

FLEXIBLE METACOGNITION: FROM DIRECT ENGAGEMENT AND DISTANCING TO REGULATION AND REINTEGRATION

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Abstract

Metacognition supports learning, decision-making, and self-regulation; however, increased self-monitoring is not intrinsically adaptive. Monitoring may be inaccurate, cognitively costly, or rigid, and may thereby interfere with skilled performance, effective action, and interpersonal functioning. This critical integrative narrative review synthesises research on metacognitive monitoring and control, automatic and deliberate processing, skilled performance, rumination, perfectionism, and overcontrol. A purposively assembled corpus of 128 potentially relevant publications was examined, of which 56 formed the core conceptual synthesis; a targeted update through 1 July 2026 was used to refine construct boundaries and incorporate recent evidence. The review distinguishes metacognitive distancing—a temporary shift from direct engagement to observing and, where relevant, evaluating one’s own mental activity—from flexible metacognition, defined as the context-sensitive regulation of the initiation, intensity, function, and termination of such monitoring. The proposed cycle comprises direct engagement, distancing, regulation, and reintegration. Reintegration denotes the incorporation of selected metacognitive information into ongoing action while explicit self-monitoring recedes. The framework is positioned in relation to metareasoning, cognitive flexibility, psychological flexibility, and regulatory flexibility. Its adaptive value is hypothesised to depend on cue relevance, judgement calibration, proportionality of control, and successful return to the primary activity. The model is theoretical and heuristic rather than neuroanatomical or clinical, and its proposed dimensions require empirical validation.

Keywords: flexible metacognition; metacognitive distancing; metacognitive monitoring; regulation; reintegration; rumination; overcontrol

1. Introduction

Metacognition encompasses knowledge and processes directed towards one's own cognitive activity, including the monitoring of ongoing performance and the control of subsequent processing (Flavell, 1979; Nelson & Narens, 1990). It can facilitate learning, error detection, confidence calibration, strategy selection, and help-seeking. Its adaptive value, however, does not increase monotonically with the amount of self-observation. Monitoring can consume cognitive resources, amplify negative self-evaluation, or disrupt an automatised skill; reflection may clarify a problem or become repetitive processing; and self-control may support goal pursuit or become rigid when it is insufficiently responsive to changing circumstances (Norman, 2020). The central issue is therefore not whether metacognition is present, but whether it is sufficiently accurate, proportionate, and appropriately timed.

This article uses the term metacognitive distancing to denote a temporary shift from direct engagement in a cognitive or affective process to observing and, where relevant, evaluating that process. Distancing separates the occurrence of a thought, feeling, or judgement from its presumed validity or usefulness: subjective certainty is not treated as proof, emotional intensity is not equated with objective danger, and an initial strategy remains open to revision. Yet distancing is not intrinsically adaptive. It may support evidence checking, confidence recalibration, strategic change, tolerance of uncertainty, and a return to effective action, but it may also sustain repetitive checking, indecision, rumination, and overcontrol.

Flexible metacognition is defined here as the capacity to initiate, modulate, and terminate metacognitive distancing, monitoring, and control in accordance with purpose, context, and informational value. Distancing describes the process by which mental activity becomes an object of observation; flexibility concerns the regulation of that process. The present account does not claim that flexibility, monitoring, or stopping are novel topics in themselves. Its proposed contribution lies in integrating the timing, intensity, function, and termination of monitoring within a single regulatory cycle and in specifying how this configuration differs from neighbouring constructs, particularly metareasoning, cognitive flexibility, psychological flexibility, and regulatory flexibility.

Several research traditions converge on this problem from different explanatory levels. Experimental metacognition examines confidence, calibration, and monitoring-control relations; research on automaticity and skilled performance shows that explicit attention may facilitate acquisition yet disrupt expert execution; and clinical traditions examine metacognitive awareness, decentring, defusion, rumination, perfectionism, and overcontrol. Metareasoning addresses the allocation and termination of cognitive effort during reasoning, whereas regulatory-flexibility models emphasise the fit between strategies, context, and feedback (Aldao et al., 2015; Ball & Richardson, 2025; Bonanno & Burton, 2013; Frieze et al., 2024). These literatures overlap substantially, but they do not address the same functional question.

Accordingly, the review asks when metacognitive distancing should be initiated, how the information it produces should influence regulation, and when explicit monitoring should recede.

It further examines how ostensibly adaptive self-observation can become cognitively costly or behaviourally rigid across learning, decision-making, skilled performance, emotional processing, and interpersonal functioning. The purpose is not to reduce these domains to a single mechanism, but to identify functional convergences while preserving differences in constructs, methods, and levels of explanation.

The resulting framework organises these questions into a cycle of direct engagement, metacognitive distancing, regulation, and reintegration. Reintegration is conceptualised as more than the mere cessation of monitoring: selected metacognitive information is retained in subsequent action while explicit self-evaluation recedes and attention returns to the task, experience, or relationship. This component, together with the broader architecture of the model, is advanced as a falsifiable theoretical proposal requiring empirical validation rather than as an established clinical or neurocognitive fact.

2. Methodology

An integrative narrative review was selected because the relevant literature spans heterogeneous constructs, methodologies, and levels of explanation. The review was designed to clarify concepts, compare competing accounts, identify convergences and tensions, and develop testable propositions rather than to estimate a single pooled effect or claim the exhaustiveness of a systematic review. Its design was informed by integrative-review methodology, guidance on literature reviews as research methodology, and the SANRA criteria for narrative reviews (Baethge et al., 2019; Snyder, 2019; Whitemore & Knafl, 2005).

Source selection was organised around four guiding questions: under what conditions do monitoring and distancing support learning, decision-making, and regulation; when do they become costly, inaccurate, or rigid; how does metacognitive distancing relate to metacognitive awareness, decentring, cognitive defusion, self-distancing, mindfulness, and reflection; and how should flexible metacognition be differentiated from metareasoning, cognitive flexibility, psychological flexibility, and regulatory flexibility? Clinical and performance literatures were included to examine rumination, perfectionism, overcontrol, automaticity, and performance under pressure.

Core searches were conducted in PubMed, PsycINFO, Scopus, and Web of Science, with Google Scholar used selectively to identify theoretical works, books, difficult-to-index sources, and later citations of seminal contributions. The main search was completed on 14 June 2026. A targeted update on 1 July 2026 examined recent work on metareasoning, regulatory flexibility, metacognitive monitoring across cognitive and emotional domains, and the relationship between cognitive flexibility and metacognitive regulation. Reference-list screening and forward-citation tracing complemented the electronic searches.

Search terms were adapted to the indexing conventions of each database and combined using AND and OR. They covered metacognition, monitoring, control, confidence, calibration, metareasoning, distancing, decentring, cognitive defusion, self-distancing, mindfulness, cognitive flexibility, psychological flexibility, regulatory flexibility, automatic and deliberate processing,

skilled performance, performance under pressure, rumination, perfectionism, and overcontrol. Terms related to lateralisation were used only to evaluate the limited heuristic claim concerning contextual experience and explicit representation.

A purposively assembled working corpus of 128 potentially relevant publications was examined at title-and-abstract or full-text level. This figure denotes publications brought forward for substantive consideration through iterative database searching, reference screening, and citation tracing; it is not the total database yield and should not be interpreted as a PRISMA flow count. Fifty-six publications formed the core conceptual synthesis. Publications identified in the July 2026 update were used to test construct boundaries and update the discussion and were therefore not included in the original count of 56 core sources. References were managed in Mendeley, and apparent duplicates were checked against title, authorship, publication year, and DOI.

English- and Romanian-language publications were eligible, with no lower date limit. Priority was given to construct-defining works, empirical studies relevant to monitoring, confidence, control, and performance, meta-analyses, systematic or critical reviews, and theoretical contributions that enabled mechanisms to be compared across domains. Sources were appraised qualitatively with respect to conceptual clarity, methodological appropriateness, measurement validity, sample characteristics, treatment of alternative explanations, causal inference, and convergence with other findings. Simplistic hemispheric typologies, merely metaphorical uses of central concepts, marginally relevant studies, and substantively redundant sources were excluded or treated cautiously.

The synthesis proceeded through conceptual mapping, analysis of adaptive functions, examination of costs and maladaptive forms, comparison with neighbouring flexibility constructs, and theoretical integration. Findings directly supported by the literature were distinguished from interpretive inferences advanced in this review and from novel hypotheses generated by the proposed model. Evidence was not transferred uncritically across perceptual tasks, everyday functioning, and psychopathology, and predominantly cross-sectional associations were not treated as evidence of unidirectional causality.

3. Conceptual clarifications

The conceptual framework is organised around two constructs positioned at different explanatory levels: metacognitive distancing and flexible metacognition. The former denotes the process by which a person temporarily alters their stance towards their own mental activity; the latter denotes the regulatory capacity governing the initiation, intensity, function, and termination of that process. Clarifying this distinction requires situating both constructs within metacognition more broadly and differentiating them from introspection, metacognitive awareness, decentring, cognitive defusion, self-distancing, mindfulness, self-reflection, rumination, and overcontrol.

3.1. Metacognition and metacognitive distancing

Flavell (1979) conceptualised metacognition in terms of knowledge and cognitive processes directed towards one's own cognitive activity. On this account, metacognition is not a

unitary ability: it encompasses knowledge about cognitive functioning, subjective experiences associated with processing, evaluations of performance, and the use of such information to regulate subsequent activity.

Nelson and Narens (1990) formulated one of the field's most influential functional distinctions by differentiating the object level, at which primary cognitive activity occurs, from the meta-level, at which that activity is represented and evaluated. Monitoring conveys information from the object level to the meta-level, whereas control allows meta-level information to modify subsequent processing. Monitoring thus concerns questions such as 'How well do I understand?' or 'How certain am I?', while control concerns whether to continue, verify a response, reallocate effort, or change strategy.

Fleming and Dolan (2012) distinguish primary task performance from metacognitive accuracy. A person may perform correctly while evaluating that performance inaccurately; conversely, strong subjective certainty does not guarantee a correct response. Metacognition should therefore be characterised not by the frequency or intensity of reflection alone, or by confidence level in isolation, but by the relation among metacognitive judgement, first-order performance, and subsequent regulatory behaviour.

In the experimental literature, metacognitive calibration, sensitivity and efficiency describe distinct properties. Calibration concerns the overall agreement between the level of confidence and the correctness of performance; metacognitive sensitivity refers to the ability of confidence judgements to distinguish correct responses from incorrect ones; and metacognitive efficiency relates this sensitivity to first-order performance. In this article, the term 'metacognitive accuracy' is used as a general term when the distinction between these indicators is not central, while the specific terms are retained where the interpretation of the results requires it.

In ordinary cognition, individuals are directly engaged in perception, thought, emotion, and action. Metacognitive distancing occurs when some aspect of this ongoing activity temporarily becomes an object of observation and, where useful, evaluation. It is defined here as a shift from direct engagement in a cognitive or affective process towards a stance that permits verification, regulation, or modification of the response. This definition entails four propositions: distancing alters one's relationship to experience rather than eliminating it; it is temporary rather than a permanent mode of self-observation; it may involve either simple observation or explicit epistemic and strategic evaluation; and its principal function is to create an opportunity for regulation rather than to transform analysis into an end in itself.

The shift from 'I will fail' to 'I notice that I am expecting to fail' illustrates this change in perspective. The first formulation presents the anticipation as a fact, whereas the second distinguishes the emergence of the thought from its validity. Similarly, moving from 'I cannot understand' to 'I notice that I do not yet understand and need to identify the source of the difficulty' transforms a sweeping conclusion about the self into information that can guide regulation.

Depending on context, metacognitive distancing may lead to evidence checking, confidence recalibration, strategic change, consultation of an external perspective, tolerance of residual uncertainty, deliberate termination of further analysis, or a return to the original course of

action. Its adaptive value therefore depends not simply on gaining perspective on experience, but on the informational quality of the resulting appraisal and on how that appraisal is translated into regulation.

Metacognitive distancing should not be conflated with emotional detachment, suppression, or avoidance. Detachment may reduce experiential access, whereas distancing retains the experience as an object of observation. Suppression seeks to inhibit or eliminate mental content; distancing instead modifies the person's relation to that content. Avoidance removes the person from the experience or relevant situation, whereas adaptive distancing can facilitate a more flexible re-engagement with it.

3.2. Related constructs and conceptual distinctions

The term 'metacognitive distancing' is employed here as an integrative working construct. It neither replaces existing constructs nor presupposes their equivalence. Rather, it identifies a shared functional property—the temporary alteration of a person's relationship to a mental content or process—that appears in different forms and serves different purposes across metacognitive awareness, decentring, cognitive defusion, self-distancing, and mindfulness.

Teasdale et al. (2002) describe metacognitive awareness as the capacity to experience thoughts and emotions as mental events, rather than as elements identical to the self or as necessarily true representations of reality. The emphasis lies on changing one's relationship with experience, not on disputing the truth of every thought or emotion. Within the conceptual framework adopted here, metacognitive awareness is considered to overlap partly with metacognitive distancing, without presupposing the existence of an already validated taxonomic hierarchy. Distancing, however, has a broader scope, as it may also include evaluations regarding the accuracy, reliability and effectiveness of strategies.

A closely related construct is decentring. Fresco et al. (2007) define it as the ability to observe thoughts and emotions as temporary events of the mind, thereby reducing identification with and reactivity towards them. The concept is used predominantly in clinical literature and in research on mindfulness. Metacognitive distancing overlaps with the dimension of disidentification specific to decentring, but may also have an explicit epistemic function. The individual can examine not only whether they are able to observe a thought without identifying with it, but also how well-founded it is or what effect it has on the strategy being used.

Cognitive defusion, described by Hayes et al. (2006) within the psychological flexibility model, aims to reduce the rigid control that the literal meaning of a thought exerts over behaviour. The shift from the statement 'I am incapable' to 'I have the thought that I am incapable' does not prove that the thought is false, but alters its behavioural function. Defusion and metacognitive distancing overlap by creating a separation between the emergence of the thought and the immediate response to it. However, defusion does not necessarily involve evaluating the truth of the thought, while distancing may include epistemic verification.

Self-distancing, according to Ayduk and Kross (2010), refers to adopting a less immersive perspective on a personal experience. A person may analyse the situation from an observer's

perspective or use their own name in inner speech rather than reliving the experience exclusively from a first-person perspective. Self-distancing mainly concerns autobiographical and emotional experiences, whereas metacognitive distancing has a broader scope that includes memory, learning, perceptual judgements, confidence and cognitive strategies.

Mindfulness is another related concept. Bishop et al. (2004) describe it as directing attention to the present experience and adopting an attitude characterised by curiosity, openness and acceptance. Mindfulness practices can facilitate the observation of thoughts and emotions without automatic reaction, but do not necessarily involve assessing their accuracy or modifying a strategy. Mindfulness and metacognitive distancing overlap in that they both reduce immediate identification with experience, but they differ in that some forms of distancing are explicitly evaluative, while mindfulness often aims to reduce evaluation and maintain a non-reactive presence.

Metacognitive distancing must also be distinguished from introspection and self-reflection. Introspection directs attention towards one's own mental states and contents, but a person may observe a thought, emotion, or sensation without adopting a different stance towards it or attempting to regulate the process. Self-reflection is broader and may serve metacognitive, narrative, moral, or existential functions through deliberate examination of one's experiences, motives, decisions, or behaviour. By contrast, metacognitive distancing specifically concerns a change of stance towards a mental process that creates the possibility of using the resulting information for regulation.

Carruthers (2011) argues that access to the causes of one's own mental states is not fully transparent. Introspective explanations may therefore constitute plausible reconstructions rather than direct read-outs of the processes that generated behaviour. Distancing consequently creates an opportunity for evaluation but does not guarantee accuracy; the resulting interpretation may remain partial, biased, or erroneous.

3.3. Flexible metacognition, control and repetitive processing

Metacognitive distancing describes a change of stance towards one's own mental activity, but it does not determine whether that stance is activated at an appropriate moment, whether monitoring remains proportionate to situational demands, or whether it can be terminated once its informational value has been exhausted. Flexible metacognition is therefore defined as the capacity to regulate the initiation, intensity, function, and termination of distancing, monitoring, and control according to purpose, context, and informational value. Its proposed dimensions are temporal, contextual, functional, and relational.

The closest established framework in reasoning is metareasoning, which concerns the monitoring and control of ongoing reasoning, including decisions to allocate effort, change strategy or stop processing (Ball & Richardson, 2025). Flexible metacognition overlaps substantially with metareasoning but is intended to cover a broader range of object-level activities, including affective experience, skilled action and interpersonal engagement. Its distinctive

hypothesis is that adaptive regulation may require reintegration after monitoring has served its function.

Flexible metacognition is also distinct from cognitive flexibility. Cognitive flexibility primarily concerns shifting rules, task sets, perspectives or strategies when demands change. Such shifting can occur without explicit metacognitive monitoring, and recent evidence suggests that cognitive flexibility and self-reported regulation of cognition can make independent contributions to academic performance (Musullulu et al., 2025). The constructs may support one another, but neither can be inferred from the other.

Regulatory-flexibility models provide the closest general conceptual neighbour because they define adaptation in terms of context sensitivity, access to a repertoire of strategies, and responsiveness to feedback rather than the universal superiority of any single response (Aldao et al., 2015; Bonanno & Burton, 2013; Frieze et al., 2024). Flexible metacognition adopts this contextual logic but applies it specifically to meta-level operations: whether monitoring should begin, which cues warrant epistemic weight, how control should be scaled, and when explicit self-monitoring should recede. Psychological flexibility is broader, emphasising open contact with internal experience in the service of values-guided action.

Metacognition can inform self-control without being identical to it. Distancing may create a pause before action and permit a response to be revised, but the same capacity may contribute to overcontrol when thoughts, feelings, gestures and social impressions are continuously scrutinised. Lynch (2018) defines maladaptive overcontrol not as high discipline in itself, but as difficulty relaxing or revising control when its costs exceed its benefits.

The distinction is equally important for separating productive reflection from rumination. Productive reflection yields information that can support a decision, strategy change, or acceptance of a limit; rumination repeatedly revisits the same themes without commensurate informational gain and can interfere with action or emotional regulation (Watkins, 2008; Wells, 2009). Adaptive distancing creates a functional interval between experience and response; rumination can convert that interval into a self-perpetuating loop in which evaluation becomes the rationale for further evaluation.

3.4. The status of concepts in the proposed model

Metacognitive distancing and flexible metacognition occupy distinct explanatory levels within the proposed framework. Distancing denotes the process through which ongoing mental activity becomes an object of observation and evaluation, whereas flexible metacognition denotes the regulatory property that governs when, how intensively, for what purpose, and for how long that process is deployed. Table 1 summarises this distinction.

Table 1. *The status of key concepts in the proposed model*

Concept	Explanatory level	Main question
Metacognitive distancing	Process	How does mental activity become the object of observation and evaluation?

Concept	Explanatory level	Main question
Flexible metacognition	Regulatory property	When, to what extent, for what purpose and for how long should distancing be used?

The distinction between process and regulatory property is consequential rather than merely terminological. The occurrence of distancing does not, in itself, warrant an inference of metacognitive flexibility. A person may successfully adopt an observational stance towards a thought, feeling, judgement, or strategy while nevertheless relying on poorly calibrated cues, escalating control beyond what the situation requires, or continuing to monitor after further analysis has ceased to be informative. Conversely, flexible regulation need not entail prolonged or highly explicit self-observation: in familiar contexts, a brief metacognitive signal may be sufficient to trigger an appropriate adjustment and a rapid return to the primary activity. The construct of flexible metacognition therefore concerns the organisation of metacognitive engagement over time, not simply the presence or intensity of reflective awareness.

This distinction also specifies the level at which the present framework makes its principal theoretical claim. Established monitoring–control models explain how information about object-level cognition can inform subsequent control, whereas metareasoning and regulatory-flexibility accounts provide important principles concerning effort allocation, strategy revision, stopping, and context sensitivity (Nelson & Narens, 1990; Ball & Richardson, 2025; Aldao et al., 2015; Bonanno & Burton, 2013). The proposed framework does not replace these accounts. Rather, it hypothesises that adaptive metacognitive functioning depends on the fit among the trigger for distancing, the diagnostic value of the information obtained, the proportionality of the control response, and the capacity to terminate explicit monitoring and reintegrate the selected information into ongoing activity. In this formulation, flexibility is expressed in the regulation of entry, use, and exit from a metacognitive stance.

The distinction further has implications for construct validation. Measures that assess decentring, self-reflection, confidence accuracy, cognitive shifting, or psychological flexibility may capture components that are relevant to the proposed model, but none can be assumed to operationalise flexible metacognition in its entirety. Demonstrating the utility of the construct would therefore require evidence that its proposed dimensions account for meaningful variation beyond established measures and that reintegration contributes explanatory value rather than simply renaming attentional disengagement, task completion, or strategy switching. The comparison that follows is consequently intended as a boundary analysis rather than as a claim of taxonomic superiority: it identifies the explanatory domain of neighbouring constructs, the role they assign to stopping or return, and the specific point at which the present framework extends their logic.

Against this conceptual background, Table 2 locates flexible metacognition in relation to the principal neighbouring frameworks.

Table 2. Construct boundaries and the distinctive contribution of flexible metacognition

Construct	Main focus and adaptive criterion	Stopping or return	Distinctive relation to the present framework
Metacognitive monitoring and control	One's own cognitive processing; informative monitoring and effective control.	Usually task- or model-specific.	Foundational architecture; does not by itself specify flexible entry, intensity and exit across domains.
Metareasoning	Ongoing reasoning; appropriate effort, strategy change and stopping.	Explicitly includes cessation of reasoning.	Closest overlap in reasoning; the present framework extends to affect, action and relationship and adds reintegration.
Decentring, defusion and self-distancing	Relationship to thoughts or feelings; reduced identification, reactivity or literal behavioural control.	Return is often implicit rather than separately modelled.	Provide forms of distancing whose timing and duration are regulated in the proposed cycle.
Cognitive flexibility	Rules, task sets, perspectives or strategies; effective shifting as demands change.	Completion of the shift or task.	Can occur without explicit self-monitoring and is not equivalent to metacognitive accuracy or flexibility.
Psychological flexibility	Internal experience and values-guided behaviour; open contact while pursuing valued action.	Re-engagement with valued behaviour.	Broader clinical construct; flexible metacognition is a narrower account of monitoring and return.
Regulatory flexibility	Coping, emotion-regulation or self-control strategies; context, repertoire and feedback fit.	Strategy revision as conditions change.	Provides the contextual logic; the present framework applies it to meta-level observation and control.
Flexible metacognition	Initiation, use and termination of metacognitive distancing and control; relevant cues and proportionate regulation.	Explicit monitoring recedes while useful information remains in action.	Integrates entry, interpretation, control, exit and return across cognitive, affective and interpersonal contexts.

Note. The comparison identifies functional overlaps and boundaries; it does not imply that the constructs are interchangeable or that flexible metacognition has already demonstrated incremental validity.

4. Critical analysis of the literature

The literature is examined through two related questions: under what conditions does making mental activity an object of observation improve cognition and regulation, and how should the timing, intensity, and duration of that observation be calibrated to situational demands? Evidence is drawn from metacognitive monitoring, learning, decision-making, automaticity, performance under pressure, repetitive thought, and overcontrol, while maintaining distinctions among constructs and explanatory levels.

4.1. Neurocognitive and conceptual foundations of the relationship between experience and representation

Research on cerebral lateralisation supports relative functional specialisation alongside extensive interhemispheric and network-level integration. Split-brain findings vary with modality, task demands, response requirements, and compensatory pathways, and contemporary accounts do not support either two autonomous minds or global ‘left-brain/right-brain’ cognitive styles (De Haan et al., 2020; Hartwigsen et al., 2021). Metacognitive judgements recruit distributed prefrontal, parietal, and cingulate systems whose configuration varies across domains (Fleming & Frith, 2014).

McGilchrist’s (2009) contrast between contextual engagement and explicit representation is therefore retained only as a limited functional analogy. It draws attention to the possibility that explicit representations may become detached from the contexts they are intended to serve, but it does not provide a neural localisation of distancing, regulation, or reintegration. Historical and cultural extrapolations require evidence beyond neuropsychological findings (Spezio, 2019), and documented hemispheric asymmetries do not justify unitary cognitive styles (Corballis, 2014).

The proposed model does not depend on lateralisation. Its neurocognitive commitment is deliberately modest: adaptive metacognition requires coordination among object-level activity, meta-level information, and context-sensitive control within distributed systems. The empirical questions concern when observation is informative and when explicit representation should recede, not which hemisphere implements a given functional component.

4.2. Adaptive functions and the limits of metacognitive monitoring

Research on metamemory, comprehension and applied metacognition shows that monitoring can guide study time, strategy choice and allocation of effort (Dunlosky & Metcalfe, 2009; Metcalfe & Shimamura, 1994; Perfect & Schwartz, 2002). Feelings of familiarity, difficulty and fluency are useful only when interpreted against performance. Rereading may feel fluent without producing durable learning, whereas retrieval practice provides more diagnostic feedback. The benefit lies not in increased reflection by itself, but in the quality of the cue and the control decision that follows.

Confidence represents uncertainty and can guide checking, response revision, help-seeking or postponement when it is sufficiently calibrated to accuracy (Fleming, 2024). Confidence incorporates pre-response evidence as well as response time, effort, action information and post-decision cues (Wokke et al., 2020). Low confidence may promote adaptive cognitive offloading through reminders, but miscalibration can produce unnecessary dependence or refusal of useful support (Boldt & Gilbert, 2019).

At the group level, communicating confidence can improve collective decisions when initial judgements retain sufficient independence, confidence scales are broadly comparable, and disagreement remains possible (Bahrami et al., 2012; Bang & Frith, 2017). Poor calibration or differences in expressive style can instead allow the most assertive participant to dominate. Metacognitive information therefore contributes to interpersonal coordination only insofar as it remains contestable and open to revision.

Recent work reinforces the need to separate related capacities. In university students, cognitive flexibility and self-reported regulation of cognition independently predicted academic performance, indicating that executive shifting and metacognitive regulation should not be collapsed into one ability (Musullulu et al., 2025). Objective metacognitive monitoring has also been linked to emotion-management knowledge, and eliciting confidence judgements improved performance on an emotion-management task (Leckie et al., 2026). Better perceptual metacognitive ability was associated with lower self-reported emotion suppression, although not with reappraisal (Double, 2026). These findings support cautious cross-domain extension but do not make laboratory confidence tasks interchangeable with everyday emotional or interpersonal regulation.

Monitoring remains inferential rather than transparently introspective. Individuals may generate coherent explanations that do not accurately identify the processes underlying their decisions (Carruthers, 2011), while confidence can be systematically influenced by fluency, response speed, effort, familiarity, and post-decisional information (Fleming, 2024). Distancing therefore creates an opportunity for epistemic evaluation rather than a guarantee of veridical self-knowledge.

Experimentally measured metacognitive sensitivity is not uniformly related to psychopathology. Hohendorf and Bauer (2023) found reduced sensitivity in relation to psychotic symptoms but no comparable general effect for non-psychotic symptoms, although the evidence base was smaller. Intense self-scrutiny, maladaptive beliefs and rumination should therefore not be treated as proof of a global objective deficit in metacognitive sensitivity.

A further limitation concerns construct breadth. Laboratory confidence tasks provide precise measures of calibration, sensitivity and efficiency, but capture only part of metacognition, which also includes knowledge, experience and control in everyday settings (Katyal & Fleming, 2024). Flexible metacognition cannot be inferred from confidence accuracy alone because accurate information may still be used rigidly or monitoring may persist after the information has become sufficient.

Monitoring also consumes attentional and, in some circumstances, working-memory resources. Such costs are justified when additional information can prevent a consequential error or materially alter strategy, but they may be disproportionate in simple, familiar, reversible, or highly automatised activities. The relevant comparison is therefore between expected informational benefit and the costs of effort, delay, and interference. Importantly, these costs are conditional rather than universal: perceptual performance can deteriorate under dual-task conditions even when metacognitive efficiency remains comparatively resilient (Konishi et al., 2020).

4.3. Metacognitive distancing in automatic processing, deliberate control and skilled performance

The functional value of monitoring changes with expertise. Explicit attention to rules and component processes can support early learning, whereas conscious control of well-practised microcomponents may disrupt automatised coordination. Work on performance under pressure has shown that heightened self-focus can impair skilled execution, although the literature does not support a single explanatory mechanism (Baumeister, 1984; Beilock, 2010).

The explicit-monitoring account proposes that performers bring automatised components back under conscious control, whereas distraction accounts propose that anxiety and information about performance stakes consume limited working-memory resources. The relative explanatory value of these accounts varies with task, expertise, and the form of pressure involved (Yu, 2015). Stress can also alter attentional allocation, visual control, and sensorimotor coordination, making the target of attention more consequential than awareness per se (Vine et al., 2016). Global monitoring of goals and outcomes may therefore remain adaptive even when component-level monitoring becomes disruptive.

Flow is characterised by intense concentration, reduced evaluative self-concern and close integration of action and awareness, although no single neural explanation is established (Csikszentmihalyi, 1990; Harris et al., 2017). Metacognition need not disappear during flow: feedback-sensitive regulation may continue implicitly within the task rather than as a parallel commentary on performance.

Dual-process theories distinguish relatively automatic processing from working-memory-dependent analytic processing without mapping them onto unitary brain systems (Evans & Stanovich, 2013; Kahneman, 2011). Distancing can support decoupling from an initial response, but direct engagement is not identical to Type 1 processing and distancing is not synonymous with Type 2 processing. Sophisticated expertise may operate through direct engagement, while a feeling of error can trigger monitoring rapidly.

Metareasoning renders the stopping problem explicit: monitoring evaluates whether reasoning is progressing, while control allocates effort, changes strategy, or terminates processing when a satisfactory outcome has been reached or further work is unlikely to improve it (Ball & Richardson, 2025). This is a major point of overlap with flexible metacognition. The proposed extension is to examine whether analogous entry and exit decisions operate in affective,

behavioural, and interpersonal domains and whether useful meta-level information is retained when attention returns to ongoing activity.

Deliberation is most warranted when novelty, ambiguity, stakes, and expected information value are high and when additional evidence can materially alter the choice. It is less useful when the task is well learned, consequences are readily reversible, delay is costly, or further analysis no longer discriminates among alternatives. Flexible metacognition therefore concerns the calibration of the level and duration of monitoring rather than the permanent dominance of either automaticity or analysis.

4.4. Maladaptive forms and clinical limits of monitoring

Clinical research illustrates how monitoring may become maladaptive not merely because it is frequent, but because of the function it serves. Rumination can intensify negative thinking, impair problem solving and instrumental action, and erode social support (Nolen-Hoeksema et al., 2008). Repetitive thought is not intrinsically dysfunctional; its consequences depend on level of abstraction, problem-solving orientation, and its relation to subsequent action (Watkins, 2008).

Metacognitive beliefs can maintain repetitive processing by assigning instrumental value to continued analysis. Rumination and worry may be sustained by beliefs that further thinking prevents danger, produces complete understanding, or controls unwanted mental content (Wells, 2009). Dysfunctional metacognitive beliefs are associated with emotion dysregulation through rumination, worry, and suppression, although the predominantly cross-sectional evidence constrains causal interpretation (Mansueto et al., 2024). From the present perspective, monitoring becomes rigid when each attempt at control generates a new object of evaluation.

Perfectionism illustrates how accurate discrepancy detection can still yield maladaptive regulation. Clinical perfectionism links self-evaluation excessively to demanding standards despite adverse consequences (Shafran et al., 2002). Perfectionistic concerns are more consistently associated with psychopathology than high standards alone, and longitudinal evidence suggests reciprocal relations with depressive symptoms rather than a simple one-way cause (Limburg et al., 2017; Smith et al., 2021). The metacognitive problem may lie less in detecting an imperfection than in assigning it excessive significance and being unable to stop correction.

Overcontrol extends rigidity to emotional expression, risk, vulnerability and interpersonal signalling. Lynch (2018) describes maladaptive overcontrol in terms of inhibition, risk avoidance, perfectionism and difficulty adapting behaviour to context. RO-DBT was developed for difficulties associated with overcontrol, but the evidence remains promising rather than conclusive because of the limited number and heterogeneity of studies (Hatoum & Burton, 2024; Lynch et al., 2015). The present model treats persistent self-monitoring as one possible contributor to reduced spontaneity and connection, not as a validated or exhaustive clinical mechanism.

Regulatory-flexibility research strengthens the contextual interpretation. Adaptation depends on matching strategies to situational demands, maintaining effective strategies and changing ineffective ones rather than simply maximising variability (Aldao et al., 2015; Bonanno & Burton, 2013; Friese et al., 2024). Recent findings indicate that more flexibility is not invariably

better: regulatory flexibility shows diminishing or context-dependent associations with psychological health (Werner et al., 2026), and ambulatory data distinguish context-sensitive flexibility from mere variability and reveal nonlinear relations with affective well-being (de la Fuente et al., 2026).

These findings establish an important boundary condition for the proposed model. Flexible metacognition cannot be equated with frequent switching, continuous self-assessment, or indiscriminate responsiveness. It refers to the fit among signal relevance, context, control, and return to ongoing activity. Because the same observable behaviour may be adaptive in one situation and costly in another, the model should ultimately be tested through person-by-context and within-person designs rather than through global trait scores alone.

5. The proposed integrative model: the cycle of flexible metacognition

5.1. The status and premises of the model

The cycle of flexible metacognition is proposed as a theoretical and heuristic account of the relation among direct engagement, metacognitive distancing, regulation, and reintegration. It is neither a neuroanatomical architecture nor a validated clinical instrument, and it should not be understood as a fixed sequence that must occur in every task. Its purpose is to organise evidence concerning both the benefits and costs of monitoring and to generate testable hypotheses about transitions into and out of explicit metacognitive engagement.

The model rests on four premises. First, distancing alters the person's relation to a thought, emotion, or judgement and can reduce the automaticity of response, but observation itself can consume resources and modify the process being observed (Norman, 2020). Second, metacognitive information has functional value only insofar as it can inform a decision, strategy, action, or acceptance of a limit; accuracy without useful and proportionate control is insufficient.

Third, control should be deployed when its anticipated benefit and efficacy outweigh the costs of effort, delay, and interference, extending the expected-value-of-control principle to the decision to initiate or sustain monitoring (Shenhav et al., 2013). Fourth, adaptive regulation may require reintegration: selected metacognitive information modifies subsequent activity while explicit self-monitoring recedes. This proposition is compatible with, but not reducible to, the reduced identification and reactivity described in models of decentring (Bernstein et al., 2015).

Flexible metacognition is consequently conceived as a dynamic person-by-context capacity rather than as a stable global trait. The analytically relevant unit is the episode: what triggered monitoring, which cues were used, how those cues were interpreted, what control response followed, whether continued monitoring retained informational value, and how the person returned to the task, experience, or relationship.

5.2. The architecture of the cycle

The cycle comprises four functional components—direct engagement, metacognitive distancing, regulation, and reintegration. These components should not be interpreted as strictly

linear or obligatory phases; depending on situational demands, they may be activated, revisited, abbreviated, or omitted.

Direct engagement refers to immediate involvement in perception, thought, emotion, action, or interaction. Attention is directed primarily towards the object of activity rather than towards explicit evaluation of how that activity is being performed. Direct engagement may include automatised processes, expertise, implicit regulation, and sensitivity to feedback; it should therefore not be equated with passivity, lack of awareness, or exclusively intuitive processing.

Metacognitive distancing occurs when a signal of error, uncertainty, conflict, difficulty, or discrepancy transforms an aspect of ongoing mental activity into an object of observation. The person may examine a thought, emotion, confidence judgement, strategy, or the unfolding of an action. The trigger may be internal, such as a sense of error or difficulty, or external, such as feedback, disagreement, or an unexpected outcome.

Regulation refers to the use of the information obtained through monitoring to maintain, modify, or suspend a response. It may involve checking evidence, recalibrating confidence, reallocating effort, changing strategy, seeking support, inhibiting an impulsive response, or accepting that uncertainty cannot be eliminated completely. Crucially, regulation does not always entail increasing control; in some contexts the appropriate response is to reduce monitoring, tolerate ambiguity, or continue acting despite residual uncertainty.

Reintegration refers to incorporating selected metacognitive information into the primary activity while explicit self-monitoring is down-regulated. It is not equivalent to simply stopping evaluation or becoming distracted from it: the subsequent action, interaction, or strategy should retain the useful adjustment. Failure to reintegrate may sustain monitoring by turning the question of whether regulation has succeeded into a new object of scrutiny. Empirically, reintegration should therefore require both a return to engagement and evidence that the selected adjustment persists. Figure 1 presents the functional architecture of the cycle.

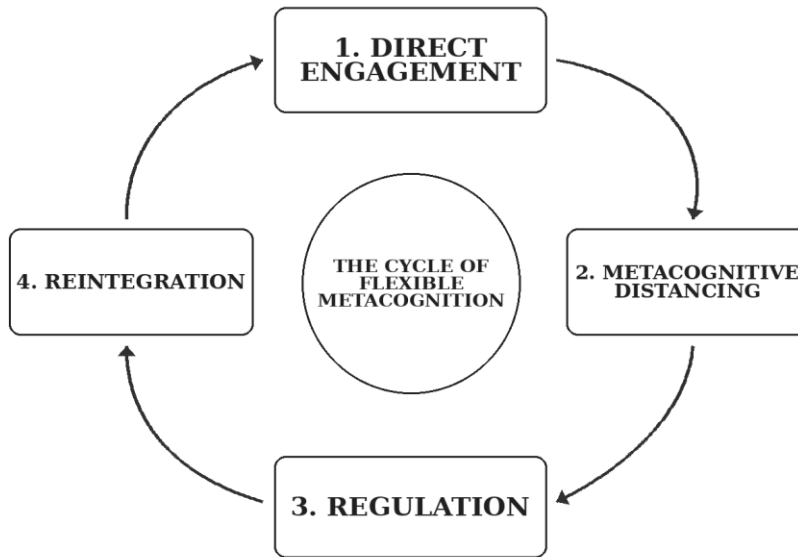


Figure 1. *The cycle of flexible metacognition*

Note. The figure illustrates the relationship among direct engagement, metacognitive distancing, regulation and reintegration. The arrows indicate the dynamic and recurrent nature of the cycle. Reintegration is shown as a theoretically proposed component, not as an independently validated psychological mechanism. Depending on situational demands, the cycle may be brief, may involve movement back and forth between distancing and regulation, or may be interrupted before reintegration.

The cycle is intentionally non-rigid. In a familiar activity, a metacognitive signal may produce a rapid adjustment followed by immediate resumption of action; in a novel or high-stakes decision, distancing and regulation may be more elaborate; and during rumination or overcontrol, the person may repeatedly return from attempted regulation to renewed monitoring. Adaptive functioning therefore depends on four broad conditions: a relevant trigger, sufficiently informative and well-calibrated metacognitive judgements, regulation proportionate to the goal and context, and the capacity to terminate explicit monitoring once its informational value has been exhausted.

5.3. *Dimensions of metacognitive flexibility*

Flexible metacognition can be described along four interdependent dimensions: temporal, contextual, functional, and relational. These dimensions are proposed analytical criteria rather than a validated taxonomy. They extend the context-sensitivity and feedback logic of regulatory-flexibility models to meta-level observation and control (Aldao et al., 2015; Bonanno & Burton, 2013; Fries et al., 2024). Temporal flexibility concerns when monitoring begins and ends; contextual flexibility concerns the intensity of monitoring relative to situational demands;

functional flexibility concerns the purpose served by monitoring; and relational flexibility concerns how self-monitoring shapes interpersonal engagement. Figure 2 summarises these dimensions.

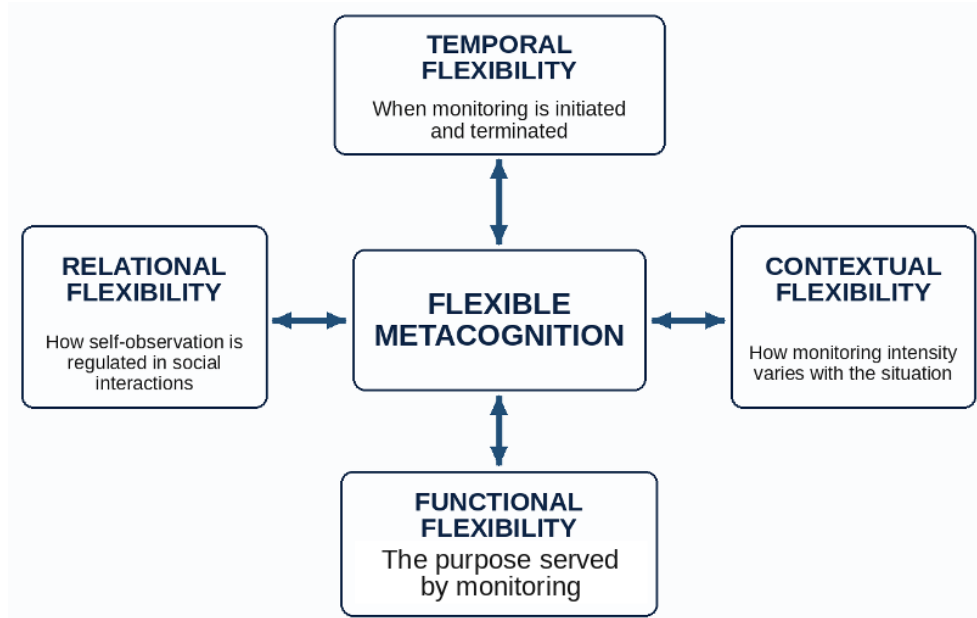


Figure 2. *Dimensions of metacognitive flexibility*

Note. The figure presents the four dimensions of metacognitive flexibility around the general capacity to initiate, adjust and terminate metacognitive distancing, monitoring and control. The bidirectional relationships indicate that the dimensions are mutually dependent and that adaptive functioning results from their coordination.

Temporal flexibility concerns whether distancing is initiated, maintained and terminated at appropriate times. Reflection may be useful before a decision, during learning or after an action, because it can clarify the goal, strategy and outcome. The same processing may become disruptive when activated during an automated skill or continued after the relevant information has been obtained. Temporal flexibility therefore involves both initiating monitoring when appropriate and suspending it before it interferes with the primary task.

Contextual flexibility refers to adjusting the intensity and duration of monitoring to the characteristics of the situation. More extensive monitoring is justified when a problem is novel, information is ambiguous, the stakes are high, consequences are difficult to remedy, feedback is contradictory, or additional data may materially alter the decision. Less metacognitive involvement may be sufficient when a task is familiar and automated, consequences are minor or reversible, the cost of delay exceeds the benefit of checking, or further information no longer distinguishes among the alternatives.

Functional flexibility concerns the purpose served by monitoring. Thought processes that are similar in form may serve different functions. Analysing a problem may help identify a solution, but it may also postpone a decision or avoid uncertainty. Checking a response may reduce the risk of a significant error, but it may also pursue an unattainable degree of certainty. The central criterion is not the mere presence of reflection, but whether it produces usable information and supports proportionate regulation. Wells (2009) shows that rumination and worry may be sustained by beliefs about the usefulness of repeated analysis and the need to control thoughts. In such cases, distancing no longer serves a limited corrective function but becomes part of a rigid attempt to eliminate uncertainty.

Relational flexibility concerns the regulation of self-monitoring in interpersonal contexts. A certain degree of self-monitoring is necessary for adapting communication, respecting interpersonal boundaries, and assessing the effects of one's behaviour. When attention becomes predominantly focused on self-presentation, however, interaction may shift into a continuous evaluation of social performance. Questions such as 'Do I appear competent enough?', 'Have I expressed my emotions appropriately?', or 'What impression does each gesture create?' may reduce responsiveness to the other person and diminish spontaneity of expression. Lynch (2018) associates overcontrol with inhibited emotional expression and difficulties in interpersonal connectedness. Relational flexibility therefore involves using self-relevant information without allowing excessive self-monitoring to constrain vulnerability, interpersonal responsiveness, or openness to emotional connection.

The four dimensions should be understood jointly rather than as independent capacities. Monitoring may be temporally appropriate yet functionally maladaptive if it is initiated at a justified moment but serves the unattainable goal of eliminating all uncertainty. Similarly, analysis may be contextually warranted yet relationally maladaptive if attention to one's own behaviour substantially diminishes responsiveness to others. Flexible metacognition therefore denotes not a fixed optimal level of reflection, but the capacity to coordinate the timing, intensity, function, and interpersonal consequences of monitoring.

5.4. Functional and dysfunctional configurations of the cycle

The functioning of the cycle varies with the relevance of the trigger for distancing, the quality of metacognitive information, and the proportionality of regulation and reintegration. The configurations in Table 3 are therefore conceived as context-dependent modes of functioning rather than as stable traits, diagnostic categories, or permanent person-level profiles.

Table 3. Functional and dysfunctional configurations of the flexible metacognition cycle

Configuration	Main mechanism	Possible consequences
Under-monitoring	Signals of error or uncertainty do not trigger distancing or are not used for re-evaluation.	Overconfidence, impulsivity, repeated errors and persistence with ineffective strategies.

Configuration	Main mechanism	Possible consequences
Flexible metacognition	Metacognitive distancing is activated selectively, yields relevant information, leads to proportionate regulation and is followed by a return to the primary activity.	Learning, confidence calibration, strategy adaptation and tolerance of uncertainty.
Poorly calibrated metacognitive judgements	Distancing is initiated, but the associated metacognitive judgements are inaccurate or disproportionate.	Unnecessary checking, underconfidence, overconfidence and inappropriate decisions.
Hypermonitoring and overcontrol	Distancing is activated frequently, continues after losing its informational value and is not followed by a return to the primary activity.	Processes associated with rumination, indecision, perfectionism, performance interference and relational inhibition.

Note. The configurations and consequences presented in this table are theoretical propositions of the model and should not be interpreted as validated categories, diagnostic profiles or established causal pathways.

These configurations may coexist within the same individual across domains and situations. A person may under-monitor in a domain characterised by overconfidence while hypermonitoring in another domain associated with high emotional or social stakes. Metacognitive flexibility should therefore be assessed at the intersection of person, task, and context rather than inferred from a single global tendency.

Dysfunction can arise at several points in the cycle. Signals of error or uncertainty may fail to trigger distancing; distancing may occur but yield poorly calibrated judgements; or relatively accurate metacognitive information may elicit rigid, disproportionate control. In the first case, contradictory feedback is insufficiently incorporated; in the second, subjective difficulty, anxiety, or familiarity may be misinterpreted as direct evidence of incapacity, danger, or understanding; in the third, uncertainty or error automatically prompts further checking and correction irrespective of contextual value.

A fourth dysfunction concerns failed reintegration. Even after sufficient information has been obtained and a response selected, the person may fail to return to the primary activity. Monitoring whether regulation has succeeded then becomes the object of renewed evaluation, generating a self-referential loop. Within the model, this failure is proposed as one possible mechanism contributing to the persistence of rumination, indecision, and overcontrol, without claiming to explain these phenomena exhaustively.

This distinction separates metacognitive accuracy from metacognitive flexibility. Problems may arise either in the detection and quality of metacognitive information or in how accurate information is translated into control and terminated. A person may recognise uncertainty correctly yet still respond rigidly through repeated checking and an inability to disengage from monitoring.

5.5. Theoretical hypotheses and directions for operationalisation

The model yields a set of empirically testable hypotheses. These should be understood as predictions derived from the literature and the proposed theoretical integration rather than as established conclusions.

The relationship between monitoring intensity and adaptation is expected to be non-linear. Very low levels should be associated with uncorrected errors and overconfidence, whereas very high levels should be associated with interference, delayed action and repetitive processing. Distancing should be more beneficial in novel, uncertain and high-stakes situations than in familiar, automated and easily reversible activities.

The capacity to terminate monitoring may explain variation in adaptation beyond metacognitive accuracy. Two people may detect uncertainty with similar accuracy yet differ in their ability to use the information and return to the task. Likewise, the actionability of information may mediate the relationship between monitoring and outcome: monitoring should be more useful when it enables a relevant adjustment than when no meaningful course of action is available.

In automated tasks, explicit monitoring of microcomponents should impair performance more than global monitoring of goals and outcomes. In clinical contexts, beliefs that uncertainty must be eliminated completely may predict hypermonitoring and ruminative processing independently of metacognitive accuracy. Interpersonally, chronic self-monitoring may be associated with reduced emotional expressiveness and spontaneity. Overall, indicators of metacognitive flexibility should predict everyday adaptation more strongly than the overall frequency of self-reflection.

Testing these hypotheses requires a multimethod approach because no single indicator can capture every component of the model. Monitoring accuracy can be assessed through confidence judgements and measures of metacognitive calibration, sensitivity, and efficiency; such methods permit confidence to be analysed separately from first-order performance (Fleming, 2024).

Distancing can be investigated using measures of decentring, meta-awareness, cognitive defusion or self-distancing, while recognising that these instruments are not interchangeable. Bernstein et al. (2015) show that existing measures capture different combinations of meta-awareness, disidentification and reduced reactivity. Validating the model will therefore require measures that distinguish the capacity for distancing from flexible regulation of its use.

Temporal flexibility can be investigated by manipulating when reflection occurs: before a task, during execution or after completion. Comparing novel and automated tasks would allow the moderating role of experience to be tested. Contextual flexibility can be examined by varying stakes, ambiguity, decision reversibility and the availability of additional information.

Functional flexibility requires assessment of the consequences of processing, not only its content. Daily-diary methods, ecological momentary assessment and longitudinal studies could examine whether reflection leads to clarification and action or to repetitive analysis without progress. Relational flexibility could be investigated through interactive tasks, behavioural observation and measures of attention directed towards oneself and others.

Reintegration is the most novel and least validated component of the framework. It may be operationalised through the latency of return to a task after evaluation, deliberate termination of checking, reduction in explicit self-evaluation after a response has been selected, and resumption of behavioural or interpersonal engagement. Experimental work should determine whether these indicators form a distinct dimension or are better explained by established constructs such as psychological flexibility, cognitive control, attentional disengagement, or tolerance of uncertainty.

6. Discussion

The cycle of flexible metacognition offers an integrative framework for findings that appear contradictory when metacognitive monitoring is treated as uniformly beneficial. Monitoring can enhance learning, confidence calibration, strategic adjustment, and interpersonal coordination, yet it can also consume cognitive resources, disrupt automatised performance, and sustain repetitive or excessive control. The present framework interprets these apparently divergent outcomes as different configurations of cue relevance, judgement quality, proportionality of control, and the capacity to return effectively to ongoing activity.

A first theoretical implication is that the adaptive value of metacognition cannot be captured by a linear “more is better” assumption. The relevant question is not whether reflection should be maximised, but whether the form, intensity, and duration of monitoring are appropriately matched to task demands. Novel, ambiguous, or consequential situations may justify extended verification, whereas familiar, highly automatised, or readily reversible activities may require little explicit monitoring. This position is consistent with evidence concerning the potential costs of metacognitive activity and with regulatory-flexibility research showing that adaptive outcomes depend on context-sensitive fit rather than on greater variability or control per se (de la Fuente et al., 2026; Norman, 2020; Werner et al., 2026).

A second implication concerns the distinction between metacognitive accuracy and flexibility in the use of metacognitive information. Accuracy refers to the correspondence between metacognitive judgement and performance, whereas flexibility concerns how such information is translated into control and whether monitoring is appropriately terminated once a sufficiently informative decision, strategy, or accepted limit has been reached. A person may accurately recognise uncertainty yet respond with excessive checking, while an imperfect judgement may still support adaptive behaviour if it remains open to revision and leads to proportionate regulation. This distinction suggests that adaptive metacognition cannot be inferred from calibration alone.

The framework also extends existing accounts by linking entry into monitoring, meta-level regulation, and exit from monitoring across multiple domains while preserving construct boundaries. Metareasoning already addresses effort allocation, strategic change, and stopping

within reasoning processes (Ball & Richardson, 2025); cognitive flexibility primarily concerns shifting among task sets, strategies, or perspectives; and psychological and regulatory flexibility refer to broader forms of context-sensitive adaptation. Flexible metacognition is narrower in its immediate object because it concerns the regulation of meta-level observation and control, but broader than metareasoning in the range of domains to which it is intended to apply, including cognition, affective experience, skilled performance, and interpersonal engagement.

Within this architecture, the most distinctive theoretical proposal is reintegration. Adaptive regulation is hypothesised to involve not merely the cessation of checking, but the resumption of primary engagement while the relevant metacognitive information remains functionally incorporated into subsequent behaviour. Reintegration therefore differentiates successful termination from simple disengagement or abandonment of monitoring. The framework will add explanatory value only if reintegration and the proposed dimensions of flexibility account for adaptation beyond metacognitive accuracy, reflection frequency, attentional disengagement, and established conceptually related constructs. If such incremental validity cannot be demonstrated, the framework would require narrowing, reformulation, or integration into more parsimonious existing accounts.

The model also provides a functional lens through which maladaptive processes such as rumination, perfectionism, and overcontrol can be examined without reducing them to a single mechanism. In rumination, the central difficulty may lie in the failure to transform reflection into a conclusion, decision, action, or acceptance of a limit. Observation generates further evaluation, and evaluation itself becomes a reason to continue monitoring. This interpretation is compatible with Wells' (2009) metacognitive account, in which repetitive processing may be maintained by beliefs concerning the usefulness of continued analysis and the perceived necessity of controlling thoughts.

Perfectionism illustrates a different form of disruption. Dysfunction may occur even when a discrepancy has been detected accurately. An individual may correctly identify an imperfection yet assign disproportionate significance to it and continue corrective activity after its marginal benefits have become negligible. From the perspective of flexible metacognition, the problem therefore need not reside in inaccurate monitoring, but in a rigid regulatory rule that converts each perceived error into a requirement for further control. This distinction reinforces the argument that the quality of metacognitive regulation cannot be reduced to the accuracy of metacognitive judgement.

In overcontrol, hypermonitoring may extend beyond thoughts and decisions to emotional expression, nonverbal behaviour, vulnerability, and the impression made on others. Lynch (2018) identifies difficulties in adapting behaviour to context as a central feature of maladaptive overcontrol. The present framework suggests that sustained self-monitoring may redirect attentional resources away from the interaction partner and constrain the spontaneous social signals that facilitate interpersonal connection. This interpretation remains a theoretical hypothesis rather than an independently validated clinical mechanism and should therefore be examined empirically rather than assumed to represent a general pathway.

The distinction between distancing and avoidance is particularly important in this context. Adaptive distancing preserves contact with an experience while creating sufficient psychological and cognitive space for evaluation and response selection, whereas avoidance reduces contact with the experience or with the situation in which it occurs. Distancing itself may become maladaptive when its primary function shifts from clarification or regulation to the postponement of action or the reduction of contact with vulnerable experience. Consequently, superficially similar difficulties may require opposite changes in metacognitive engagement: fusion with thoughts may benefit from greater decentring or defusion, whereas excessive self-scrutiny may require reduced evaluative monitoring and greater direct engagement. These implications remain conceptual and should not be interpreted as a therapeutic protocol in the absence of direct empirical validation.

The framework also has implications for education and self-regulated learning. Metacognitive instruction should not be conceived simply as an attempt to increase the frequency of reflection. Learners need to discriminate between diagnostic and misleading cues, compare subjective familiarity or confidence with actual performance, and use monitoring to initiate, maintain, or revise learning strategies. Equally important, they must be able to terminate reflection once it has fulfilled its informational function, so that monitoring learning does not begin to displace the learning activity itself.

This perspective supports instructional approaches that generate diagnostically informative feedback, including retrieval-based testing, self-explanation, and explicit comparison between predictions and subsequent outcomes. Such interventions should nevertheless be calibrated to expertise and task structure. During initial acquisition, explicit monitoring of component steps may support learning and error correction; once performance becomes substantially automatised, persistent attention to individual microcomponents may interfere with fluent execution. Metacognitive support should therefore change as the functional requirements of the task change.

Similar principles apply to decision-making. The amount of deliberative effort devoted to a decision should be calibrated to the stakes involved, the level of ambiguity, the reversibility of the outcome, and the expected informational value of further analysis. Extended verification is more defensible when errors carry substantial consequences and additional evidence can materially alter the choice. By contrast, in minor or readily reversible decisions, repeated analysis may impose cognitive and temporal costs that exceed the expected cost of making an imperfect choice. Flexible metacognition therefore concerns not only whether deliberation occurs, but whether its continuation remains informationally justified.

Metacognitive information also has an interpersonal dimension. Communicating degrees of confidence can facilitate collective decision-making when uncertainty is expressed in a way that remains open to disagreement and revision. However, differences in confidence expression should not be conflated with differences in competence. Group decisions may become distorted when the most forcefully expressed judgement receives disproportionate weight independently of its calibration. Adaptive collective reasoning therefore requires not only the communication of confidence, but also norms that preserve room for uncertainty, dissent, and revision.

Finally, the distinction between global monitoring and component-level monitoring may be particularly consequential in skilled performance under pressure. Experienced performers can remain sensitive to goals, outcomes, and task-relevant feedback without bringing each automatised component of performance back under explicit conscious control. Interventions designed to support performance should therefore aim to direct attention towards diagnostically useful information rather than attempting either to maximise self-monitoring or to eliminate self-awareness altogether.

7. Limitations and conclusions

The breadth of this integrative review enables theoretical synthesis across several research traditions, but necessarily constrains exhaustiveness and reproducibility. The working corpus was purposively assembled rather than generated through a prospectively documented systematic-review protocol. Initial database yields, the exact number of duplicates, and complete reasons for full-text exclusion were not retained, while source selection and appraisal were conducted by a single author. Accordingly, the figures of 128 publications examined and 56 core sources should be interpreted as descriptive indicators of the working corpus rather than as components of a reproducible PRISMA flow.

A further limitation arises from the conceptual and methodological heterogeneity of the literatures integrated in the review. Metacognitive awareness, decentring, cognitive defusion, self-distancing, and mindfulness cannot be treated as manifestations of a single homogeneous process, while confidence judgements, autobiographical reflection, and interpersonal self-monitoring operate at different levels of analysis and are assessed through distinct methodological traditions. The construct-comparison framework proposed in this article is intended to clarify conceptual boundaries, but it does not in itself establish discriminant or incremental validity.

Relatedly, laboratory measures permit rigorous differentiation between first-order performance and metacognitive judgement, yet necessarily simplify contexts shaped by affect, values, interpersonal consequences, and incomplete information. Recent cross-domain findings provide an important basis for theoretical integration, but they do not warrant direct extrapolation from perceptual metacognition to clinical or interpersonal functioning (Double, 2026; Leckie et al., 2026). Ecological, longitudinal, and within-person research will therefore be required to determine whether the proposed dimensions of flexibility characterise naturally occurring episodes of monitoring, regulation, and return to ongoing activity.

The interpretation of clinical phenomena requires particular caution. A substantial proportion of the available evidence concerning metacognitive beliefs, rumination, perfectionism, overcontrol, and psychological symptoms is cross-sectional or correlational. Observed associations may therefore reflect antecedent vulnerability, consequence, reciprocal maintenance, or the influence of unmeasured third variables. The present framework does not establish a unidirectional causal pathway and should not be interpreted as a diagnostic classification or therapeutic protocol.

The proposed model itself remains theoretical and empirically unvalidated. Its dimensions may not emerge as psychometrically distinct factors, and reintegration may overlap substantially with established constructs such as attentional disengagement, action orientation, psychological flexibility, or the ordinary completion of cognitive control. Moreover, the cyclical representation necessarily simplifies processes that may be distributed, partially simultaneous, and dynamically coupled. The discussion of cerebral lateralisation is explicitly heuristic and should not be interpreted as providing neural localisation for any component of the model.

An additional challenge concerns the inherently normative question of when monitoring should cease. No universal threshold determines the point at which reflection has become sufficient. Continued analysis may be adaptive when the stakes are high, evidence remains incomplete, consequences are difficult to reverse, or moral obligations require further deliberation; the same persistence may function as avoidance, indecision, or overcontrol in another context. Any empirical or applied use of the framework must therefore specify the relevant goals, consequences, reversibility of action, informational value of further monitoring, and costs associated with continued cognitive engagement.

These limitations also define the principal conditions under which the model can be evaluated. Empirical validation requires evidence at the levels of construct differentiation, incremental prediction, and process-level observation. Metacognitive distancing must be distinguishable from introspection, avoidance, and suppression; flexible regulation must be assessed independently of the overall frequency of reflection; and reintegration must be operationalised through observable indicators such as the cessation of explicit monitoring, return to the primary activity, and persistence of the selected adjustment in subsequent behaviour. Evidence for incremental validity would require these indicators to explain variation in performance, well-being, or interpersonal functioning beyond metacognitive accuracy and established neighbouring constructs.

Equally important, the framework must remain explicitly open to falsification. If its proposed dimensions cannot be distinguished empirically, if reintegration provides no explanatory or predictive value beyond established constructs, or if existing theoretical models account for the relevant findings more parsimoniously, the cycle should be revised, narrowed, or abandoned in its present form. Its scientific value therefore depends not on the breadth of the phenomena that can be retrospectively accommodated within it, but on its capacity to generate discriminating and empirically testable predictions.

Within these constraints, the present synthesis suggests that the adaptive value of metacognition depends less on the amount of self-observation than on the context-sensitive regulation of when monitoring is initiated, how metacognitive information is interpreted, how strongly it influences control, and when explicit monitoring is brought to an end. The proposed cycle integrates direct engagement, metacognitive distancing, regulation, and reintegration while preserving the distinction between metacognitive distancing as a process and flexible metacognition as the regulation of that process.

From this perspective, metacognitive competence involves recognising when a shift in perspective is warranted, evaluating the informational value of the resulting metacognitive signals, translating those signals into proportionate regulation, and returning to ongoing cognitive, affective, behavioural, or interpersonal engagement once further monitoring no longer provides sufficient value. Flexible metacognition should therefore be understood as a testable theoretical framework rather than as an established account of metacognitive, neurocognitive, or clinical functioning.

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