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Emotional States, Mental Imagery, and Scenario Workshop Outcomes: Implications for Futures Practice

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Abstract

Scenario workshops, a cornerstone of futures practice, rely on participants' ability to imagine and articulate potential futures. However, this capacity is inherently shaped by participants' emotional states, which can either constrain or expand their imaginative horizons. This conceptual review introduces the Emotionally Valenced Futures Cone as a framework for understanding how emotional states shape mental imagery and scenario development. Synthesizing insights from psychology and neuroscience, it demonstrates that the affective state of participants, from optimistic hope to despair, critically influence the exploration of possibilities in imagination. It concludes with strategies for managing emotional dynamics in workshops to cultivate creativity, broaden perspectives, and generate more desirable futures.

Keywords

Emotions, Futures Cone, Scenario Workshop, Futures Thinking, Psychology

Introduction

The capacity to imagine and shape potential futures is increasingly recognized as a crucial skill in a rapidly changing world. Scenario workshops are a participatory foresight method (Jungk & Müllert, 1987) designed to explore alternative future pathways, challenge assumptions, and foster strategic thinking (Van der Heijden, 2005). However, the effectiveness of these workshops relies on the cognitive and emotional states of the participants, which can significantly influence their mental imagery and, consequently, the outcomes of the process. As Lombardo (2007) discusses, the psychology of future consciousness is a critical area of inquiry for understanding how individuals engage with and shape their beliefs about the future.

Emotional states and mental imagery are pivotal yet underutilized in shaping scenario workshop outcomes. As Faiella and Corazza (2025) highlight, emotions influence the affective valence of imagined futures, while creativity and memory drive the generation of transformative ideas. While research acknowledges the importance of individual differences in prospective ability (Ahvenharju et al., 2018, 2021), and the role of affective dispositions such as hope (Chandler & Hathout, 2023) and optimism (Burt et al., 2017; Calleo et al., 2023), a gap remains in understanding how specific emotional states, both positive and negative, directly impact the mental imagery generated during scenario workshops and, ultimately, the quality and direction of the resulting future scenarios. By addressing these cognitive mechanisms, futures practitioners can unlock deeper insights, mitigate biases, and enhance the effectiveness of foresight exercises.

Imagine a scenario workshop on climate change adaptation. If participants are driven by eco-anxiety and hopelessness, they may struggle to envision viable solutions, leading to focus on dystopian outcomes. Conversely, if participants can access hope and optimism, they may be more likely to generate innovative and transformative adaptation strategies.

This paper addresses the identified gap by investigating the impact of specific emotional states on mental imagery

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and scenario development within the context of futures workshops. Drawing on psychology, neuroscience and futures studies, we explore how emotional attitudes such as hope, optimism, pessimism, and cynicism may influence scenario generation. Specifically, we examine how these emotional states affect the vividness, coherence, and valence of mental images produced by participants during scenario planning exercises. The insights collected from the literature are summarized on the Emotionally Valenced Futures Cone (**Fig. 1**), an extension of the classic framework introduced in this article.

Wilson and Inayatullah (2024) emphasize the importance of incorporating aligning of the mind and the autonomic nervous system into the Causal Layered Analysis (CLA; Inayatullah, 1998) process, to create a state of safety, connection, and openness to new possibilities in futures processes. According to the authors, practitioners should consider how to foster environments that promote emotional regulation and access to intuition and embodied intelligence, perhaps through vagal nerve stimulation, which has been shown to enhance interoception (Porges, 2022). In what follows, we review the affective dispositions, and mental states and traits that call for particular attention because of their potentially important and contagious influence on individual and collective future thinking.

By elucidating how emotional states shape mental imagery, this article equips practitioners with strategies for fostering more creative, inclusive, and impactful foresight processes. Synthesizing findings from psychology and futures studies, we suggest practical implications for cultivating expansive emotional states among participants, ultimately enhancing scenario quality and contributing practical tools for shaping more desirable futures.

Individual Differences in Prospective Ability

Individual differences in future thinking impact behaviors, from pro-environmental action (Wittmann & Sircova, 2018) to financial saving (Ersner-Hersfield et al., 2009). Beyond brain structure and function, several psychometric parameters differentiate those with higher capacity for future thinking. One such parameter is self-transcendence values, reflecting concern for others (Schwartz, 2012). For example, in a study measuring concern for climate change consequences in the year 2030 (near-future) and 2080 (far-future), individuals with high self-transcendence values showed greater concern about the far future (Brosch et al., 2018). Self-transcendence is part of Schwartz's (2012) circle of core human values, which reflects a continuum from self-interest (self-enhancement) to concern for others. Individuals with pronounced self-transcendence values are more likely to consider long-term consequences, prioritize others' needs, engage in altruistic behavior, and engage in more extensive simulation of far-future events, as evidenced by increased activation of the ventro-medial prefrontal cortex (Brosch et al., 2018).

Second, people differ in their attitude towards the present, past, and future. One of the most known and used psychometric tests to measure an individual's cognitive orientation towards time is the Zimbardo Time Perspective Inventory (ZTPI; Zimbardo & Boyd, 1999). The ZTPI assesses an individual's time perspective across five dimensions (Past Negative, Past Positive, Present Hedonistic, Present Fatalistic, and Future, later extended to Future Negative and Future Positive) reflecting different temporal orientations that shape decision-making and behavior. Individuals high in future time perspective (FTP) prioritize delayed gratification, set goals, and make decisions based on future outcomes. Individuals with high future negative perspective think about the future with worry and anticipate negative outcomes, while those with a positive future orientation are more optimistic and anticipate positive outcomes (Carelli et al., 2011).

A meta-analysis found that higher socioeconomic status and traits such as agreeableness, openness, conscientiousness, hope, and agency-related characteristics (locus of control, self-efficacy) were positively associated with FTP, while neuroticism showed negative correlations (Kooij et al., 2018). FTP is also correlated with behavioral tendencies and individual decision-making. For instance, poor mental time travel skill is a risk factor for addiction (Bulley & Irish, 2018). However, no studies have hitherto linked this individual tendency to the ability to imagine collective futures of society.

Future Consciousness Scale (FCS; Ahvenharju et al., 2018, 2021) emerged as a psychometric instrument dedicated to fill this gap. According to the authors, the scale measures the capacity to project the future in which the (idealized) future self is expected to exist and describes the potential in how we see "future hopes and fears" (Ahvenharju et al., 2021). Applicable to individuals and groups, FSC assesses the cognitive, emotional, and

motivational factors driving future-oriented thinking. It encompasses five key dimensions: (1) Time perspective, reflecting an understanding of the past, present, and future and valuing long-term thinking; (2) Agency beliefs, capturing confidence in one's ability to influence the future; (3) Openness to alternatives, representing a critical mindset that challenges established assumptions; (4) Systems perception, highlighting the interconnectedness of human and natural systems and the complexities of decision-making; and (5) Concern for others, linking to ethical considerations and a sense of responsibility. These dimensions aim to measure an individual's capacity to envision and adapt to collective futures.

According to the authors, future-conscious individuals are motivated to create a better future, not just any future. Indeed, early evidence suggests that high future consciousness is associated with greater compassion, collective action, well-being, and hope (Lalot et al., 2021), and that older, more educated individuals, and women tend to score higher in Future Consciousness (Ahvenharju et al., 2018, 2021).

How Future Attitudes Shape Beliefs

Belief in a positive future

Perhaps the most significant consequence of future thinking is that it affects people's beliefs about the future, which in turn influence present decisions. Research across 24 countries found that beliefs in positive collective futures, including economic development, scientific progress, and more caring communities, predicted pro-environmental action (Bain et al., 2016), demonstrating how emphasizing co-benefits of climate mitigation can increase public support.

This belief that a good outcome is possible, known as hope, is fundamental for future thinking and scenario planning (Burt et al., 2017; Franco et al., 2013). Hope encompasses agency (belief in one's ability to act) and pathways (perceived routes to goals; Snyder, 2000), motivating action, sustaining engagement, and driving strategic agility (Calleo et al., 2023; Frith & Tapinos, 2020). Higher hope empowers individuals to envision positive futures and maintain resilience in adverse situations (Lin et al., 2022), while motivating long-term goals over immediate gratification.

Building on this understanding of hope, Wilson and Inayatullah (2024) argue that creating a felt sense of safety is essential for fostering hope and opening up possibilities for transformative future thinking. This might involve incorporating practices that promote social connection, emotional regulation, and access to knowledge rooted in the body's physiological and emotional states.

Optimism

Optimism, unlike hope's proactive stance, is a broader dispositional or learned expectation of positive outcomes (Scheier & Carver, 1985; Seligman, 2006). A person using optimistic explanatory style attributes successes to internal factors and failures to external, unstable ones (Gillham et al., 2001). They also vividly imagine positive future events (Blackwell et al., 2013), which promotes agency, proactive planning, and goal pursuit. Higher future time perspective is also associated with increased optimism and better coping (Boyd & Zimbardo, 2006).

Dispositional optimism correlates with perseverance, success, and better health (Scheier et al., 2021), likely due to emotion-focused coping strategies like positive reframing and acceptance (Lin et al., 2022). However, unrealistic optimism without action can lead to complacency and discounting of threatening information (Dillard et al., 2009; Tanner, 2009), potentially hindering commitment to necessary action.

Pessimism, cynicism and status quo bias

In contrast to hope and optimism, pessimism is generally linked to a lack of agency. Pessimistic individuals often avoid actions that could address challenges, feeling their efforts will be ineffective and falling into a "pessimism trap" (Bryant & Cvengros, 2004). This can create a self-fulfilling prophecy, as expecting failure reduces engagement in success-oriented behaviors. However, intercultural differences exist: highly pessimistic Asian Americans may use pessimism adaptively, engaging in more problem-solving coping strategies, while highly pessimistic Caucasian

Americans tend toward avoidance or withdrawal (Chang, 1996). Defensive pessimism, though it can improve short-term planning and performance by encouraging anticipation of obstacles, may undermine long-term motivation for personal development and future planning (Seginer, 2000).

Furthermore, neural mechanisms underlying both depression and pessimism narrow focus onto negative outcomes, impeding the ability to envision positive future scenarios (Hach et al., 2014) and reinforcing the pessimism trap. And negative mental imagery can exacerbate hopelessness, particularly in individuals with depression (Ji et al., 2017).

Similarly to pessimism, status quo bias favors inaction, defined as a tendency to avoid change and maintain the current situation (Godefroid et al., 2023), potentially leading future thinkers to prefer "business as usual." However, unlike pessimism, status quo bias stems from a perceived rational response to the cost of change: inaction (Ritov & Baron, 1992), regret-avoidance, and loss-aversion are preferred due to lower transition costs and lower uncertainty. Thus, status quo preference may be more common than openness to alternatives, a key goal of futures literacy education.

Cynicism, defined as a strongly negative view of human nature focused on moral judgments, is more harmful to collective future thinking than pessimism and status quo bias. It reflects the belief that people are primarily self-interested, often accompanied by contempt, anger, and antagonism. Cynics hold that "powerful people tend to exploit others" and "kindhearted people usually suffer losses," demonstrating a profound lack of trust (Neumann & Zaki, 2023). Beyond its health and social consequences, cynicism's gravest effect is its contagiousness, biasing group decisions toward expecting the worst in human behavior (Neumann & Zaki, 2023).

When decision-makers anticipate negative outcomes or expect cynical behavior from others, they may act in ways that reinforce those beliefs. For instance, forecasted economic changes can generate negative expectations that lead to behaviors fulfilling those outcomes (Petalas et al., 2017). This effect is especially strong in collective decision-making, where shared negativity stifles cooperation and innovation, confirming initial cynicism.

Cynicism also influences future visions through pluralistic ignorance, where individuals mistakenly believe their thoughts differ from the group's. This misperception leads to collective silence, as people refrain from expressing true beliefs, assuming others disagree. For example, climate change discussions may be hindered by the belief that concerns are not widely shared (Geiger & Swim, 2016). This fosters cynicism, isolating concerned individuals and reducing advocacy for positive change.

To combat cynicism in future-thinking workshops and organizations, Zaki (2022, 2024) recommends cultivating "hopeful skepticism", i.e. encouraging questioning and evidence-seeking with openness to positive possibilities and belief in improvement. This approach acknowledges challenges while remaining receptive to trustworthiness and progress.

Scarcity Mindset

A scarcity mindset arises when individuals perceive a lack of resources, narrowing focus to immediate needs and hindering long-term planning. Scarcity constrains cognitive resources and impairs decision-making (Bruijn & Antonides, 2021; Mani et al., 2020), prioritizing short-term gratification and reducing executive function processes in the brain (Huijsmans et al., 2019; **Fig. 1B**). This mindset increases risky choices and reduces cooperation (Liang, 2023), as immediate gains are prioritized over collaboration (Wiedmer et al., 2020), especially under clear resource constraints (van der Veer et al., 2024). Scarcity patterns can be transmitted across generations (Zheng et al., 2023) and persist in wealthy societies due to social comparison or wealth changes (Payne et al., 2017).

Scenario planning may help sustain belief in positive futures during scarcity (O'Brien & Meadows, 2013), but chronic scarcity diminishes hope (Amsler & Facer, 2017) and narrows future thinking. In climate change, framing resource limits as a "point of no return" can trigger climate scarcity, inhibiting the imagination of futures beyond physical constraints (Asayama, 2021). Thus, solutions should focus on reimagining opportunities rather than limitations.

Paradoxically, scarcity can also motivate creativity when reframed as a navigable challenge rather than a limitation (Mahto et al., 2020), particularly when paired with collaborative frameworks and abstract thinking that support prosocial behavior (Laforet et al., 2024).

Anxiety, Eco-anxiety and Depression

Lastly, trait anxiety can also affect how people engage in prospective thinking. Anxiety often leads to a heightened focus on potential threats or negative outcomes (Miloyan et al., 2016). Anxious individuals tend to generate more negative mental images and expect future threats more readily (Marsh et al., 2019), exacerbating worry and apprehension, and potentially impairing decision-making through avoidance behaviors (Wu et al., 2015). Fortunately, interventions modifying mental imagery, such as guided imagery, rescripting and enhancing positive imagery, can reduce anxiety (Pile et al., 2021).

Eco-anxiety, a future-related anxiety disorder linked to catastrophic scenarios and a sense of loss (Boluda-Verdú et al., 2022), is often accompanied by hopelessness. However, future thinking workshops can transform eco-anxiety into a resiliency- and positive change perspective through collective action.

Finally, common mood disorders like depression profoundly impact imagination. With high prevalence (6-22%; Eder et al., 2023), scenario facilitators should be aware of its implications. Depression reduces anticipation of positive events (Bjärehed et al., 2009), with dysphoric individuals reporting more negative future thoughts (Hallford et al., 2020). Depression skews imagined scenarios toward negativity, impacting future thinking and memory of positive intentions, particularly in distant future scenarios (Hecht, 2013; **Fig. 1C**).

The Emotionally Valenced Futures Cone

The Futures Cone is a foundational visual model in futures studies, depicting a taxonomy from broad possibilities to narrowly projected outcomes. Originating from Sangchai's "distances in alternative futures" introduced in 1974 (Sangchai, 2025) and developed through Henchey's taxonomy of possible, plausible, probable, and preferable futures (Henchey, 1978; Voros, 2017), the modern form is credited to Voros (2003), who built on Dator (2002) and others.

This review synthesizes psychological insights on future thinking with the Futures Cone, introducing the Emotionally Valenced Futures Cone, which incorporates valence, i.e., the positivity or negativity of emotion (Walle & Dukes, 2023), as a key dimension influencing imagined futures. Emotional valence reflects the attractiveness or aversiveness of anticipated events and is represented vertically in the Cone, with positive valence above and negative below the midline (**Fig. 1**). Valence was chosen because it plays a central role in decision-making and memory (Pereira et al., 2023) and aligns with natural evaluations of societal futures (e.g., rating from -5 "worse than today" to +5 "better than today"; Bain et al., 2016).

The Emotionally Valenced Futures Cone (**Fig. 1**) summarizes how psychological states, such as optimism, scarcity mindset (causes temporal myopia; 1B), or depressive states (increase attention to negative potential outcomes and impair long-term planning; 1C), influence future imagination and perception.

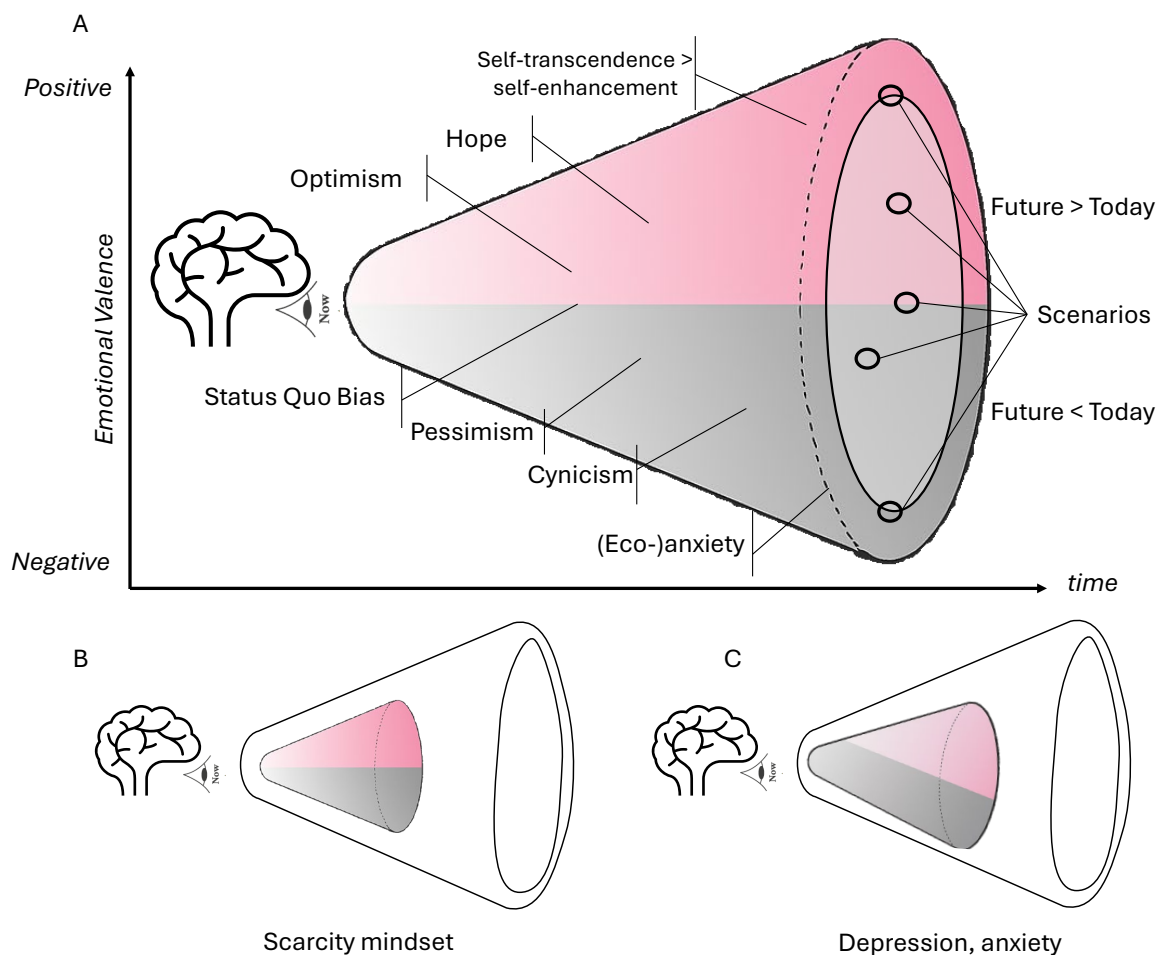


Fig. 1. The Emotionally Valenced Futures Cone. B) Scarcity mindset and burnout, C) Depression and Anxiety.

Integrating emotion-driven visioning extends the Cone beyond its rational-analytic origins (Kuo-Hua Chen & Li-Ping Hsu, 2020). Emotion-driven visioning (central to the cone's "preferable" future) leverages affective and episodic processes in future-oriented cognition, supporting narrative engagement, agency, and future-self continuity. This approach is compatible with research in neuroscience of decision-making, which demonstrates the fundamental role of emotional processes in choice valuation (Asutay & Västfjäll, 2024), and differs from Causal Layered Analysis (CLA ; Inayatullah, 1998). While CLA operates through discursive deconstruction and reconstruction, emotion-driven visioning often draws on embodied and experiential foresight methods (e.g., future memoirs, immersive artifacts such as vision films) to catalyze commitment and insight (Kuo-Hua Chen & Li-Ping Hsu, 2020). Table 1 below summarizes how psychological states influence future thinking and proposes evidence-based practical implications for scenario workshop facilitators.

Table 1. Psychological states and their implications for foresight practice.

Psychological State	Key Characteristics	Impact on Future Thinking	Implications for Foresight Practice
Hope	Belief in positive outcomes Goal-oriented mindset Agency and pathways thinking	Enhances ability to envision positive futures Motivates long-term planning Increases resilience	Foster a safe, supportive environment Use hope-based framing in workshops Focus on pathways to desired futures Emphasize participant agency
(Realistic) Optimism	Balanced positive outlook Critical assessment of challenges through evidence Can be learned	Promotes realistic positive futures Enables strategic thinking Balances opportunities and risks	Combine positive visions with critical analysis Present evidence of successful changes Include feasibility assessments
Self-Transcendence Values	Concern for others, long-term and collective focus	Increases concern for long-term and collective futures Supports altruism and broader scenario thinking	Encourage future-self continuity and legacy motives (e.g., writing a letter from the future self, or to the future generations) Highlight collective benefits Design exercises fostering empathy for future generations and shared purpose
Status Quo Bias	Preference for inaction and current state Loss aversion	Limits openness to alternatives Favors “business as usual” scenarios Underestimates benefits of change	Use scenario techniques to challenge assumptions Highlight transition benefits Lower perceived costs of change
Scarcity Mindset	Focus on resource limitations Short-term thinking Risk aversion	Narrows future possibilities Reduces creative thinking Limits collaborative behavior	Reframe limitations as challenges Emphasize growth mindset, open-mindedness and optimism Foster collaborative solutions and creativity
Pessimism	Negative future expectancy Low agency “Pessimism trap”	Narrows imagined futures Increases inaction and self-fulfilling prophecies	Use reframing to broaden perspectives Encourage “hopeful skepticism” Model and facilitate questioning that is oriented toward improvement
Defensive Pessimism	Cognitive strategy using anxiety to anticipate obstacles Short-term focus	Boosts short-term planning and task performance May inhibit long-term vision and investment in distant futures	Use to identify and plan for obstacles Supplement with exercises for long-term, transformative thinking Foster realistic optimism in group settings
Cynicism	Distrust in human nature Focus on negative outcomes Self-fulfilling prophecies	Restricts positive scenarios Reduces cooperation Creates negative group dynamics and contagion	Address underlying assumptions Showcase positive human behavior Build trust among participants Teach “hopeful skepticism”
Eco-anxiety	Environmental concern Future-related stress Anticipatory grief	Heightens focus on threats Can paralyze action Limits positive imagination	Transform anxiety into action Build collective efficacy Include restoration scenarios Teach about post-traumatic growth

Collective Future Thinking

While individual psychological states shape personal future visions, collective future thinking is a crucial dimension in foresight practice. This shared anticipation and planning for future events influences how organizations and societies envision their trajectories (Ionescu et al., 2023). Research demonstrates that thinking about the future together fosters unity and purpose, encourages collaborative problem-solving, and provides mechanisms for coping with future uncertainties (Dimitriadou et al., 2019).

Collective future thinking encompasses both remembering the collective past and imagining the collective future, highlighting the close connection between these temporal domains. This connection can have both positive and negative effects on individual and collective decision-making (Merck et al., 2016). For example, national nostalgia, i.e. longing for an idealized past, can negatively impact future thinking. Studies show that narratives of national decline foster negativity bias in collective future thought and greater collective angst through perceived societal disintegration (Ionescu et al., 2023; Yamashiro & Roediger III, 2019).

From a psychology and neuroscience perspective, collective future thinking creates a shared reality that can be difficult to alter. When a future vision or belief is collective, its message becomes pervasive, making it hard to detach from it and imagine alternatives. This can result in self-fulfilling prophecies: Repeated mental simulation increases the perceived plausibility of specific events, leading to the pursuit of a common goal (Garcia Jimenez & D'Argembeau, 2024). For example, if exit polls suggest a clear winner, it can discourage voters from supporting the perceived losing candidate, potentially influencing the actual results (Sevincer et al., 2014). Public speakers or news anchors can influence beliefs by impacting the mnemonic accessibility of those beliefs, making repeatedly mentioned ideas more believable (Vlasceanu et al., 2020), even if their objective probability is low.

People benefit from building a common vision because it fosters connection. Co-imagining a future event together leads to feelings of closeness and social connection (Fowler et al., 2024), creating a shared reality and purpose that drive collective beliefs.

For foresight practitioners, understanding collective future thinking offers valuable intervention points. By framing the "collective" as society or organization rather than national identity, people can be motivated to pursue a vision promising collective future benefits. Research across 24 countries (N=6,196) showed that highlighting the co-benefits of addressing climate change, such as reduced pollution and economic development, appealed even to those unconvinced about climate change (Bain et al., 2016). Scenario workshops should actively cultivate shared positive visions while acknowledging how collective memory shapes future expectations.

Implications for Foresight Practice

Psychological traits such as hope, optimism, future time perspective, and futures consciousness shape how individuals engage with the future. Hope provides motivational foundation for action through adversity, while optimism enhances vividness of imagined futures. Futures consciousness enables imagining and acting toward desirable collective futures.

The quality of futures we can imagine matters because episodic future thoughts affect present decisions (Bulley & Schacter, 2020). Exercises in projecting ourselves into the future reduce delay discounting (Bulley et al., 2019; Schacter et al., 2015), while scenario workshops increase openness to alternatives (Chermack & Nimmon, 2008; Phadnis et al., 2015). Similarly, perspective-taking with future stakeholders or one's future self extends decision-making time horizons and reduces intergenerational discounting (Hershfield, 2011; Shahen et al., 2021). This body of knowledge demonstrates why participants' emotional states in foresight work should be calibrated so as to permit access to their full mental imagery capacity.

Facilitator Reflexivity

Facilitators are acknowledged implicitly as guides of scenario processes, but their inner assumptions, worldviews, emotional states, or meta-cognition are not the main object of analysis (Inayatullah, 2010). While this review has focused primarily on participants' emotional states, the facilitator's own psychological condition and narrative frame may have an impact on workshop outcomes through both direct modeling and emotional contagion. If hope,

cynicism, and anxiety diffuse through groups via emotional contagion, facilitators cannot stand outside this dynamic: their affective stance and conviction narratives shape which futures feel thinkable, credible, and worth acting on (Fenton-O'Creevy & Tuckett, 2022; Hodgkinson & Healey, 2022).

The concept of “inner CLA” (Causal Layered Analysis applied reflexively) offers a structured way for facilitators to surface and recalibrate these influences before and after workshops (Inayatullah, 1998; Milojević & Inayatullah, 2015). Inner CLA invites examination of litany-level self-talk, habitual behaviors, worldviews, and underlying metaphors that organize a facilitator’s sense of crisis, agency, and obligation (Inayatullah et al., 2022). For instance, shifting an inner metaphor from “guarding against chaos” to “nurturing a garden of possibilities” can widen the facilitator’s own futures cone and support more inclusive, exploratory interactions (Milojević & Inayatullah, 2015).

This reflexive work would help facilitators notice when scarcity mindset, defensive pessimism, or uncritical optimism are constraining or biasing the imaginative range they enable, and intentionally cultivate hopeful skepticism that tolerates ambivalence while remaining open to transformation (Chandler & Hathout, 2023; Zaki, 2024).

Practically, this suggests that facilitators should:

4. Assess their own position on the Emotionally Valenced Futures Cone before workshops, recognizing where they currently sit in terms of hope, optimism, cynicism, and agency;
5. Engage in their own emotional regulation practices, such as positive reappraisal and receptive listening they offer to participants;
6. Practice narrative transparency when appropriate, acknowledging their positionality without imposing it; and
7. Establish supervision or peer reflection practices similar to those in therapeutic professions, where practitioners process their own emotional responses to the futures they facilitate.

Future research should empirically examine how facilitator emotional states and narrative frames influence workshop outcomes, as this remains an underexplored dimension of foresight methodology.

Scenario workshop facilitators can deliberately weave emotion regulation techniques into foresight processes to help participants move from anxiety or fatalism toward hopeful, realistic engagement. Drawing on the process model of emotion regulation, facilitators can guide groups to reappraise crises and disruptions as openings for alternative futures (cognitive change), support planning around preferred scenarios to build perceived control, and scaffold attentional deployment toward existing resources, small successes, and emerging opportunities, which strengthens optimism and self-efficacy (McRae & Gross, 2020; Quidbach et al., 2015). In an inner-Causal Layered Analysis framing, this means working not only at the litany and systemic levels but also explicitly with participants’ inner worldviews and metaphors, helping them notice and then gradually revise internal narratives of inevitability or doom into more agentic, plural images of the future (Heinonen et al., 2017; Karjalainen et al., 2022). Group processes common in experiential and positive interventions, such as structured sharing, empathic listening, and exercises that invite participants to inhabit future roles, can function as interpersonal emotion regulation, reinforcing Futures Empathy and longer-term, emotionally grounded commitment to transformative scenarios (Lambert et al., 2024; Quidbach et al., 2015).

In conclusion, foresight practitioners can serve as beacons of hope, recognizing it as a vital resource for addressing unpredictable challenges (Chandler & Hathout, 2023) and a key ingredient of psychological capital – together with resilience and optimism (Youssef-Morgan, 2024). These mental dispositions, along with hopeful skepticism (Zaki, 2024), offer pathways toward more effective and psychologically-informed futures practice and can be cultivated through interventions outlined in **Table 1**.

Conclusion and Future Directions

Conversations with others help participants become aware of their beliefs about the future. Groups demonstrate superior foresight compared to individuals (Csaszar & Laureiro-Martínez, 2018), making collective and participatory future workshops ideal for building shared visions of desirable futures and fostering collective hope. Tools from transformative learning and psychotherapy can help transform the emotional states that crowd the gray

bottom of the Emotionally Valenced Futures Cone. The cultivation of emotional resonance with future selves, future generations, and diverse stakeholders who will inhabit the futures being imagined, known as Futures Empathy (Lambert et al., 2024), represents a particularly powerful approach. Futures Empathy exercises can help participants transcend present-focused emotional constraints, as research in environmental psychology shows that taking the perspective of future generations enhances intergenerational sustainability (Shahen et al., 2021). Through structured role-playing where participants embody future personas, empathic listening protocols that surface diverse temporal concerns, and narrative exercises that explore how different stakeholders might experience imagined futures, groups can develop affective bridges to longer time horizons. This empathic expansion functions as interpersonal emotion regulation, reinforcing commitment to transformative scenarios and enabling participants to access hope and agency even when contemplating difficult futures (Lambert et al., 2024; Quidbach et al., 2015).

Emotional valence is central to future thinking because beliefs about the future shape present decisions. Modifying future imagery can counteract unhealthily pessimistic or catastrophic beliefs that impair psychological functioning in anxiety and depression (Ji et al., 2017). In scenario workshops, the affective value of imagined futures is particularly important for fostering healthy collective beliefs, which may manifest as self-fulfilling prophecies.

The framework proposed in this article offers futures practitioners a new lens for understanding the emotional and psychological boundaries that shape scenario planning and collective imagination. By synthesizing psychometric research on the futures cone, the approach surfaces how hope, optimism, status quo bias, pessimism and cynicism, interact to either expand or constrain the imaginative range of workshop participants (**Fig. 1**). This re-framing reveals that scenario planning is not merely a rational or cognitive exercise but is deeply affected by participants' emotional valence, where states like hope and optimism can unlock creative, transformative scenarios, while anxiety or scarcity may narrow the cone of possibility and limit engagement with preferred futures. This perspective invites new ethical, pedagogical, and design practices: facilitators might prioritize emotional safety and cultivate positive affect as a precondition for futures work, or explicitly address the ways in which emotional states bias scenario generation.

Future research should directly test how emotional valence in scenario workshops shapes shared future visions, collective beliefs, and downstream outcomes and how individual differences in future consciousness and time perspective moderate these effects. Longitudinal and experimental foresight studies could track how the emotional profile of workshop experiences predicts: (a) the valence, vividness, and diversity of co-created scenarios; and (b) longer-term behaviors such as sustained engagement with transformative policies, organizational change initiatives, or sustainability practices (Páez et al., 2015). Such research should also examine facilitators' own emotional valence and reflexive practices to test whether emotionally grounded facilitation produces more agentic, prosocial, and self-transcendent collective visions over time (Franco & Nielsen, 2018). This agenda would move beyond treating emotion as a transient by-product of workshops, positioning it instead as a central, measurable mechanism linking scenario processes to enduring belief change and real-world futures-oriented action.

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