traditionally framed it as either a form of sensation-seeking or a mechanism for unambiguous threat learning. The current paper proposes a novel adaptationist model positioning morbid curiosity as an evolved cognitive mechanism specifically tuned to resolve ambiguity surrounding survival-relevant stimuli. Drawing on evolutionary theory, cognitive psychology, and neurobiological evidence, I argue that morbid curiosity functions primarily as an uncertainty-reduction strategy, motivating individuals to approach ambiguous stimuli to clarify their threat or benefit. Unlike basic emotions such as fear or disgust that typically trigger immediate avoidance, morbid curiosity fosters cautious approach behaviors aimed at gathering survival-critical information. The proposed model thereby reconceptualizes morbid curiosity as an adaptive, ambiguity-oriented cognitive system, offering novel insights into broader questions about human motivation, information seeking, and adaptive cognition.

Keywords: Morbid Curiosity, Adaptationist, Motivation, Ambiguity, Threat, Survival

> *For so soon as he saw that blood, he therewith drunk down savageness; nor turned away, but fixed his eye, drinking in frenzy, unawares, and was delighted with that guilty fight, and intoxicated with the bloody pastime.* – Augustine, The Confessions (397 CE).
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> *Look at them: they're consumed with morbid fascination. They can't wait to get in here. They all want to know what happened. Was it a bar fight? What started it? And most of all, who killed the Klingon?* – Quark, Deep Space Nine (1993 CE).

Conceptualizations of disgust describe a defensive mechanism evolved to facilitate avoidance of contamination and contagion from pathogen threat (Cepon-Robins et al., 2021; Curtis et al., 2004; Kelly, 2011; Rozin et al., 2008). Disgust prompts the avoidance of stimuli associated with disease, such as spoiled food, dead animals, bodily fluids, and infectious individuals. Given this avoidance function, an interesting question arises: Why do people invest attentional and cognitive resources on exploring, whether psychologically or physically, what most find disgusting? This seemingly paradoxical drive is *morbid curiosity* (also sometimes called *morbid fascination*), a motivational state that can counteract disgust's avoidance tendencies. Early conceptualizations framed it as a blend of fear and thrill tied to sensation seeking (e.g., Zuckerman & Litle, 1986). More recent work emphasizes reward and learning, framing morbid curiosity as a threat-detection mechanism that promotes information acquisition (Oosterwijk et al., 2016; 2017; 2020; see also Scrivner, 2022).

The current work builds on these perspectives to propose an evolutionary model that situates morbid curiosity as a cognitive adaptation for ambiguity-driven (i.e., uncertainty-reducing) exploration. This framework treats morbid curiosity as an automatically activated (though not necessarily nonconscious) attentional approach state towards ambiguous, but potentially survival-relevant stimuli with the integrated goals of (1) determining the nature of the stimuli (danger, opportunity, both, or neither) and (2) gathering immediate and future survival-relevant information. This model emphasizes morbid curiosity's fitness-enhancing role as a

strategy for resolving uncertainty and improving survival-relevant decision making in complex environments. From this perspective, threat-ambiguous stimuli (i.e., objects of perception that do not immediately trigger automatic defensive responses) induce a temporary attentional approach motivation with the goal of determining whether avoidance is necessary and/or whether further approach may be beneficial. Morbid curiosity therefore functions as an adaptive system for resolving uncertainty about threat and opportunity honed in ancestral environments where information was often incomplete, delayed, or ambiguous. The current framework distinguishes morbid curiosity from general curiosity and operationalizations of morbid curiosity that focus on clearly negative or threatening content, and instead anchors it in an evolutionary rationale, linking it to approach-avoidance ambiguity and valence-independent motivation, with support derived from cognitive- and neuro-psychology. The result is a unified theoretical framework explaining why humans engage with ostensibly grotesque, potentially threatening, and aversive stimuli which speaks directly to broader questions about motivation, information seeking, and adaptive cognition.

A Curious Thing Happened on the Way to the Carcass

Attention to stimuli that modern humans deem grotesque could have been advantageous in ancestral environments by enabling survival-relevant information gather without direct exposure to danger. The origins of morbid curiosity likely trace to the ambiguity cues inherent in the environment of evolutionary adaptedness (EEA). For instance, the sight of a dead animal carcass could signal multiple, context-dependent possibilities: contamination, a food source, or a nearby predator (or combinations of these). Allocating attention to such ambiguous and possibly aversive cues could yield immediate survival benefits (i.e., edibility, disease risk) and longer-term benefits (i.e., recognizing signs of predator presence, vigilance). The cognitive basis of

morbid curiosity, then, is an increase in attention and cognition toward resolving an ambiguous approach-avoidance motivational state. Stimuli whose valence is unclear or unresolved fail to trigger immediate avoidance, allowing for a brief exploratory window during which people gather additional information. Meaning, at its core, the current conceptualization operationalizes morbid curiosity as attentional engagement with ambiguously survival-relevant stimuli, driven by cognitive conflict, uncertainty resolution/reduction, and survival-relevant information processing. When individuals encounter such cues, they face a motivational dilemma between approaching to gain more information or retreating to ensure safety. The uncertainty surrounding a stimulus (e.g., Is it dangerous? Is it informative? Is it beneficial?) triggers a motivational approach-avoid conflict, a psychological state in which approach and avoidance motivations are simultaneously activated. This "goal ambiguity" fosters exploration until the ambiguity is resolved.

If stimuli that evoke morbid curiosity exist in a state of valence uncertainty, then the typical motivational response of "approach positive, avoid negative" does not apply (Turner & Silvia, 2006). Instead, the goal becomes uncertainty reduction through exploration and information seeking (Hsee & Ruan, 2016). This departs from classical motivation theories that equate positive valence with approach and negative valence with avoidance (e.g., Hull, 1945; Lewin, 1951; see also Elliot, 2006; cf. Gable & Harmon-Jones, 2010; Niehoff & Oosterwijk, 2020; Sharot & Sunstein, 2020). Here, when faced with potentially survival-relevant but ambiguous stimuli, individuals experience a temporary state of motivational uncertainty—a "motivational limbo"—in which approach and avoidance impulses compete, prompting attentional engagement and exploratory behavior aimed at gathering additional information to resolve this uncertainty (see also, Mogg et al., 2004). As new information is acquired, one can

make a more informed decision regarding whether to approach or avoid the stimulus. Here motivation is goal-bound and valence-independent (Gable & Harmon-Jones, 2010), and thus individuals may approach ambiguously negative stimuli if those stimuli signal an opportunity to acquire survival-relevant information (Ruedisili, 2023). Consequently, morbid curiosity can be a blend of positively and negatively valenced phenomenologies, and does not require emotional neutrality. Instead, the motivational force (approach) is decoupled from the conventional positive-approach, negative-avoidance pairing. Stimuli that are ultimately categorized as negative (e.g., contaminated food, signs of a predator) may initially fail to evoke avoidance behaviors. Instead, they may engage the attention of the observer, fostering exploratory behavior and cognitive engagement. This initial attentional capture allows the individual to classify the stimulus more accurately and make better survival-related decisions.

Accordingly, morbid curiosity is a functional, adaptive process rather than a hedonic quirk or a mere blend of fear, disgust, and generic curiosity. Although mixed emotions (such as anxiety plus interest) may accompany it, the current construction is defined by its distinctive motivational function: promoting exploration and uncertainty reduction in ambiguously threatening contexts. Unlike fear or disgust, which prioritize avoidance, morbid curiosity initially drives individuals toward stimuli precisely because their threat status is uncertain. This process is iterative, with approach facilitating collection of survival-relevant data, which then inform further approach or avoidance (see Figure 1). In this sense, approach motivation remains goal-bound, not strictly tethered to valence.

Conceptual Foundations of Morbid Curiosity

Defining Morbid Curiosity

In contextualizing morbid curiosity, one must first contend with what it means to be "curious." Curiosity is a fundamental motivational drive that compels people to seek new information. Classic accounts distinguish *epistemic curiosity* driven by the desire for knowledge and the cognitive need to increase understanding (Berlyne, 1960), from *perceptual curiosity* driven by novelty, complexity, or unexpected sensory change (Berlyne, 1966). While both promote exploration, epistemic curiosity targets conceptual representation, whereas perceptual curiosity resolves immediate sensory uncertainty.

Morbid curiosity is closer to epistemic than perceptual curiosity, but it diverges from both in focus and motivational underpinnings. Although both morbid and epistemic curiosity involve a drive to acquire new information, epistemic curiosity primarily targets factual or conceptual knowledge and typically arises in the absence of threat. By contrast, morbid curiosity is elicited by motivationally ambiguous, emotionally intense, and often aversive stimuli, particularly those with potential survival relevance. It is driven less by abstract knowledge seeking or sensory novelty, and more by the need to resolve ambiguity about danger, opportunity, or both. The proximal goal is not mere understanding but actionable classification of biologically significant stimuli. Thus, morbid curiosity is not simply a special case of generic curiosity aimed at negative content. It is organized around survival ambiguity and operates under stricter constraints on when exploration is worthwhile.

Two features follow. First, the inputs that elicit morbid curiosity are narrow, as content must be plausibly consequential for bodily harm or resource value. Second, the constraints on exploration are tight because engagement is gated by a cost–benefit calculus that weighs expected information gain against exposure costs while vigilance (and partial exposure) remains high during information gathering. These constraints may also be sensitive to situational

resources that lower costs, such as the presence of others or clear exit routes. Because the stimulus is ambiguous at onset, discrete fear or disgust need not be present; those emotions may arise after classification, as may explicit-threat engagement. In this sense, morbid curiosity shares the uncertainty-reduction aim of other forms of curiosity but operates over a distinct input space and with stricter cost controls tied to survival relevance.

Prior Conceptualizations of Morbid Curiosity

Before introducing the current framework, it is useful to review several influential conceptualizations of morbid curiosity. Prior conceptualizations range from thrill/sensation-seeking to views emphasizing threat avoidance and/or the adaptive informational value of engaging with aversive stimuli. All, however, assume that morbid curiosity is evoked by clearly negative or threatening stimuli. In the present account, such cases are treated as *explicit-threat engagement*, in contrast to morbid curiosity, which is initiated by survival-relevant ambiguity.

Early definitions framed morbid curiosity as a blend of fear and thrill, driven by a form of experiential risk-taking situated within sensation seeking, rooted in the desire for novel, intense, and complex experiences (Zuckerman, 1984, 1996; Zuckerman & Litle, 1986). People higher in sensation-seeking were expected to gravitate toward risky or threatening content (e.g., horror, true crime, and graphic news). Supporting evidence showed that interest in depictions of death and violence (indexed via their curiosity about morbid events scale; Zuckerman & Litle, 1986) tracked preference for novel and arousing experiences. A similar conceptualization was offered by Hoffner et. al. (2009), who described morbid curiosity as an interest in vicarious engagement with tragic events. Comparable recent conceptualizations define morbid curiosity as a psychological drive to seek information about phenomena clearly associated with danger, death, and other threats (e.g., aliens, the supernatural, violence; FitzGibbon et al., 2020; Scrivner,

2022). Here, people seek negatively valenced information (e.g., details of a violent crime) not merely for exposure to gory imagery, but to acquire information that could help avoid future harm. A key component of this conceptualization is the role of threat detection, with morbid curiosity driving individuals to seek information about clearly dangerous stimuli (i.e., a form of explicit-threat engagement). From this perspective, learning confers adaptive advantages, and indeed, people higher in morbid curiosity (measured via a morbid curiosity scale; Scrivner, 2022) prefer movies featuring physical threat.

More recent accounts by Oosterwijk and colleagues integrate reward-learning into the construct. They propose that morbid curiosity serves information acquisition and preparedness for unambiguously-threatening stimuli (Niehoff & Oosterwijk, 2020; Oosterwijk et al., 2016; Oosterwijk, 2017; Oosterwijk et al., 2020). From this view, morbid curiosity is a motivated behavior driven by reward mechanisms and cognitive evaluation, functioning to promote learning and preparedness in environments marked by apparent threats. Morbid curiosity therefore serves an adaptive role by motivating exploration of threatening situations, yielding survival-relevant knowledge. Such engagement includes both direct information gain (e.g., attending to scenes of death, injury, or violence) and social learning from observing how others respond to accidents or environmental dangers. Framed this way, morbid curiosity is a distinct form of curiosity centered on survival-relevant information supported by the brain's reward and learning system. Support for this view shows that individuals' choices to view morbid stimuli (e.g., images of death or injury) are not a function of the stimuli’s emotional intensity or negativity; instead, choosing morbid content recruits brain regions associated with reward and decision-making, consistent with intrinsically rewarding, threat-relevant learning (Oosterwijk et

al., 2020). This pattern alights with the idea that morbid curiosity facilitates adaptive threat learning motives and highlights informational value as the driver of engagement.

The Current Conceptualization of Morbid Curiosity

Building on these prior insights, I center survival-relevant ambiguity at onset. That is, affordance ambiguity about whether a stimulus signals danger, opportunity, both, or neither is the proximal driver of engagement, and is maintained via cost-sensitive exploratory attention. Like prior work (e.g., Oosterwijk et al., 2020), I agree that negative or clearly threatening outcomes can be informationally valuable, but fully explaining the evolutionary roots and motivational dynamics of morbid curiosity requires a framework that treats initial survival-relevant ambiguity (not negativity per se) as the adaptive signal to explore morbid stimuli. Paradigms that minimize ambiguity cannot, by themselves, capture the ancestral conditions under which morbid curiosity would have been adaptive. And focusing primarily on clearly signaled threat risks overlooking the contexts where valence was unresolved at onset and information had to be gathered.

Consider a scenario: you encounter a partially decomposed animal while hiking and feel an unexpected pull to look. Earlier accounts explain this as sensation-seeking or vicarious arousal, where curiosity is either hedonic or mere preparation for avoiding a similar fate. In contrast, the current framework argues that the pull arises from genuine uncertainty about survival relevance, such as signaling disease, a nearby predator, or something benign. That uncertainty elicits approach-avoid conflict, drawing the observer to resolve the ambiguity while maintaining caution. In ancestral environments, ignoring such ambiguous stimuli could mean missed food or failure to detect a predator, both costly. Mechanisms that promote brief, cautious exploration of ambiguous stimuli would therefore confer survival advantages. A modern analog

is rubbernecking at the edge of a smoke-filled crash site to assess whether there is danger ahead or a need to assist before moving on. Unlike avoidance systems tuned to clearly negative or threatening stimuli, morbid curiosity targets ambiguous cues with potential survival relevance, functioning as an adaptive cognitive system that motivates the sampling of ambiguously survival-relevant, even if ultimately distressing, information.

By emphasizing cognitive conflict via approach-avoidance dynamics, this perspective suggests that the core of morbid curiosity lies in the resolution of ambiguous (and ancestrally, ambiguously negative/threatening) stimuli. This view operationalizes morbid curiosity as a *valence-independent motivational state*, driven by an ambiguity-induced state of *motivational uncertainty*. In this state, behavioral approach and avoidance inclinations are competing and information gathering behavior becomes a functional necessity towards *adaptive ambiguity resolution*. This state of uncertainty aligns somewhat with attitudinal ambivalence (Armitage & Conner, 2000; Jonas et al., 2000), however, unlike ambivalence, which involves mixed feelings about clearly identified positive and negative attributes (i.e., ambivalence stems from known, conflicting appraisals), morbid curiosity primarily emerges from ambiguity about the nature and implications of the stimulus itself. Morbid curiosity is initiated by a "gap" about the threat versus benefit value of a stimulus (cf. Loewenstein's (1994) information-gap theory). That gap concerns stimuli whose ambiguity directly implicates survival, thereby eliciting a unique approach-avoidance conflict, and not an aversion-driven approach. Thus, morbid curiosity involves ambiguity-driven cognitive rather than evaluative conflict. The driver is information gain under survival-relevant ambiguity, so the motive is instrumental and cognitive, aimed at improving prediction and guiding action.

The current model proposes that morbid curiosity is engaged when stimuli cannot be immediately categorized as safe or dangerous, but also when their potential utility is unclear. In other words, morbid curiosity is not merely concerned with whether something poses a threat, but how useful it or information gleaned from it could be for survival. This dual uncertainty about both risk and relevance drives individuals to engage with ambiguous stimuli that might otherwise be avoided. By exploring these signals, individuals can assess not only the degree of threat but also whether the stimulus offers valuable insights, both about challenges and opportunities in the environment. Here morbid curiosity is a complex phenomenon involving both cognitive and affective processes facilitating the drive for information and understanding of motivationally ambiguous stimuli. A morbid stimulus prompts attention because it is unclear whether it signals a source or pathogen contamination, nearby physical threat, or an opportunity for social learning. This momentary uncertainty activates cognitive mechanisms for gathering additional information to resolve the ambiguity. This conceptualization incorporates earlier work's focus on the role of reward pathways (e.g., activation of the ventral striatum; i.e., the various works by Oosterwijk and colleagues) and also emphasizes the role of attentional control systems—e.g., the anterior cingulate cortex (ACC) to support cognitive conflict resolution and the dorsolateral prefrontal cortex (DLPFC) in facilitating ambiguity-driven goal-directed attention—which enable individuals to sustain focus on ambiguous stimuli long enough to gather relevant information. Considering the role of attentional systems alongside reward systems clarifies why people continue to engage with aversive stimuli long enough to gather relevant information, even when no explicit reward is apparent.

In sum, early definitions linked morbid curiosity to thrill-seeking motives, and more recent accounts highlighted adaptive learning from clearly dangerous stimuli. The current

framework builds on these perspectives by emphasizing the role of ambiguity, not just threat or arousal, at the core of morbid curiosity. Here morbid curiosity is a unique motivational system that operates across valence boundaries and threat avoidance, and instead prioritizes information seeking in contexts of uncertainty, ambiguity, cognitive conflict, and possible reward. This approach underscores the functional and adaptive nature of morbid curiosity as a mechanism for survival-relevant information acquisition in complex and uncertain environments.

Distinctions from Related Constructs.

While morbid curiosity overlaps with constructs like disgust, fear, and sensation-seeking, it represents a unique motivational state. Disgust is a defensive mechanism prompting avoidance of contaminants (Rozin et al., 2008). Although disgust and morbid curiosity can be triggered by similar stimuli (e.g., a dead animal), the resulting behaviors diverge. The key difference lies in the type of information being sought and the nature of the response. Contemporary work on the behavioral-immune system shows that people often respond to heuristic cues, such as obesity, acne, facial disfigurement, or out-group membership, by adopting a conservative criterion that tolerates false positives and promotes broad avoidance of ambiguous targets (Park et al., 2003; Ryan et al., 2012; Schaller & Park, 2011). In contrast, morbid curiosity arises under survival-relevant ambiguity, triggers motivational ambiguity, and leads to cautious approach to resolve uncertainty about its source or context. It is triggered precisely when the stimulus registers as ambiguous with respect to threat versus benefit, motivating an exploratory approach that seeks clarifying information before deciding whether to avoid.

Fear is another defensive response, often accompanied by physiological arousal (Hamm, 2020). Clear threats recruit rapid, reflexive responses that prioritize self-preservation, leading individuals to fight, flee, or freeze, without deliberation (LeDoux, 1996). This rapid system

allows for survival-critical reactions without the need for cognitive deliberation. In contrast, morbid curiosity engages cognitive and attentional resources to analyze the survival-relevant stimulus. Rather than fleeing, individuals may observe or investigate, driven by a goal to resolve uncertainty and acquire information that may be critical for survival. This distinction underscores the active, information-seeking nature of morbid curiosity compared to the reactive, avoidance-oriented nature of fear. Morbid curiosity is therefore best understood as a motivational state that arises the moment a stimulus is detected as ambiguously survival-relevant, and before the individual has classified it as frightening or disgusting. Emotions such as fear or disgust may follow if the stimulus is subsequently categorized as threatening or contaminating, respectively, but they are not prerequisites.

Sensation-seeking reflects the pursuit of novel, intense, and varied experiences for excitement or thrill. While morbid curiosity may involve intense stimuli, it is more narrowly focused on survival-relevant information under ambiguity. While a sensation-seeker might engage with scary movies purely for the excitement or thrill, a morbidly curious person might be drawn to true-crime documentaries to understand human danger and survival strategies (Harrison & Frederick, 2020). The primary distinction lies in the goal: the pursuit of arousal and stimulation versus information acquisition to resolve ambiguity about survival-relevant threats.

Morbid curiosity also differs from ambivalence, despite both involving conflicting motivational states. Ambivalence involves simultaneously holding known positive and negative evaluations of an object, generating psychological discomfort and tension that people often resolve by amplifying one side of the evaluation, either by strengthening their attraction to the stimulus or by rejecting it more strongly (Armitage & Conner, 2000; Newby-Clark et al., 2002; Jonas et al., 2000; Schneider & Schwarz, 2017). In contrast, morbid curiosity does not result in

response amplification; rather, it promotes a sustained engagement aimed at gathering information to resolve ambiguity, contrasting the unstable, tension-driven dynamics characteristic of ambivalence. In this way, morbid curiosity is better understood not as a conflict between competing evaluations, but as a search for clarity in the face of motivational ambiguity, where valence and threat are not yet clearly determined.

A last conceptual distinction concerns curiosity elicited by clearly negative but unambiguous social events (e.g., a friend's divorce or job loss). Although these events may evoke strong motivation to acquire further information about negatively-valenced occurrences, they lack the fundamental ambiguity regarding their threat or benefit implications central to morbid curiosity. Put another way, although there is adaptive value in the motivation to understand what predicts the loss of resources or social support in order to avoid those pitfalls, those pitfalls are not characterized by ambiguity in terms of potential threat versus benefit. Those pitfalls are unambiguously negative. This kind of interest may be better characterized as social curiosity, seeking information about other people to navigate the social world, which need not hinge on threat–benefit ambiguity (Kashdan et al., 2020).

In sum, morbid curiosity is not thrill-seeking, fear, disgust-based fascination, ambivalence, or social curiosity. It is a cognitive-motivational state elicited by survival-relevant ambiguity, marked by a unique blend of sustained attentional engagement and ambiguity resolution. So, while fear prompts immediate defense, and disgust prompts aversion, morbid curiosity drives exploration, encouraging individuals to actively seek and engage with survival-relevant stimuli that are uncertain in nature, a feature that may be especially important in environments where information is incomplete, ambiguous, or potentially deceptive. From this view, morbid curiosity functions as a valence-independent, cost-sensitive mechanism for

acquiring survival-relevant information. The sections that follow develop this adaptationist account. But before turning to those origins, I briefly outline the design features specifying when the mechanism should engage and what outcomes it should produce.

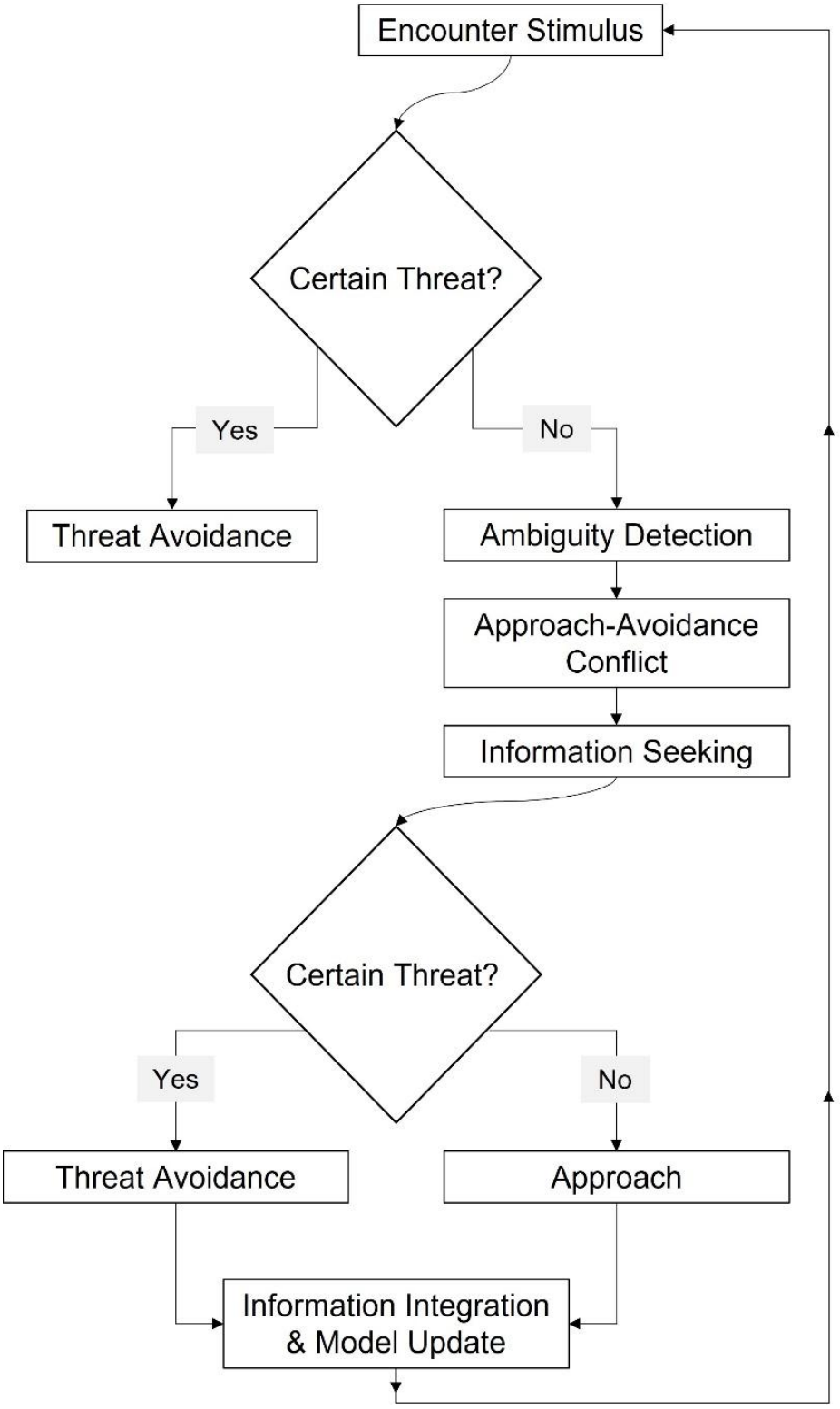
Design Features of Morbid Curiosity

Morbid curiosity is proposed to solve a specific adaptive problem: when a stimulus appears plausibly survival-relevant but its valence and danger are uncertain, a brief, cautious sustained attentional engagement can gather information and reduce that uncertainty. In such moments, people assess whether the cue signals danger, opportunity, both, or neither. If the danger is unequivocal, avoidance follows. But if expected information gain outweighs immediate costs, morbid curiosity promotes exploration. The system is selective rather than indiscriminate, engaging only when the stimulus is genuinely survival-ambiguous and the stakes plausibly survival-relevant.

In practice, ambiguous, high-stakes cues should trigger a recognizable sequence. First there is a conflict between approaching to learn and avoiding to stay safe. These processes align with theories of cognitive conflict resolution, where ambiguous stimuli elicit a mix of approach and avoidance signals, prompting a more deliberative evaluation (Lewin, 1951). Next, there is rapid orienting and attentional hold (i.e., vigilance) sufficient to extract diagnostic details and seek context. Holding negativity constant, greater ambiguity should amplify this cautious approach, whereas added disambiguating context should dampen it. That is, a “need to know” drives engagement with morbid content (Ruedisili, 2023; see also, Loewenstein, 1994). Once the ambiguity is resolved, people withdraw if threat is clarified, continue engagement if benefits are plausible, or disengage if the stimulus is judged irrelevant (see Figure 1).

Figure 1.

Decision-tree for ambiguity-triggered morbid curiosity



Physiologically, morbid curiosity should trigger an orienting profile, such as transient heart-rate changes and increased skin-conductance, paired with sustained arousal while information is obtained. To be clear, these signatures are not unique to morbid curiosity, as narrowed attention can occur under avoidance. The diagnostic feature is sustained engagement specifically under ambiguity. Voluntary exposure should also wane with repetition or pre-exposure as marginal information value falls (Ruedisili, 2023). Neurologically, conflict and control regions (e.g., anterior cingulate and dorsomedial prefrontal cortex) plausibly support the hold on attention and goal maintenance, while valuation circuitry (e.g., ventral striatum) tracks anticipated information value and reinforces uncertainty reduction (Oosterwijk et al., 2020).

Engagement should also vary with persons and situations. Individuals higher in uncertainty and aversive state tolerance should have a lower threshold for attentional engagement. As should people with lower disgust sensitivity or threat reactivity (March et al., 2017, 2024). Context should also matter. Pathogen-dense or resource-scarce ecologies increase the payoff of learning from rare, high-stakes cues. Harsher or more unpredictable environments that produce steeper discounting and greater impulsivity (e.g., Kidd, Palmeri, & Aslin, 2013; Griskevicius et al., 2011) could lower the threshold for engaging with survival-ambiguous stimuli by prioritizing immediate information. Finally, there may be sex-differentiated biases in the domains that elicit morbid curiosity, with wide individual and contextual variability. For example, men may be more drawn to ambiguity in cues tied to large-animal remains and male-male violence, and women may be more drawn to ambiguity in cues tied to novel plants, spoiled foods, and infant/child health (see also, Wertz & Wynn, 2014).

These features yield empirical expectations that later sections review. Before that, the following section situates morbid curiosity in ancestral ecologies in which ambiguity-reducing mechanisms would have conferred clear advantages.

Evolutionary Origins of Morbid Curiosity

The drive to seek out ambiguously negative but survival-relevant content appears across cultures and historical periods (and perhaps even species; Dunkle, 2013; Flanders, 2014; Goldenberg & Wittemyer, 2020; YouGov, 2024), suggesting a universal human tendency with deep evolutionary roots. Adaptive processes and behaviors such as scavenging, threat monitoring, and social learning likely contributed to the evolution of cognitive systems attuned to ambiguity resolution, facilitating information seeking even in response to ultimately distressing or grotesque stimuli. The origins of morbid curiosity are thus theoretically grounded in the selection pressures faced by early humans adapting to ambiguous, high-stakes environments.

Ancestral Environments and Adaptive Pressures

In the EEA (~1.8 million to 10,000 years ago; Tooby, & Cosmides, L., 1992) ambiguous stimuli, like corpses, carcasses, or scenes of conflict could signal threat (e.g., predators) or opportunity (e.g., food scavenging opportunity; Bickerton & Szathmary, 2011; Domingez-Rodrigo, 2002; Shipman, 1986). Cognitive systems that promoted attention and exploration of ambiguous stimuli would have conferred a survival advantage by allowing early humans to gather information relevant to predator detection, foraging opportunities, and environmental navigation (Potts, 1998). Such high-stakes uncertainty would favor attentional systems prioritizing biologically-salient ambiguity (Blumenschine et al., 1987) and tolerance for

inspecting “grotesque” sights (Marks & Nesse, 1994). In that light, individuals better at balancing approach/avoidance tendencies would have produced more offspring.

Speaking to the adaptiveness of such behaviors across species, comparative work suggests that morbid curiosity may not be uniquely human. For example, elephants cautiously inspect deceased conspecifics, often with repeated touching, sniffing, and trunk exploration, behaviors interpreted as information-seeking (Beer, 1984; Douglas-Hamilton, 2006; Goldenberg & Wittemyer, 2020). Investigating the remains of another elephant poses potential danger if the death was caused by contagious disease or a nearby predator; however, information gained could be crucial for one’s own (and one’s groups) survival (Douglas-Hamilton, 2006). Morbid curiosity-type behaviors are also displayed by gazelles and wildebeests who inspect deceased conspecifics (Beer, 1984), and primates, particularly chimpanzees, who sometimes attend to dead group members, grooming bodies or remaining nearby (Anderson, 2011). Observing these behaviors within conspecifics supports the idea that morbid curiosity reflects an evolutionarily conserved cognitive process shaped by the need to gather information in situations marked by uncertain threat or opportunity. And, as discussed in the next section, encounters with allospecific remains may additionally signal a valuable food source, further reinforcing the adaptive value of morbid curiosity in survival-relevant contexts.

Pressures Exerted by Scavenging Behaviors.

Archaeological evidence suggests that humans were probably not hunters first, but that scavenging was a crucial component of early hominin foraging strategies (Blumenschine et al., 1987; Shipman, 1986). For example, early humans used stone tools to process animal remains, providing clear evidence that scavenging was an integral part of their subsistence strategy (Ferraro et al., 2013). Cut marks on bones found dating back about 2.5 million years reveal that

early humans engaged in specific carcass processing protocols, indicating that scavenging was a deliberate, organized activity (Domínguez-Rodrigo, 2002). Active pursuit of carcasses implies systematic engagement with ambiguous stimuli to extract value. Such scavenging required the ability to evaluate safety and utility. Is a predator nearby? Is the carcass infectious or edible? In such ambiguous contexts, morbid curiosity aids adaptive decision-making.

The ambiguity inherent in scavenging would naturally elicits approach-avoidance conflict. Repeated encounters would favor mechanisms sustaining attentional hold long enough to sample diagnostics (odor, freshness, predator sign) before committing. This cost-benefit dynamic would have driven the evolution of cognitive systems that support heightened attention to, and a sophisticated process of ambiguity resolution. These cognitive mechanisms would have involved the engagement of attentional and affective systems that promoted vigilance and threat assessment. By investigating rather than avoiding an ambiguous stimulus, early human scavengers could avoid harm, potentially acquire valuable resources, and/or acquire critical information to guide future behavior. This scavenger hypothesis provides a compelling context for understanding the evolution of morbid curiosity. The selection pressures faced by early humans during scavenging activities would have favored cognitive mechanisms that promote and support the exploration of ambiguous stimuli, mechanisms that likely contributed to the development of attentional control systems and ambiguity-sensitive approach tendencies.

Sex-Differentiated Adaptive Pressures.

Beyond scavenging, ancestral environments were dense with ambiguous cues of risk and reward, a mix that likely produced sex-differentiated patterns of morbid curiosity. Both men and women show interest in morbid content, but they typically differ in intensity (e.g., men scoring higher on most scales) and in preferred content (e.g., women favoring true crime; Zuckerman &

Litle, 1986; Vicary & Fraley, 2010; Harrison & Frederick, 2022). These patterns imply sex-differentiated adaptive pressures tied to ambiguity reduction, exploration, access to food sources, and threat detection (Apostolou & Shialos, 2018; Eals & Silverman, 1994; McBurney et al., 1997). Recall that early humans were primarily scavengers. Accessing meat-rich carcasses and other food sources offered valuable calories, yet carried uncertainty regarding the risks and rewards of approach behavior. Accessing such resources likely engendered sex-differentiated adaptive pressures due to sex differences in reproductive roles and subsequent risk tolerance. In brief, phylogenetically early humans display sexually dimorphic morphology driving unique psychologies and behaviors linked to reproductive roles (Buss, 1995). Males' minimum obligatory investment is low relative to females prolonged pregnancy and years of nursing and close caretaking, which constrain interbirth intervals and raise the cost of morbidity/mortality for female reproductive success. Accordingly, risks of pathogen or physical threat exposure would have been relatively more costly for females, favoring less risky exploratory behavior (e.g., greater emphasis on gathering versus scavenging; Byrnes et al., 1999).

Male's likelihood of engaging in exploratory behaviors and hunting-related expeditions engendered greater exposure to risky or ambiguous stimuli. Morbid curiosity may have facilitated such exploration of ambiguous stimuli associated with large prey and predators. Consequent of that may have evolved a sex difference in risk preferences related to resource acquisition, as men developed a stronger tendency for approach-oriented curiosity toward ambiguous stimuli (i.e., risk taking behaviors), supporting rapid threat assessment and information gathering in uncertain contexts (Apicella et al., 2017; Byrnes et al., 1999). Approaching an ambiguous stimulus, despite its potential risks, would have allowed men to assess the availability of food, while simultaneously identifying potential predator presence.

From this view, morbid curiosity serves as a proximate, information-seeking motive that can tip behavior from avoidance to cautious approach when survival-relevant ambiguity is high.

For females, the relationship between food access and morbid curiosity may have been more indirect but equally important. While females were less likely to hunt large game, they played essential roles in foraging and childcare and thus would have faced different pressures around ambiguity reduction. Food-related decision-making involved significant uncertainty, particularly in the identification of edible plants versus toxins. Discerning edible from contaminated or toxic substances would favor heightened attention to subtle environmental cues. This unique attentional engagement with ambiguity may have contributed to the development of cognitive processes and skills related to morbid curiosity, particularly when observing the health outcomes of others. And indeed, females show small, reliable advantages in chemosensory acuity and visual sickness detection, suggesting a female advantage in spotting contamination risks (Sorokowski et al., 2019; Tognetti et al., 2023). Furthermore, while offspring survival matters for mothers and fathers alike, obligatory maternal investment (pregnancy, lactation) raises the marginal cost of morbidity/mortality for females, shifting the risk–information trade-off toward caution (Trivers, 1972). Unlike men, who may have prioritized approach behaviors for direct engagement with ambiguous stimuli, women's cognitive systems may have been honed to prioritize caution, vigilance, and indirect information gathering. This perspective aligns with cross-cultural evidence that women are more attuned than men to interpersonal threats, social dangers, and pathogen cues (Benenson et al., 2021; March & Gaertner, 2021) and exhibit heightened disgust sensitivity and greater aversion to contamination threats (Rozin et al., 2008). Notably, females have also historically faced higher rates of physical and sexual victimization, a product of sexually dimorphic aggression and differential vulnerability (Archer, 2009; Smuts,

1992). This darker aspect of human evolutionary history likely contributed to the development of heightened threat monitoring systems in women, including those attuned to ambiguous social cues signaling danger. Such evolved sensitivities may underlie sex differences in morbid curiosity today, manifesting, for example, in the disproportionately high female interest in true-crime media, particularly content focused on survival strategies or threat detection (Harrison & Frederick, 2022; Vicary & Fraley, 2010).

In sum, the evolution of morbid curiosity likely reflects partially divergent sex-differentiated adaptive pressures for ambiguity reduction, access to food sources, and threat detection. Both sexes share an evolved tendency to probe survival-relevant uncertainty; men's tendencies skew more toward direct exploratory approach in risky contexts, whereas women's skew toward vigilant, socially and pathogen-focused information gathering. Together, these pressures would have shaped a cognitive–neural system that pursues survival-relevant information when ambiguity is high.

Cognitive & Neural Systems Supporting an Interplay of Ambiguity-Driven Attention and Approach-Avoidance Conflict Resolution

As an adaptive drive to engage with ambiguous, survival-relevant stimuli, uncertainty surrounding a potentially threatening or informative cue triggers a motivational conflict between approach and avoidance. This cognitive tension fosters exploration, with morbid curiosity serving to resolve the ambiguity and extract useful information. This motivational tension is theoretically underpinned by coordinated cognitive and neural systems that detect, evaluate, and resolve uncertainty. The following sections situate morbid curiosity within cognitive and neural frameworks as a goal-driven cognitive mechanism that operates across emotional valence,

directing neural architecture to prioritize survival-relevant information acquisition in response to ambiguous stimuli.

Cognitive Systems Underlying Morbid Curiosity

Classic models of motivation link negative stimuli to avoidance and positive stimuli to approach. Morbid curiosity defies this binary as individuals physically or psychologically approach stimuli that many would ultimately classify as negative. This reflects a nuanced response to ambiguity in which potentially survival-relevant cues evoke exploration rather than simple avoidance. One useful lens for situating morbid curiosity is *valence-independent motivation*, which proposes that motivation is goal-bound rather than valence-bound (Gable & Harmon-Jones, 2010). According to this framework, approach is not inherently linked to positive stimuli but is instead a function of goal pursuit and information acquisition, even when the stimulus is negative (i.e., negative-approach). Meaning, motivational states are guided by the perceived relevance of the goal rather than the valence of the stimulus. Consistent with this, attentional narrowing tracks motivational intensity, not valence, with high-intensity goal-relevant states reducing attentional breadth (Gable & Harmon-Jones, 2008, 2010). This aligns with the current conceptualization of morbid curiosity as a goal-directed mechanism for gathering survival-relevant information from ambiguous cues.

A complementary systems perspective is offered by the revised reinforcement sensitivity theory (rRST; Gray & McNaughton, 2000; McNaughton & Corr, 2004). In rRST, BAS (*behavioral approach system)* supports approach incentives, BIS (*behavioral inhibition system)* manages goal conflict, and FFFS (*fight, flight, freeze system)* orchestrates immediate defense. Survival ambiguity could trigger the BIS, as morbid curiosity begins with conflict and an attentional hold, permitting cautious information sampling until the cue is classified. Then

control shifts to BAS if opportunity exists, or to FFFS if threat is identified. The key distinction is that the present account treats this sampling as instrumental and guided by expected information value, whereas rRST characterizes BIS chiefly as inhibitory and does not specify an information-value computation.

The Prediction, Appraisal, Curiosity, and Exploration (PACE) framework adds a supplementary focus on prediction error and appraisal (Gruber & Ranganath, 2019). Curiosity is initiated when outcomes deviate from expectations, prompting appraisal of the informational value of the unexpected event. Although developed for general curiosity and hippocampus-dependent learning, PACE maps naturally onto morbid curiosity: ambiguous and potentially threatening stimuli (e.g., a recently slain animal on a hiking trail with no clear sign of predation) generate large prediction errors, triggering appraisal of survival relevance, and if value is high, prompt an exploratory drive aimed at resolving the uncertainty. This suggests that morbid curiosity involves not mere stimulation seeking but active resolution of prediction errors tied to ambiguous survival-relevant stimuli. If prediction error and expected information value drive engagement, then shrinking the gap should reduce curiosity and repeated exposure should erode it. This is consistent with evidence that reducing informational gaps lowers morbid curiosity (Ruedisili, 2023). Specifically, when informational gaps are experimentally manipulated (e.g., withholding vs. previewing content), morbid curiosity increases specifically under uncertainty (i.e., in the withholding condition). Furthermore, that voluntary engagement with negative stimuli declines upon repeated exposure to the stimuli as marginal information value falls (Tamai et al., 2025), highlighting ambiguity-driven survival-relevant information seeking as the primary motivation. Together these findings underscore that ambiguity-driven information seeking operates largely independently of stimulus valence and reflects a cognitive, goal-directed effort

to resolve uncertainty and acquire survival-relevant information. They further suggest that novelty and the opportunity to extract previously unknown content are central drivers, highlighting the cognitive nature of morbid curiosity as an active appraisal-and-exploration process directed at ambiguous stimuli to reduce uncertainty.

This cognitive perspective also intersects with models of evolved threat detection. The *behavioral immune system* (BIS [not to be confused with rRST's BIS]; Schaller & Park, 2011) comprises as a set of psychological mechanisms designed to detect and avoid pathogen threats, such as contaminants or infected individuals. Although the primary response to pathogen cues is typically disgust and avoidance, this model suggests and proffers evidence that approach motivations may be activated when ambiguous stimuli, such as potential food sources or unclear signs of illness, require closer inspection of presumed contaminants to determine their threat level (Schaller & Duncan, 2011; Neuberg et al., 2011). In such cases, the BIS may encourage vigilance and information-seeking behaviors, allowing individuals to gather crucial survival-relevant information. Supporting this idea is research showing that exposure to pathogen-related cues can increase attention to health-relevant information, promoting engagement with survival-relevant stimuli rather than avoidance (Gruitjers et al., 2015; Miller & Maner, 2011). Yet the BIS targets a specific adaptive problem (pathogens), whereas morbid curiosity is broader, motivating information seeking across multiple survival-relevant domains and valence boundaries. Thus, while morbid curiosity may partially overlap with BIS-guided behavior, it reflects a generalized and adaptively flexible cognitive mechanism that promotes engagement with survival-ambiguous stimuli to resolve uncertainty.

Taken together, these perspectives converge on morbid curiosity as a survival-oriented, cognitively driven motivational system optimized for ambiguity resolution. Rather than

reflecting a paradoxical attraction to negativity, morbid curiosity emerges from goal-directed processes that prioritize information acquisition when stimuli are uncertain but potentially survival-relevant. Given that morbid curiosity is a goal-directed response to survival ambiguity, its first footprint should be in attention. When survival relevance is uncertain, decision systems should prioritize information gain, yielding strong initial orienting and slower disengagement from ambiguous cues. The next section reviews evidence consistent with this profile.

Attentional Orienting and Vigilance Driven by Morbid Curiosity.

Unlike clearly threatening stimuli that prompt immediate avoidance, morbid curiosity draws and sustains attention to survival-relevant ambiguous or novel stimuli. This engagement reflects both heightened initial attention and slower disengagement. Empirical work supports the conceptualization of morbid curiosity as a motivation driving sustained attention to survival-relevant information. For example, morbid versus non-morbid stimuli have been seen to capture and hold attention for extended periods, especially under ambiguity. Bradley et al. (2015) used eye-tracking to show that people affixed their gaze to scenes of death longer than to neutral and unambiguous threat scenes. A cleaner test matching arousal across sets was provided by March et al. (2017), who demonstrate that people exhibit longer fixation times on morbid stimuli (e.g., mutilated bodies, dead animals) compared to neutral and equally arousing clearly threatening stimuli (e.g., snarling predators, pointed guns). Stronger evidence may yet show that fixation time scales with ambiguity within trials and predicts approach choices measured congruently.

Eye-tracking findings from Ruedisili (2023) echo this pattern as people evince longer gaze durations and slower responses viewing morbid stimuli under conditions of ambiguity versus after exposure to similar version of the stimuli (i.e., after diminishing the opportunity to acquire new information from the subsequent exposure). Prior information thus reduces curiosity

(and attention), underscoring a mechanism that sustains engagement to resolve informational gaps. Convergent evidence comes from dot-probe studies (Cisler et al. 2009; van Hooff et al., 2013; 2014), in which people are slower to disengage from morbid than clear threat images. This suggests that morbid curiosity prompts a unique attentional bias distinct from threat-based responses. Unlike threat, which facilitates avoidance, morbid curiosity drives exploration. In this context, morbid curiosity elicits a "hold" on cognitive resources, ensuring prolonged engagement and reflecting a drive to acquire useful information from scenes until ambiguity is resolved.

Research employing physiological responses further underscore the heightened attentional engagement elicited by morbid stimuli. Morbid stimuli affect heart rate, skin conductance, and pupil dilation, classic indicators of heightened vigilance. Individuals higher in morbid curiosity show greater *sustained* heart rate (HR) and skin conductance (SCR) to graphic news images (Pinkerton & Zhou, 2008), consistent with a state of heightened alertness while gathering survival-relevant information. Complementary work observed that in addition to increases in SCR, morbid stimuli elicit an *initial* HR deceleration, a profile consistent with attentional orienting and subsequent sustained engagement (Stark et al., 2019). These patterns align with the canonical time course in human freezing: a brief, parasympathetically mediated bradycardia facilitating sensory intake and risk assessment, followed by sympathetic activation as information sampling continues (Roelofs, 2017). Yet in morbid curiosity they arise under survival ambiguity as information value maintains attention. Further evidence could show early bradycardia followed by approach and information sampling *within* the same trial.

Event-related potential (ERP) studies further support the cognitive-attentional account of morbid curiosity. Early components tied to orienting and selective attention, including P2, N1, and EPN, are heightened for motivationally significant stimuli. Morbid images elicit larger P2

amplitudes than clearly threatening and neutral stimuli, suggesting stronger early orienting to survival-ambiguous, morbid content (Carretié et al., 2011; Xu et al., 2015). Other work shows larger N1 and EPN to morbid versus neutral content (Wang et al., 2021). The N1 indexes spatial attention orienting, and the EPN indexes selective attention within fundamental motivational systems, including approach and avoidance, as evidenced by enhanced amplitudes to evolutionarily significant stimuli such as snakes (Olofsson et al., 2008). Although whether early P2/EPN enhancements forecast (versus reflect) approach under ambiguity remains an open question, when taken together, these ERP patterns indicate robust early capture for morbid stimuli, sometimes exceeding threat on P2, and sets the stage for deeper processing, with morbid curiosity maintaining engagement and information gathering under survival ambiguity.

Neural Bases of Morbid Curiosity

The neurological plausibility of this sustained motivational state is reflected in a coordinated network of neural systems that detect survival-relevant uncertainty, evaluate its informational value, and sustain goal-directed exploration until that uncertainty is reduced. In contrast to the quick, largely reflexive responses to clear threats (classically linked to the amygdala; LeDoux, 1996), ambiguity engages systems that arbitrate simultaneously active, and often competing motivations. Prominent among these are the anterior cingulate cortex (ACC), dorsomedial prefrontal cortex (dmPFC), and striatum, systems implicated in supporting conflict monitoring and resolution, goal-directed control, reinforcement learning, and conceptual evaluation (Botvinick et al., 2004; Carter & van Veen, 2007; Kerns et al., 2004; Miller & Cohen, 2001; Ridderinkhof et al., 2004). These regions are well positioned to resolve approach–avoidance conflict and maintain exploration when potential informational benefits outweigh perceived costs. For example, when encountering survival-relevant ambiguity, the rapid system

may initially detect a potential threat, alerting the individual to potential danger, but subsequent assessment may identify the stimulus as ambiguous, which in turn engages cognitive processes to evaluate its potential for survival-relevant information (March et al., 2018a, 2018b). This process can lead individuals to approach rather than avoid, driven by the cognitive need to resolve uncertainty and acquire valuable information. The slower system allows for information gathering that supports survival-relevant decision-making. This capacity to override automatic avoidance in favor of information seeking is central to the utility of morbid curiosity.

The ACC occupies a central position in this network, as it has a central role in supporting cognitive control, attentional engagement, and decision-making via the integration of approach and avoidance signals (Botvinick et al., 2004; Etkin et al., 2011; Gable & Harmon-Jones, 2010; Shackman et al., 2011). This region is thought to resolve competing action tendencies, promoting a shift from passive avoidance to active exploration when the potential benefits of information acquisition outweigh the perceived risks (Botvinick et al., 2004). For example, when confronted with survival-relevant ambiguity, the ACC would mediate the decision to approach and investigate or to avoid the stimulus entirely. This process involves weighing the potential benefits of information acquisition against the possible risks, ultimately driving goal-directed exploration. Neuroimaging work is consistent with this role, showing that ACC activity increases during exposure to morbid stimuli, especially when people encounter such stimuli with unclear threat relevance (Oosterwijk et al., 2020). This suggests that the ACC is essential for shifting individuals from avoidance to exploration, especially when the ambiguity of a stimulus signals the potential for survival-relevant information. Crucially, the output of the ACC may inform higher-order regulatory regions such as the dorsomedial prefrontal cortex (dmPFC; Clairis &

Lopez-Persem, 2023), which helps implement the sustained goal-directed attention and cognitive flexibility needed to follow through on exploration.

Downstream (and reciprocally), the dmPFC thus helps implement the plan the ACC selects. It supports goal-directed (i.e., task-relevant) attention and cognitive flexibility needed to override automatic avoidance tendencies (Etkin et al., 2011; Miller & Cohen, 2001; Ridderinkhof et al., 2004). This ability is essential for ambiguity-driven attention, as it enables individuals to remain focused on potentially valuable information, even when initial avoidance impulses are strong. In the context of morbid curiosity, the dmPFC should be most engaged when the system must persevere in exploration despite aversive content. Consistent with that, Oosterwijk et al. (2016) reported stronger dmPFC activation to morbid (vs. control or clearly threatening) stimuli, which fits a control-of-engagement account rather than pure affect intensity. This reading would be strengthened if dmPFC engagement closely tracked the duration of ambiguity-maintaining attention and tapered once classification was achieved.

In addition to regions associated with threat detection and cognitive control, the striatum (ventral, caudate nucleus, & putamen) may play a crucial role in the reward and motivation signals that help sustain morbid curiosity. The striatum is a key component of the brain's reward and motivation circuitry, supporting reinforcement learning and the experience of reward. Oosterwijk et al. (2020) demonstrate that the ventral striatum activates when participants choose to view morbid stimuli, reflecting the reward-related aspects of ambiguity resolution and information gain from engaging with negative information. This suggests that ambiguity resolution may be inherently rewarding and aligns well with the, valence-independent framework, emphasizing that goal-relevant ambiguity, rather than emotional valence, drives approach motivation. Here the reward system is engaged by the opportunity to resolve

uncertainty, which in turn sustains exploration of morbid content. Successful uncertainty reduction may produce motivation and satisfaction that reinforce exploratory behavior, increasing the likelihood of continued engagement in future encounters.

Neurochemicals also likely play a crucial role in morbid curiosity, with dopamine being central to anticipatory motivation, and would amplify attention to ambiguous, survival-relevant stimuli and reinforce successful uncertainty reduction (Berridge & Robinson, 1998; Schultz, 1998). This system becomes especially relevant when individuals encounter ambiguous or novel stimuli, which trigger a motivational state characterized by heightened attention and exploratory behavior (Roberti, 2004). The release of dopamine in response to ambiguity would maintain cognitive engagement until the ambiguity is resolved; and to the extent that resolution provides important information that meets or exceeds expected value, dopamine release rewards the process of morbid curiosity. This dopaminergic response facilitates the attentional engagement and motivation to approach observed during morbid curiosity, as seen in studies where participants display prolonged attention to morbid images compared to neutral or even fearful stimuli (van Hooff et al., 2013; Oosterwijk et al., 2016).

This dopaminergic response to ambiguity is echoed in the aforementioned PACE framework, which posits that curiosity resulting prediction errors trigger appraisal processes and facilitate memory encoding via dopaminergic modulation of the hippocampus (Gruber & Ranganath, 2019). Ambiguous or disturbing stimuli may violate expectations and generate prediction errors, prompting cognitive appraisal to assess the stimulus's potential survival relevance. This process activates dopaminergic and hippocampal systems, reinforcing exploratory behavior aimed at uncertainty resolution. Furthermore, dopaminergic modulation of the hippocampus, important for learning and spatial navigation, prepares the person for efficient

exploration of similar future contexts (Eichenbaum, 2017). Morbid curiosity, through this lens, may thus reflect a specialized case of this broader neurocomputational mechanism, recruiting curiosity circuits tuned to ambiguity.

Notably, the dopaminergic system interacts with the aforementioned neural regions involved in ambiguity-driven attention. Dopamine modulates ACC and dmPFC functioning by enhancing cognitive flexibility, allowing individuals to maintain attention on ambiguous stimuli while suppressing avoidance impulses (Miller & Cohen, 2001), facilitating approach behavior in response to ambiguity (Botvinick et al., 2004). Additionally, recent research highlights the role of the ventral striatum, another critical component of the dopaminergic reward system (Oosterwijk et al., 2020), in reinforcing choices that successfully reduce uncertainty (Gottlieb et al., 2013). By enhancing goal-directed attention and reinforcing exploratory behavior, dopamine supports sustained engagement with ambiguous and morbid stimuli. This neurochemical basis explains how avoidance impulses can be overridden when the expected informational dividend is large.

In sum, the cognitive and neural processes underlying morbid curiosity reflect an intricate interplay between ambiguity-driven attention and approach-avoidance conflict in the service of uncertainty reduction. The amygdala serves as the initial detector of ambiguity, signaling potential threat or opportunity. The ACC mediates the approach-avoidance conflict, guiding the decision to engage with or avoid the stimulus. The dmPFC maintains cognitive control and goal-directed attention, enabling sustained engagement with ambiguous stimuli. And the ventral striatum and dopamine reinforce exploratory acts that yield resolution. Neurochemically, dopaminergic communication through this loop promotes the pursuit of survival-relevant information even when content is ultimately aversive. Together, this systems support the attentional engagement and exploratory behaviors associated with morbid curiosity. Meaning,

morbid curiosity is not a passive experience, but an active and adaptive mechanism driven by a complex neural circuitry for resolving uncertainty by overcoming approach-avoid conflict, and acquiring critical information by engaging with survival-relevant ambiguity.

Modern Expressions, Implications, and Future Directions

Although morbid curiosity originally adapted for survival-relevant decision-making in ancestral contexts, it continues to shape modern behavior in ways that are psychologically continuous with that function. While the situations in which morbid curiosity manifests today differ from those in early human history, the underlying cognitive and motivational processes remain consistent. These behaviors reflect the enduring activity of an ancient drive to resolve survival-relevant uncertainty. In each case, morbid curiosity directs the acquisition of information allowing individuals to refine their understanding of survival-relevant stimuli and inform future decisions. Understanding these modern manifestations provides insight into both the origins of morbid curiosity and its continued relevance in contemporary society while highlighting where it helps, where it harms, and how it might be steered toward better outcomes.

Modern Expressions of Morbid Curiosity

Today, the same mechanisms that evolved for ambiguity resolution likely manifest in diverse behaviors reflecting sustained interest in ambiguous stimuli that evoke uncertainty about threat, harm, or survival relevance. From consuming true-crime media to engaging with graphic content on social media and even rubber-necking at car accidents, such behaviors may be best understood as the outputs of a system designed to explore and evaluate uncertain information for its potential survival value. In each context, morbid curiosity facilitates attention to stimuli that resist immediate classification, prompting focused information seeking aimed at reducing uncertainty and enhancing preparedness.

One prominent example is the widespread interest in true-crime documentaries and podcasts. These narratives present complex, ambiguous accounts of violence, deception, and social betrayal, offering audiences a way to engage with content that may contain cues relevant to human danger and survival without immediate risk. While people may not expect to learn practical strategies, their engagement reflects a motivational state oriented toward resolving informational gaps about human behavior, social betrayal, or danger signals. Engagement here need not yield narrow tips to be adaptive; it can refine priors about threat diagnostics, deception, or social warning signs. Consistent with this, people more often prefer true-crime materials that include survival-relevant details (Vicary & Fraley, 2010), and broader work suggests consumers treat such material as a vehicle for sense-making rather than mere sensation (Harrison & Frederick, 2020; Soto-Sanfiel & Montoya-Bermudez, 2022). These findings underscore how seemingly macabre media preferences can reflect adaptive attentional processes oriented toward ambiguity resolution and survival learning (Soto-Sanfiel & Montoya-Bermudez, 2022). The appeal of such content may therefore lay not in the certainty of threat avoidance but in the possibility that it holds meaningful information for interpreting ambiguous social cues or recognizing risk under uncertain conditions. Notably, engagement may begin as morbid curiosity under uncertainty and continue as explicit-threat engagement once threat is clear, a shift that should be detectable behaviorally (reduced sampling once uncertainty is resolved).

Horror films offer a related, simulated environment for engaging with ambiguous and unsettling scenarios. Many horror narratives hinge not on explicit violence than on suspense, occlusion, and partial information acquisition. Viewers may be pursuing the arousal these films provide (Dyduch-Hazar & Mitschke, 2023), but they are also drawn to the cognitive experience of tracking ambiguous cues to update beliefs about potential danger (Martin, 2019; Scrivner,

2021). The attraction here may not necessarily only be the acquisition of concrete strategies, but instead the process of navigating ambiguity and confronting the unknown. From this perspective, horror films may provide a space for individuals to exercise cognitive systems attuned to uncertainty reduction, even in contexts where the information may be fictional or symbolic. And, morbid curiosity attraction should weaken once ambiguity collapses (e.g., monster is revealed).

This ambiguity-oriented framework also helps to explain the impulse to seek graphic or first-person content, such as images of major disasters or terrorist attacks. Viewers may seek out such material not only to derive pleasure or learn specific lessons, but to reduce confusion and make sense of events that defy easy interpretation. When official accounts are incomplete, or when emotional or moral ambiguity surrounds an event, people often feel compelled to "see it for themselves," which is an attempt to reduce confusion and integrate discrepant signals (Rime et al., 2015; Redmond et al., 2019). In these cases, morbid curiosity may reflect a cognitive impulse to gather additional input when faced with uncertainty, rather than a thrill-seeking impulse per se.

Sex-differentiated adaptive pressures may also shape how morbid curiosity manifests today. Some studies report that, on average, women engage more with interpersonal forms of morbid content, such as true crime, while men often prefer media featuring physical aggression or direct threats, such as combat or action-oriented content (Vicary & Fraley, 2010; Harrison & Frederick, 2020). These patterns may reflect differing ancestral pressures: while men faced ambiguity in the physical environment, women faced ambiguity in social and caregiving contexts (e.g., trustworthiness of others, signs of illness). Such sex-differentiated preferences may therefore imply a domain-tuning account rather than a blanket difference in fear or sensation seeking. According to this domain-tuning interpretation, we would expect women to engage

more with interpersonal and caregiving-relevant ambiguity and men to attend more to direct physical aggression and coalitionary threat, as a consequence of differing ancestral pressures rather than as a categorical sex difference

Everyday behaviors like “rubbernecking” at car accidents or “doomscrolling” on social media also show the same mechanism, but at different timescales. Both actions involve an attentional pull toward ambiguous or incomplete information, especially under conditions of uncertainty and potential threat. Doomscrolling spikes during survival-relevant crises, when individuals feel compelled to track potential threats but lack clarity about the nature or proximity of danger (Redmond et al., 2019). A canonical example occurred during the early stages of the COVID-19 pandemic, when limited and conflicting information about spread, severity, and mitigation fueled compulsive monitoring (Niehoff et al., 2024). Whether or not such monitoring yields immediately actionable knowledge, it often feels obligatory because the system is optimized to reduce ambiguity first and only then relax vigilance.

Taken together, contemporary expressions look less like curiosity for its own sake and more like an ambiguity-reduction policy that sometimes overgeneralizes to or is reflected by modern media ecosystems. Morbid curiosity today is not simply about sensationalism or emotional arousal, but about resolving uncertainty when faced with complex, ambiguous, or potentially threatening stimuli, whether real, imagined, or symbolically rendered.

Practical Applications and Implications

Understanding morbid curiosity as a motivated, survival-related ambiguity reduction process extends beyond theory, and may have implications for mental health, public health, and strategies to intervene on its maladaptive spillovers. Public health campaigns, for instance, may leverage morbid curiosity to capture attention and promote behavioral change. For example,

correctly tuned anti-smoking materials that show diseased lungs, or anti-drug campaigns depicting the physical consequences, may provoke cognitive engagement and reflection that discouraged risky behaviors (Peters et al., 2007). Although fear-appeal and efficacy models already specify when threatening messages backfire (e.g., high threat paired with low efficacy; see Ruiter, et al., 2014), the current framework provides entry/exit conditions for approach (i.e., approach is most likely when survival-relevant ambiguity promises information value; avoidance dominates once cues become unambiguously threatening). Accordingly, imagery that are too fear-inducing can short-circuit exploratory engagement and provoke disengagement or defensive processing (Tannenbaum et al., 2015). In contrast, pairing diagnostic (but not gratuitously graphic) content with clear efficacy cues should preserve curiosity-driven attention while enabling adaptive action. A related example, road safety campaigns that use stark, survival-relevant imagery of car accidents, may likewise tap the uncertainty around potential harm, drawing viewers in so long as the material elicits curiosity and reflective processing without overwhelming them. By first engaging uncertainty and then offering a disambiguating response, such campaigns may more effectively encourage the uptake of safety behaviors.

Clinical practice may offer a complementary setting for improving therapeutic practices, particularly exposure-based interventions for anxiety disorders, phobias, and post-traumatic stress disorder (PTSD). These therapies rely on systematic approach to feared stimuli to reduce avoidance and update expectancies (Foa et al., 2007). The utility of morbid curiosity in this domain may be its entry state (i.e., approach under survival ambiguity): curiosity may help patients cross the approach-avoidance threshold, and remain with the cue long enough for inhibitory learning/expectancy violation and new learning to occur (Craske, 2014). Practically, this implies titrating ambiguity, starting with diagnostic but tolerable stimuli, then progressively

reducing uncertainty, so that curiosity sustains engagement without overwhelming arousal (Craske, 2014). Consistent with this possibility, Franklin et al. (2016) found that a mobile app delivering brief, controlled exposure to ultimately distressing self-injury–related content reduced nonsuicidal and suicidal self-injury. Other mechanisms, such as the motivational pull of ambiguity and the subsequent decline once uncertainty is resolved (Ruedisili, 2023), may directly inform session design. For example, initially maintaining a moderate level of uncertainty to stimulate engagement, and gradually reducing uncertainty may effectively leverage curiosity-driven exploration via reward learning. Reframing early exposures information-seeking under uncertainty, rather than as confronting distress, may increase willingness and adherence. Clients who view exposures as a chance to gather information and test predictions may find it easier to persist through challenging treatment sessions.

Morbid curiosity also intersects with behaviors such as doomscrolling, where individuals compulsively consume distressing news while seeking clarity during survival-relevant uncertainty. This pattern plausibly reflects survival-ambiguity driven information seeking, yet it can elevate anxiety and other negative mental health outcomes, such as social media addiction, existential angst and psychological distress, and pessimism about humanity (Satici et al., 2022; Shabahang et al., 2024). Recognizing the underlying role of survival-ambiguity may help target the behavior without pathologizing the motive. Public health initiatives can teach people to notice when their information-seeking behaviors are driven by unresolved uncertainty rather than genuine threat mitigation needs, to seek accurate, targeting information acquisition and emphasizing media literacy and critical thinking to reduce reliance on ambiguous or emotionally charged sources. Equally important are cues for “informational sufficiency,” when continued engagement no longer serves an informational purpose and instead perpetuates distress. Tailoring

supports to individual differences in morbid curiosity may enhance impact by acknowledging the underlying motivational state while guiding it toward adaptive resolution.

In sum, treating morbid curiosity as an ambiguity-resolution mechanism may open practical avenues for tailoring health messaging, strengthening therapeutic engagement, and managing maladaptive information seeking. By leveraging its adaptive features, like attention to survival-relevant information and ambiguity resolution, and by carefully managing when and how ambiguity is introduced and collapsed, these applications may be able to enhance individual and societal well-being while minimizing potential negative outcomes.

Directions for Future Research: Contexts, Moderators, and Mechanisms

Although the present work offers an evidence-based account of morbid curiosity as an adaptive mechanism for ambiguity resolution and survival-relevant information seeking, further tests can sharpen and strengthen this picture. Future work could continue distinguishing the role of ambiguity beyond arousal/valence, such that morbid-curiosity choices and dwell time track uncertainty rather than affect intensity. Trial-wise estimates of expected information gain could prospectively predict exposure above and beyond arousal, novelty, and trait curiosity, with ventral striatal responses adapting downward as ambiguity and thus marginal information value shrinks. Time-sensitive methods can establish temporal precedence in the control–valuation loop by testing whether certain neural activity reliably precedes exploration under ambiguity and mediates the information-value→exposure link. Boundary conditions and individual differences (e.g., intolerance of uncertainty, physical-threat bias, disgust sensitivity) should reveal selective amplification of ambiguity-driven seeking rather than indiscriminate exposure to negative content. Together, these steps can move our understanding of morbid curiosity further toward theoretical precision. Future work can move beyond theorizing about morbid curiosity per se

toward testing how it unfolds across contexts, cultures, development, media ecosystems, and ideological trajectories. Such work would both provide additional support for the foundation laid here and refine its cognitive, emotional, and societal implications.

A promising area for future research is the interaction between morbid curiosity and individual differences, particularly a perceptual bias towards perceiving physical threat. Individuals higher in physical threat sensitivity perceive more potential dangers across context (March et al., 2024). This may increase engagement with morbid stimuli because possible survival relevance elevates information value. Yet the same bias may *decrease* sustained engagement once the scene tips toward clear danger, prompting quick withdrawal (a BIS→FFFS shift). From this view, morbid-curiosity engagement may be highest at moderate levels of physical-threat sensitivity: too low, and there is little urgency to look closer; too high, and the ambiguity collapses into threat, cutting short the curiosity window. For example, when viewing a morbidly curious scene, someone with moderate physical-threat sensitivity may linger to sort out what they're seeing, someone high in sensitivity may glance and then pull back, and someone low in sensitivity may never feel enough pull to engage.

Disgust (i.e., contamination) sensitivity offers a potential complementary moderator. While disgust typically triggers avoidance, morbid curiosity may counteract this reaction long enough to sample ambiguous stimuli for diagnostic value. For example, people with low disgust sensitivity might explore longer a potentially contaminating stimuli to assess its utility or threat. Meaning, disgust sensitivity may moderate approach under ambiguity such that low-disgust individuals sample more, whereas high-disgust individuals approach only when diagnostic safety cues are available; resolving ambiguity in either direction reduces approach. Future studies could examine how varying levels of disgust sensitivity influence engagement with morbid stimuli,

particularly in contexts where ambiguity and survival relevance intersect. Evidence showing that ambiguity-driven sampling co-occurs independent of (or concurrent with) disgust avoidance would support the claim that morbid curiosity operates prior to or in conjunction with, not instead of, contamination defenses.

Future research could examine the subjective emotional profile of morbid curiosity. Affective self-report measures can clarify whether the experiential and motivational aspects of morbid curiosity are distinct from a simple additive combination of fear or disgust and general curiosity or interest. In parallel, psychophysiological measures (e.g., heart rate variability, skin conductance, pupil dilation) and neuroimaging (e.g., fMRI) can clarify the physical signature of morbid curiosity. For example, morbid curiosity may co-activate appetitive interest and vigilance, expressed as early HR deceleration followed by sustained arousal and pupil dilation that scales with expected information value above and beyond general curiosity/disgust. Multimodal designs can to test whether the proposed ambiguity-control–reward network shows coordinated engagement with morbid stimuli and provide empirical evidence for the unique experiential blend proposed in this theoretical framework.

A complementary approach may involve manipulating survival-ambiguity itself. Studies could systematically vary certainty about survival relevance, for example by making stimuli explicitly threatening, explicitly safe, or leaving them uncertain, to test whether ambiguity uniquely sustains the motivational pull of morbid curiosity. Approach decisions and gaze time may follow an inverted-U across an ambiguity gradient, peaking at intermediate uncertainty, while pre-exposure or explicit “safe/threat” labels may reduce approach and attentional hold. If removing ambiguity significantly reduces exploratory behavior and attentional engagement, it would support the current theoretical claim that morbid curiosity is uniquely driven by the

motivation to resolve ambiguity rather than simply reflecting a combination of avoidance-oriented emotions and general curiosity. Future work that varies ambiguity in same-scene variants while equating arousal (cf. March et al., 2017) and that tracks within-stimulus declines in engagement as informational gaps shrink (Ruedisili, 2023; Tamai et al., 2025) would strengthen this inference.

The influence of media exposure on the development and expression of morbid curiosity also warrants longitudinal work. Repeated exposure to violent or graphic content may desensitize or shift thresholds for engaging with morbid stimuli. Future work showing that decreases in curiosity-driven engagement are mediated by knowledge gains (rather than fatigue) would strengthen the interpretation that ambiguity reduction drives the decline noted above (see also Ruedisili, 2023; Tamai et al., 2025). Such findings would clarify how media consumption affects ambiguity resolution and survival-relevant learning. For example, excessive exposure may reduce the perceived ambiguity of morbid content, dulling its cognitive salience (Bushman & Huesmann, 2006). This finding would have implications for public policy and media regulation, particularly concerning the psychological effects of graphic media on vulnerable populations like children and adolescents.

A related area of interest involves the developmental trajectory of morbid curiosity across the lifespan. Adolescence, characterized by heightened exploration and the refinement of decision-making abilities, may represent a critical period for morbid curiosity (Casey et al., 2011; Crone & Dahl, 2012). Longitudinal work could track changes in morbid curiosity over time, particularly during adolescence (Steinberg, 2008). Perhaps ambiguity-driven approach peaks in adolescence and tighten its correspondence to expected information value as executive control matures, predicting greater persistence during information gaps. The results of such

studies could help identify how cognitive and emotional processes underlying morbid curiosity evolve from childhood to adulthood, potentially revealing sensitive windows for adaptive learning or maladaptive engagement. Such studies could also explore how childhood ecologies influence morbid curiosity across the developmental trajectory. For example, early environments marked by unpredictable threat or resource scarcity may amplify ambiguity monitoring and raise the threshold for disengagement, whereas stable, information-rich environments may foster clearer stopping rules and faster recognition of informational sufficiency (Ellis et al., 2009).

Cross-cultural research offers valuable opportunities to investigate how societal norms, values, and political environments shape the expression and development of morbid curiosity. Cultures with strict taboos around death, violence, or grotesque imagery may suppress overt engagement with morbid content, reducing exposure opportunities. However, this suppression may paradoxically increase the appeal of such material by preventing individuals from resolving the ambiguity that initially sparked their morbid curiosity (Bushman & Stack, 1996). When potentially survival-relevant yet ambiguous stimuli are deemed off-limits, the opportunity to reduce uncertainty through information acquisition is blocked, thereby prolonging the state of cognitive tension. As a result, morbid content becomes even more curiosity-inducing, not merely because it is transgressive, but because the unresolved ambiguity continues to fuel the motivation to approach. Evidence that taboos and exposure costs prolong unresolved ambiguity, and that this, more than transgressiveness per se, predicts engagement, would support a cultural account. In contrast, cultures that are more permissive may normalize morbid content, increasing exposure but potentially reducing affective intensity due to habituation (Bushman & Huesmann, 2006). This raises important questions about whether morbid curiosity functions like a “muscle,”

strengthened by repeated engagement, or whether it is more akin to a “hydraulic” system in which curiosity is released in bursts under certain contextual pressures before subsiding.

Comparative work might also examine whether more collectivist cultures emphasize avoidance of morbid stimuli, perhaps due to communal norms around mourning and respect, whereas individualist cultures may foster greater tolerance for personal exploration of ambiguous or aversive content (Kastenbaum, 2000). For example, collectivist societies may limit exposure to death-related imagery to maintain social harmony, whereas individualist societies may tolerate or even encourage confrontation with death and violence as part of personal meaning-making or entertainment. These findings would enhance our understanding of how cultural contexts moderate the adaptive function of morbid curiosity.

A related question is whether these cultural patterns have analogs at the ideological level, for example, shaping how people approach uncertainty in politics. In addition to being shaped by political ideology, morbid curiosity may also function as a psychological precursor to it. Individuals who are more motivated to explore ambiguous, threatening, or aversive information may over time develop greater tolerance for uncertainty, complexity, and nuance. This persistent engagement with cognitively or emotionally challenging content could contribute to the development of broader ideological dispositions, particularly around openness to experience and threat tolerance. From this view, variation in morbid curiosity may influence political orientation rather than reflect it. That is, people high in morbid curiosity may become more comfortable engaging with threatening or taboo topics, fostering openness to novelty and alternative perspectives, traits commonly associated with more liberal or progressive political views. Conversely, individuals lower in morbid curiosity may avoid ambiguous or unsettling stimuli, reinforcing a preference for order, stability, and threat avoidance, traits more closely tied to

conservative orientations (Jost et al., 2003; Jost, 2021). Meaning, morbid curiosity may shape not just what people are drawn to in media or art, but how they conceptualize social threats and moral boundaries more broadly. This has meaningful implications for understanding the motivational roots of political ideology, suggesting that basic information-seeking tendencies, particularly under conditions of ambiguity or threat, could influence the development of more complex ideological worldviews. Future research could test whether individual differences in morbid curiosity predict shifts in political attitudes over time, especially in response to real-world exposure to uncertainty, violence, or existential threat. An important boundary concerns conspiracy content. Conspiracy narratives often exploit ambiguity by keeping questions open while offering the illusion of eventual resolution. In the present account, morbid curiosity should increase initial sampling under uncertainty but should fade as verifiable information fails to accrue; persistent engagement in that case is better explained by another driver.

In sum, the future work can say more clearly what morbid curiosity is, what it is doing in practice, when it helps, when it hurts, and who is most likely to lean in or look away. By pairing careful manipulations with the moderators just identified (and those not), research on morbid curiosity can move from description to prediction and, ultimately, to usable guidance. This would result in a cleaner picture of how an ancient ambiguity-reduction impulse shows up in modern life, from media and public health to therapy and civic life, and how to steer it toward learning, preparedness, and calibrated engagement rather than rumination, avoidance, or overexposure.

Conclusion

Morbid curiosity is best understood as an ambiguity-driven, approach-oriented motivational state that supports survival by keeping attention on uncertain, potentially threatening stimuli long enough to learn something useful. The account advanced here extends

prior work by integrating evidence across cognition, affect, and neuroscience, highlighting a control–valuation network that sustains exploration and resolves uncertainty. This mechanism is distinct from interest in clearly negative or threatening information; its utility depends on unresolved questions about potential threat or benefit, not on negativity alone. Framed this way, morbid curiosity clarifies modern behaviors such as true-crime consumption, rubbernecking, and doomscrolling, where people seek clarity rather than mere sensation. Specifying when, for whom, and to what ends this process operates can guide both basic theory and practical efforts.

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