INTERNATIONAL RESEARCH JOURNAL OF MANAGEMENT SOCIOLOGY & HUMANITIES

ISSN 2277 – 9809 (online)
ISSN 2348 - 9359 (Print)

An Internationally Indexed Peer Reviewed & Refereed Journal

www.IRJMSH.com
www.isarasolutions.com

Published by iSaRa Solutions

Before Autonomy: A Capacity-Gated Model of Human Agency and the Neural Preconditions of Motivated Choice

Pia Singh
ORCID: 0009-0003-2091-0730

Conceptual Paper, Prepared for Journal Submission / Preprint Deposit

Abstract

Self-Determination Theory (SDT) and its many organizational extensions treat autonomy, competence, and relatedness as basic psychological needs whose satisfaction predicts intrinsic motivation and well-being, largely assuming that individuals share a roughly equal underlying capacity to respond to autonomy-supportive conditions when they are offered. This paper challenges that assumption and proposes a precondition layer beneath SDT's basic-needs account: a Capacity-Gated Model of human agency, in which autonomous, intrinsically motivated choice is neurologically accessible only once an individual's threat-appraisal system is sufficiently quiescent and their prefrontal regulatory bandwidth sufficiently available. Where these preconditions are unmet, a condition increasingly produced by chronic surveillance, precarity, and algorithmic management in contemporary digitally mediated work, behavior defaults to a narrower, reflexive mode this paper terms the compliance reflex, regardless of the autonomy-supportiveness of the surrounding environment. Building on affective and decision neuroscience, this paper

(1) develops the theoretical logic of capacity-gating
(2) reconstructs the classical needs hierarchy as a diagnostic of capacity rather than a sequence of wants
(3) integrates this model with two prior frameworks developed by the author, Regret-Sensitive Strategic Persistence (RSSP) and the five-pillar Motivation Ecology model, into a single, layered account of motivated behavior
(4) sets out a formal research agenda of six propositions and associated research questions intended to guide a planned programme of empirical work.

The paper's contribution is conceptual: it does not report data, but establishes a theoretical claim, a set of falsifiable propositions, and a research agenda ahead of forthcoming empirical studies designed to test them.

Keywords: self-determination theory, motivation, autonomy, affective neuroscience, algorithmic management, needs hierarchy, capacity, compliance

1. Introduction

Motivation research has, for half a century, organized itself around a foundational question: what conditions cause people to want to act, and to sustain that wanting over time? Self-Determination Theory (Deci & Ryan, 1985, 2000; Ryan & Deci, 2000) answered this question more successfully than perhaps any competing framework, by specifying three basic psychological needs, autonomy,

competence, and relatedness, whose satisfaction predicts intrinsic motivation, psychological well-being, and sustained engagement across an enormous range of life domains, including work. Decades of organizational research have since operationalized SDT's central claim as a design problem: build environments that support autonomy, competence, and relatedness, and motivation quality will follow.

This paper argues that a fundamental piece of that account has been assumed rather than tested: the presumption that individuals, once placed in an autonomy-supportive environment, share a roughly equal underlying capacity to make use of that support. SDT specifies the environmental and relational conditions under which basic needs are satisfied; it says comparatively little about what has to be neurologically true for an individual to be capable of receiving that satisfaction in the first place. This omission matters more now than it has at any prior point in the theory's history, because contemporary work, increasingly organized around algorithmic management, continuous performance monitoring, and platform-mediated precarity (Kellogg, Valentine, & Christin, 2020), appears to produce exactly the kind of chronic threat-appraisal states that, on independent grounds from affective neuroscience, are known to narrow and reflexively bias behavior (LeDoux, 1996, 2015; Arnsten, 2009).

This paper develops a Capacity-Gated Model of human agency to address that gap. The model's central claim is straightforward to state and, I will argue, testable: autonomous, intrinsically motivated choice is not a constant capacity waiting to be unlocked by the right environment, but a gated one, available only once two conditions are jointly satisfied, sufficiently low amygdala-driven threat appraisal, and sufficient prefrontal regulatory bandwidth free from the demands of vigilance. Where either condition is unmet, I argue, behavior defaults to a narrower, faster, more reflexive mode of responding that I term the compliance reflex, a state that persists even when an environment nominally offers autonomy support, because the offer is not what is missing; the capacity to use it is.

The purpose of this paper is conceptual, not empirical. Its contribution is threefold. First, it develops the theoretical logic of capacity-gating by integrating three literatures rarely brought into sustained dialogue: SDT and its organizational extensions; affective and decision neuroscience concerned with threat appraisal, regulatory control, and reward salience; and the organizational literature on algorithmic management and surveillance. Second, it reconstructs the classical needs hierarchy (Maslow, 1943), long set aside by organizational scholars as empirically unsupported in its strict sequential form, as a diagnostic instrument for capacity rather than a ladder of wants, recovering conceptual value from a framework the field has been too quick to discard entirely. Third, it integrates this new model with two frameworks I have developed and published in prior work, Regret-Sensitive Strategic Persistence (RSSP) and the five-pillar Motivation Ecology model, into a single layered account: capacity-gating as the neurobiological precondition layer, Motivation Ecology as the mid-level account of how psychological needs interact once accessible, and RSSP as the decision-level account of how anticipated regret shapes persistence within that space of accessible motivation.

The paper closes with a formal research agenda, six propositions and a set of associated research questions, intended to guide a forthcoming three-phase empirical programme (instrument development, organizational field study, and intervention pilot). Establishing this theoretical and propositional groundwork in a standalone paper, ahead of that empirical work, serves two purposes: it allows the ideas to be evaluated, cited, and built upon by the field independently of any single dataset, and it gives the empirical programme a clearly specified, falsifiable target to test against.

2. Theoretical Background

2.1 Self-Determination Theory and the Autonomy Assumption

SDT distinguishes between controlled motivation, in which behavior is driven by external or internally pressured contingencies, and autonomous motivation, in which behavior is experienced as self-endorsed, whether intrinsically enjoyable or personally valued (Ryan & Deci, 2000; Gagné & Deci, 2005). A large body of organizational research demonstrates that autonomy-supportive management practices, participative decision-making, meaningful rationale-giving, acknowledgment of perspective, reliably shift employees toward more autonomous forms of motivation, with downstream benefits for well-being, persistence, and performance (Deci, Olafsen, & Ryan, 2017).

This literature has been extraordinarily generative, but it rests on an implicit assumption worth making explicit: that the individuals receiving an autonomy-supportive intervention are, at the point of receiving it, equally capable of metabolizing that support into autonomous motivation. Where this assumption fails, where an individual's underlying capacity to process and act on autonomy support is itself compromised, the standard SDT account offers no clear mechanism to explain the resulting null or attenuated effect. The Capacity-Gated Model developed in this paper is intended to fill precisely that mechanism.

2.2 The Needs-Hierarchy Tradition Reconsidered

Maslow's (1943) hierarchy of needs proposed a fixed sequence, physiological, safety, belonging, esteem, self-actualization, in which lower needs must be substantially satisfied before higher needs become motivationally active. Organizational behavior scholarship has, with good reason, largely moved away from the strict sequential and hierarchical claims of this model, which have not held up well empirically (Wahba & Bridwell, 1976; Kenrick, Griskevicius, Neuberg, & Schaller, 2010, offering a partial evolutionary reconstruction). What has been lost in this move away from Maslow, I argue, is not the hierarchy's sequencing claim, which deserves its skeptical reception, but a different, more defensible idea buried inside it: that an individual's accessible range of motivational concerns is not fixed, but expands and contracts with underlying capacity.

This paper's proposed resolution, building on prior work (the Motivation Ecology model), is to separate two claims that Maslow's original formulation collapsed into one. The first, that needs must be satisfied in a strict, invariant sequence, is not defensible and is not retained here. The second, that access to higher-order motivational concerns depends on some form of underlying sufficiency at a more basic level, is, I argue, defensible once that 'underlying sufficiency' is redefined in neurobiological rather than sequential terms. The Capacity-Gated Model

operationalizes this second claim directly: it is not that safety needs must be satisfied before belonging needs can matter, but that a specific neurobiological condition (low threat appraisal, available regulatory bandwidth) determines how wide a range of motivational concerns, safety, belonging, esteem, or any of the five Motivation Ecology pillars, an individual can currently access at all.

2.3 Neurobiological Foundations of Threat, Regulation, and Motivated Choice

Affective neuroscience offers a well-established account of the mechanisms this paper proposes as gating conditions. The amygdala plays a central role in rapid threat appraisal, biasing attention, physiological arousal, and behavior toward vigilance and self-protection when a stimulus or context is appraised as threatening (LeDoux, 1996, 2015). Under conditions of acute or chronic threat appraisal, prefrontal cortex (PFC) regulatory control over affect and behavior is measurably degraded, a well-documented stress-induced shift from deliberate, flexible, PFC-mediated processing toward faster, more reflexive, subcortically-driven responding (Arnsten, 2009; Miller & Cohen, 2001). Separately, dopaminergic circuitry plays a central role in marking outcomes and options as salient or worth pursuing, effectively setting the currency in which effort and choice are evaluated (Schultz, 1998; Berridge & Robinson, 1998).

Read together, this literature offers a coherent, independently motivated account of exactly the gating mechanism this paper proposes: when threat appraisal is chronically elevated, prefrontal regulatory bandwidth is degraded, and the deliberate, flexible evaluation of options that autonomous choice requires becomes neurologically harder to sustain, regardless of how autonomy-supportive the surrounding social or organizational environment may be. This paper's contribution is not to discover this neurobiology, which is well established, but to import it explicitly into motivation theory as a precondition layer beneath SDT's basic-needs account, and to specify testable organizational-level implications that follow from doing so.

2.4 Algorithmic Management and the Structural Production of Threat States

The final literature this paper draws on concerns the structural conditions of contemporary work most likely to chronically induce the threat-appraisal states described above. Research on algorithmic management documents how platform-mediated and increasingly conventional workplaces use continuous, often opaque performance monitoring, algorithmically generated ratings, and precarity-inducing scheduling and deactivation practices to manage labor (Kellogg et al., 2020; Rosenblat & Stark, 2016). This literature has, to date, largely analyzed these practices through a sociological and organizational-control lens, documenting their effects on worker autonomy, voice, and well-being.

This paper adds a neurobiological reading to that account: algorithmic management's characteristic features, unpredictability, opacity, continuous evaluative visibility, and asymmetric consequence, are precisely the structural features affective neuroscience identifies as reliable inducers of chronic threat appraisal (uncertainty and lack of control being particularly well-established triggers; see Peters, McEwen, & Friston, 2017, on allostatic load and uncertainty). If this reading is correct, algorithmically managed work environments may be structurally biased toward producing capacity-gated, compliance-reflex states in their workforce, independent of whatever nominal

autonomy-supportive messaging or design features are layered on top, a hypothesis this paper renders explicit and testable in Section 5.

2.5 Distinguishing Capacity-Gating from Adjacent Constructs

Because the Capacity-Gated Model shares surface features with several established constructs, it is worth specifying directly how it differs from each, both to sharpen the contribution and to make the model's propositions falsifiable against genuine alternatives rather than straw versions of prior theory.

Ego depletion (Baumeister, Bratslavsky, Muraven, & Tice, 1998) proposes that self-control draws on a limited, general resource depleted by prior exertion. Capacity-gating differs in mechanism and trigger: it is proposed as driven specifically by threat appraisal and its downstream effect on prefrontal regulatory engagement, not by generic exertion of willpower, and it is proposed to be state-contingent on environmental threat cues rather than accumulating through use. Notably, the ego-depletion literature itself has faced significant replication difficulties (Hagger et al., 2016), which this paper takes as a further reason to ground the present model in a more specific, independently supported neurobiological mechanism (threat-appraisal-linked prefrontal degradation) rather than a general resource-depletion account.

Burnout (Maslach & Leiter, 2016) captures a syndrome of exhaustion, cynicism, and reduced efficacy that typically develops over months or years of chronic stressor exposure. Capacity-gating is proposed as a more acute, state-level construct, an individual can move in and out of a gated capacity state within a single day or even within a single interaction, depending on immediate threat cues, though this paper predicts that chronic, repeated capacity-gating is a plausible upstream contributor to burnout's slower-developing syndrome, offering a testable mechanistic link between the two literatures rather than treating them as competitors.

Psychological safety (Edmondson, 1999) describes a shared team-level belief that the environment is safe for interpersonal risk-taking. Capacity-gating is proposed at the individual, physiological level rather than the shared-belief level, and is agnostic to interpersonal risk specifically, an individual can be capacity-gated by algorithmic surveillance or outcome unpredictability with no interpersonal component at all. The two constructs are expected to be correlated in team settings (low psychological safety plausibly elevates individual threat appraisal) but are not proposed as the same construct measured at different levels of analysis.

Learned helplessness (Maier & Seligman, 2016, reformulated) describes a state in which repeated uncontrollable aversive experience produces generalized passivity and motivational deficit. This construct is the closest conceptual neighbor to the compliance reflex proposed here, and the Capacity-Gated Model is presented as a more mechanistically specified, state-contingent account: where learned helplessness is typically framed as a relatively durable, generalized deficit following repeated exposure, the compliance reflex is proposed as a more immediately reversible state, gated open or closed by present threat appraisal and available regulatory bandwidth, without requiring a history of uncontrollable aversive exposure to be induced. This distinction is directly testable via P4's prediction that capacity-restoring interventions produce comparatively rapid shifts in

outcome, a prediction that would be surprising under a learned-helplessness account but is a natural consequence of a state-contingent gating mechanism.

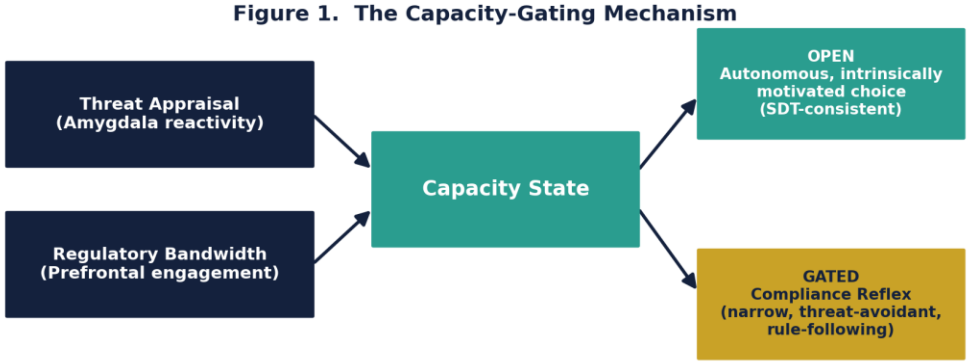
3. The Capacity-Gated Model of Human Agency

3.1 Core Claim

The Capacity-Gated Model proposes that autonomous, intrinsically motivated choice, the behavioral and experiential outcome SDT positions as the product of basic-needs satisfaction, requires the joint satisfaction of two neurobiological preconditions: (a) sufficiently low amygdala-driven threat appraisal, such that regulatory resources are not chronically consumed by vigilance, and (b) sufficient prefrontal regulatory bandwidth available for deliberate, non-reflexive evaluation of options. I refer to the joint satisfaction of these two conditions as an individual's capacity state, and I propose that capacity state, not the mere presence of an autonomy-supportive environment, is the proximal gate determining whether autonomous motivation is accessible at a given moment.

This reframes the relationship between environment and motivation implied by standard SDT applications. Autonomy-supportive environmental conditions remain necessary in this model, they are what autonomous motivation, once accessible, responds to and is sustained by, but they are not sufficient on their own to produce autonomous motivation in an individual whose capacity state is currently gated closed by chronic threat appraisal. In such cases, autonomy-supportive interventions are not wrong; they are premature, arriving before the individual has the neurobiological bandwidth to make use of them.

Figure 1. The Capacity-Gating Mechanism



Autonomy-supportive environmental conditions remain necessary once capacity state is OPEN, but are insufficient on their own to produce autonomous motivation when capacity state is GATED.

3.2 The Compliance Reflex as a Distinct Behavioral State

When capacity state is gated closed, this paper proposes that behavior does not simply default to a weaker version of autonomous motivation, but shifts to a qualitatively distinct mode: the compliance reflex. This is a narrower, faster, more rule-following and threat-avoidant behavioral repertoire, consistent with the subcortically-biased processing associated with elevated amygdala activity and reduced prefrontal regulatory engagement (LeDoux, 2015; Arnsten, 2009). Critically, the compliance reflex can be behaviorally difficult to distinguish from ordinary low motivation or disengagement using standard self-report measures, because both may present as reduced

initiative, reduced voice, and increased rule-following. The Capacity-Gated Model predicts, however, that these two states have different antecedents, different physiological signatures, and, most importantly for organizational practice, respond to different interventions: ordinary low motivation may respond to conventional autonomy-supportive redesign, while a genuine compliance-reflex state will not, until the underlying threat-appraisal condition is addressed directly.

This distinction has direct diagnostic value. An organization observing low engagement has, under this model, two structurally different problems that look similar from the outside but require different remedies, and applying the wrong remedy (autonomy support to a genuinely capacity-gated population) would be expected to produce the well-documented pattern of autonomy-supportive interventions that show weak or null effects in high-surveillance, high-precarity environments.

3.3 Reconstructing the Needs Hierarchy as a Capacity Diagnostic

Building on the reconsideration in Section 2.2, this paper proposes that Maslow's hierarchy retains conceptual value once reconstructed as a capacity diagnostic rather than a sequential ladder of wants. Under this reconstruction, each traditional 'need level' (physiological, safety, belonging, esteem, self-actualization) is reinterpreted not as a want that must be satisfied before the next becomes active, but as a marker of how wide a range of motivational concerns an individual's current capacity state permits them to access. An individual in a capacity-gated, compliance-reflex state is not simply 'stuck' at a lower need level in Maslow's original sense; rather, their currently available neurobiological bandwidth restricts the effective range of concerns, belonging, esteem, growth, that can be motivationally active for them, regardless of whether those concerns are, in the abstract, important to them.

This reconstruction directly complements the five-pillar Motivation Ecology model developed in my prior work (Survival, Agency, Connection, Meaning, Contribution), which already replaced Maslow's strict sequence with a non-hierarchical, interacting system. The Capacity-Gated Model adds the missing precondition layer beneath that system: capacity state determines how much of the five-pillar space is currently accessible to an individual, while the pillars themselves describe how motivation operates within whatever space is accessible.

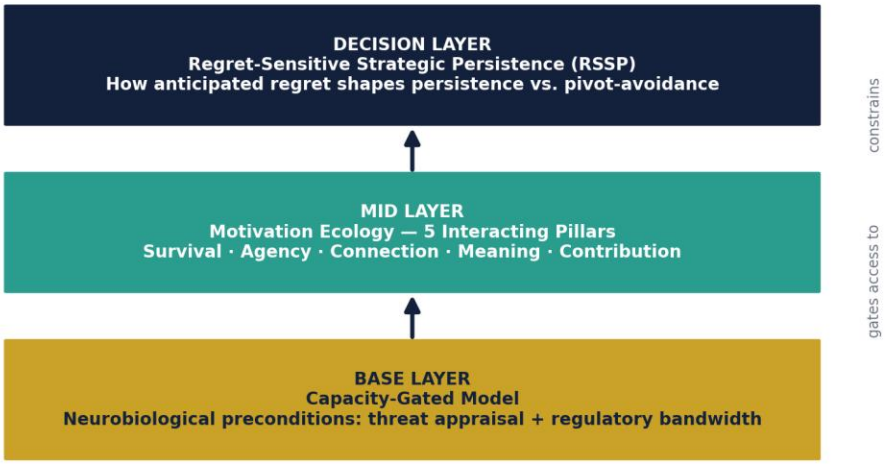
Figure 3. Needs Hierarchy Reconstructed as a Capacity Diagnostic

Levels are reinterpreted as capacity markers, not a fixed sequence of wants: capacity state determines how wide a range of motivational concerns is currently accessible.

3.4 Integration with Motivation Ecology and Regret-Sensitive Strategic Persistence

This paper proposes a three-layer, integrated account of motivated behavior, combining the Capacity-Gated Model with two frameworks developed in prior work. At the base layer, the Capacity-Gated Model specifies the neurobiological preconditions (threat appraisal, regulatory bandwidth) that determine whether autonomous motivation is accessible at all. At the middle layer, the Motivation Ecology model describes how motivational concerns across five interacting pillars operate once capacity permits access to them, replacing a strict need sequence with a dynamic, non-hierarchical system. At the decision layer, the Regret-Sensitive Strategic Persistence (RSSP) framework describes how anticipated regret shapes an individual's persistence in, or disengagement from, effortful pursuit of goals within whatever motivational space the first two layers make accessible.

Figure 2. Three-Layer Integrated Model of Motivated Behavior



Capacity state (base layer) determines how much of the pillar space (mid layer) is accessible; regret-sensitive persistence (top layer) operates on whatever space is currently accessible.

This layered integration generates a novel prediction not derivable from any one framework alone: that regret sensitivity itself, the RSSP mechanism, should behave differently depending on capacity state. Under an open capacity state, anticipated regret should function as the deliberative, forward-looking mechanism RSSP originally proposed, weighing future self-appraisal against present costs. Under a gated, compliance-reflex capacity state, this paper predicts that regret processing is itself degraded or short-circuited by reduced prefrontal engagement, such that persistence decisions default to threat-avoidance heuristics rather than genuine regret-weighted deliberation. This is developed as a formal, testable proposition in Section 5 (P5).

4. Boundary Conditions and Scope

This model is proposed for organizational and applied field contexts, workplaces, platforms, and institutions, rather than as a general clinical account of anxiety or trauma, though it draws on literatures developed substantially in clinical and preclinical settings. It is not proposed as a replacement for SDT, but as a precondition layer that operates upstream of SDT's basic-needs account; SDT's claims about what autonomy, competence, and relatedness look like once accessible are retained without modification. The model is also not proposed as a claim that all disengagement, low motivation, or poor performance reflects a gated capacity state, ordinary variation in interest, fit, and conventional autonomy-supportive failure remains fully compatible with standard SDT explanations, and Section 5's propositions are framed to allow the model to be distinguished from, rather than to subsume, these alternative explanations.

Finally, this paper is explicit that its central mechanism, the joint role of amygdala-driven threat appraisal and prefrontal regulatory bandwidth in gating autonomous choice, is proposed at the level of a theoretical mechanism supported by existing neuroscience, not yet demonstrated as a mediating pathway in organizational field data. Establishing that pathway empirically is the

explicit purpose of the research agenda in Section 5 and the planned doctoral research programme that follows from this paper.

5. Formal Propositions and Research Agenda

This section sets out six propositions derived from the Capacity-Gated Model, together with the research questions they generate. The propositions are stated at a level intended to be falsifiable by field-deployable measurement, in keeping with this paper's applied, organizational-behavior orientation rather than a purely laboratory-neuroscience one.

P1: Capacity state as a distinct predictor

An individual's capacity state (jointly indexed by threat-appraisal reactivity and available regulatory bandwidth) will predict variance in autonomous motivation, engagement, and well-being outcomes beyond that explained by standard SDT autonomy-support measures alone.

RQ1: Can a field-deployable capacity-gating index, combining self-report and feasible physiological proxies, be constructed and validated against existing SDT-based autonomy and motivation-quality scales?

P2: The compliance reflex as a distinct state

Behavioral and physiological profiles consistent with a compliance-reflex state (narrowed, threat-avoidant, rule-following responding under measurable threat-appraisal elevation) will be empirically distinguishable from ordinary low autonomous motivation, despite superficially similar self-report presentations.

RQ2: Do compliance-reflex and low-autonomous-motivation states produce distinguishable physiological and behavioral signatures in applied organizational settings, using field-feasible measures (e.g., heart-rate variability, self-report threat appraisal, behavioral rule-adherence indices)?

P3: Structural production of gated capacity by algorithmic management

Organizational conditions characteristic of algorithmic management, continuous evaluative visibility, outcome unpredictability, and asymmetric consequence, will be associated with chronically elevated threat appraisal and correspondingly higher rates of measured compliance-reflex states, relative to comparable work with lower monitoring intensity.

RQ3: Do employees in high-surveillance, algorithmically managed roles show measurably higher chronic threat-appraisal indices and compliance-reflex prevalence than matched employees in lower-monitoring roles?

P4: Differential effectiveness of interventions by capacity state

Conventional autonomy-supportive interventions will show attenuated or null effects on engagement and well-being outcomes among individuals in a gated capacity state, while capacity-restoring interventions (e.g., reduced surveillance intensity, predictability-enhancing scheduling changes, structured recovery periods) will show measurably stronger effects in this population than autonomy-supportive interventions alone.

RQ4: Do capacity-restoring interventions outperform conventional autonomy-supportive interventions in shifting engagement and well-being outcomes specifically among employees identified as being in a gated capacity state?

P5: Capacity state moderates regret-sensitive persistence

The relationship between anticipated regret and strategic persistence, as specified in the Regret-Sensitive Strategic Persistence framework, will be attenuated or qualitatively altered (shifting toward threat-avoidance heuristics rather than deliberative regret-weighting) under gated, relative to open, capacity states.

RQ5: Does the strength and form of the regret–persistence relationship differ measurably between individuals in gated versus open capacity states, in a manner consistent with reduced prefrontal engagement under threat appraisal?

P6: Capacity state constrains the accessible range of Motivation Ecology pillars

The breadth of motivational pillars (Survival, Agency, Connection, Meaning, Contribution) an individual reports as currently salient and actionable will narrow systematically as capacity state shifts from open to gated, independent of the individual's stable, trait-level valuation of those pillars.

RQ6: Does the number and profile of Motivation Ecology pillars an individual reports as currently active narrow predictably with objectively or physiologically measured capacity state, holding trait-level pillar importance constant?

6. Theoretical and Practical Implications

6.1 Theoretical Implications

If supported, the Capacity-Gated Model would extend SDT with an empirically grounded precondition layer explaining a category of null or attenuated autonomy-support effects that the theory currently has no dedicated mechanism to address. It would also offer a principled, non-arbitrary basis for recovering conceptual value from the needs-hierarchy tradition without reinstating its discredited sequential claims, reframing 'hierarchy' as a statement about capacity-dependent access rather than fixed ordering. Finally, by specifying capacity state as a moderator of the regret–persistence relationship (P5), the model offers a first formal bridge between affective neuroscience and strategic decision-making theory in the organizational behavior literature.

6.2 Practical Implications

For organizations, particularly those managing algorithmically monitored or high-surveillance workforces, this model implies a diagnostic sequencing that departs from current practice: assess capacity state before investing in autonomy-supportive redesign, since the latter is predicted to underperform precisely where it is currently most often deployed, in high-monitoring, high-precarity environments where employees are most likely to be capacity-gated. This has direct implications for HR analytics, well-being measurement, and the design of algorithmic management systems themselves, suggesting that predictability and reduced evaluative threat may be prerequisite design features rather than optional humane additions.

6.3 Measurement Approach and Ethical Considerations

Operationalizing capacity state for field research requires balancing mechanistic fidelity against what is ethically and practically deployable in live organizational settings. This paper anticipates a capacity-gating index combining low-burden self-report measures of threat appraisal, perceived predictability, and regulatory fatigue with feasible, non-invasive physiological proxies such as

heart-rate variability, which has an established literature linking it to autonomic and prefrontal regulatory function (Thayer, Åhs, Fredrikson, Sollers, & Wager, 2012). Where institutional infrastructure permits, EEG-based indices of prefrontal engagement or cortisol sampling may supplement this index in validation studies, though the model's applied propositions (P1–P6) are deliberately specified to be testable using the lighter-weight, field-feasible measures alone, to maximize the model's usefulness to organizational research and practice beyond well-resourced laboratory settings.

This measurement agenda raises ethical considerations that this paper treats as integral to the research design rather than as an afterthought. Measuring employee threat-appraisal and regulatory-capacity states creates an obvious risk of misuse, for example, as a surveillance or performance-management tool rather than a diagnostic aimed at redesigning harmful organizational conditions. Any empirical programme building on this model should therefore build in structural safeguards: aggregate rather than individually identifiable reporting to employers, independent researcher control over data access, and a explicit commitment that findings are used to inform organizational and policy-level intervention (per P4) rather than individual-level employment decisions. This paper regards these safeguards as a necessary condition for the research programme's legitimacy, not an optional addition.

7. Positioning Within a Broader Research Program

This paper is deliberately published ahead of the empirical studies it proposes, and is intended to stand as the theoretical and propositional foundation of a broader, multi-paper research programme. That programme is expected to proceed in three phases corresponding to the propositions above: an instrument-development and validation phase (addressing RQ1-RQ2 and P1-P2), an organizational field study phase examining algorithmic management contexts (addressing RQ3 and P3), and an intervention pilot phase testing capacity-restoring organizational redesign (addressing RQ4 and P4), with the integration propositions (P5-P6) tested alongside these primary phases using within-sample measures of regret sensitivity and Motivation Ecology pillar salience.

Publishing this conceptual groundwork as a standalone contribution serves a specific function within that broader programme: it establishes the theoretical claims, the reconstruction of the needs hierarchy as a capacity diagnostic, the integration architecture linking the Capacity-Gated Model to the Motivation Ecology and Regret-Sensitive Strategic Persistence frameworks, and the six formal propositions, as a dated, citable contribution independent of any single dataset's outcome. Subsequent empirical papers can then be evaluated on their own terms, as tests of propositions that were specified in advance, rather than as papers in which theory and data were developed simultaneously, strengthening the falsifiability and evidentiary value of the programme as a whole.

8. Conclusion

This paper has proposed that autonomous, intrinsically motivated choice, the central explanatory target of Self-Determination Theory, is capacity-gated: accessible only once threat-appraisal and prefrontal regulatory preconditions are jointly met. It has integrated this claim with a reconstruction of the classical needs hierarchy as a capacity diagnostic, and with two frameworks

developed in prior work (Motivation Ecology and Regret-Sensitive Strategic Persistence) into a single, three-layer account of motivated behavior in organizational settings. Six formal propositions and associated research questions have been set out to guide a forthcoming empirical programme. The paper's purpose has been to establish this theoretical contribution and research agenda on the record ahead of that empirical work, so that the ideas may be evaluated, cited, and engaged with by the field independently of any single dataset, and so that the empirical programme that follows has a clearly specified target to test against.

References

Baumeister, R. F., Bratslavsky, E., Muraven, M., & Tice, D. M. (1998). Ego depletion: Is the active self a limited resource? Journal of Personality and Social Psychology, 74(5), 1252–1265.

Edmondson, A. (1999). Psychological safety and learning behavior in work teams. Administrative Science Quarterly, 44(2), 350–383.

Hagger, M. S., Chatzisarantis, N. L. D., et al. (2016). A multilab preregistered replication of the ego-depletion effect. Perspectives on Psychological Science, 11(4), 546–573.

Maier, S. F., & Seligman, M. E. P. (2016). Learned helplessness at fifty: Insights from neuroscience. Psychological Review, 123(4), 349–367.

Maslach, C., & Leiter, M. P. (2016). Understanding the burnout experience: Recent research and its implications for psychiatry. World Psychiatry, 15(2), 103–111.

Thayer, J. F., Åhs, F., Fredrikson, M., Sollers, J. J., & Wager, T. D. (2012). A meta-analysis of heart rate variability and neuroimaging studies: Implications for heart rate variability as a marker of stress and health. Neuroscience & Biobehavioral Reviews, 36(2), 747–756.

Arnsten, A. F. T. (2009). Stress signalling pathways that impair prefrontal cortex structure and function. Nature Reviews Neuroscience, 10(6), 410–422.

Berridge, K. C., & Robinson, T. E. (1998). What is the role of dopamine in reward: hedonic impact, reward learning, or incentive salience? Brain Research Reviews, 28(3), 309–369.

Deci, E. L., Olafsen, A. H., & Ryan, R. M. (2017). Self-determination theory in work organizations: The state of a science. Annual Review of Organizational Psychology and Organizational Behavior, 4, 19–43.

Deci, E. L., & Ryan, R. M. (1985). Intrinsic motivation and self-determination in human behavior. Plenum Press.

Deci, E. L., & Ryan, R. M. (2000). The 'what' and 'why' of goal pursuits: Human needs and the self-determination of behavior. Psychological Inquiry, 11(4), 227–268.

Gagné, M., & Deci, E. L. (2005). Self-determination theory and work motivation. Journal of Organizational Behavior, 26(4), 331–362.

Kellogg, K. C., Valentine, M. A., & Christin, A. (2020). Algorithms at work: The new contested terrain of control. Academy of Management Annals, 14(1), 366–410.

Kenrick, D. T., Griskevicius, V., Neuberg, S. L., & Schaller, M. (2010). Renovating the pyramid of needs: Contemporary extensions built upon ancient foundations. Perspectives on Psychological Science, 5(3), 292–314.

LeDoux, J. E. (1996). The emotional brain: The mysterious underpinnings of emotional life. Simon & Schuster.

LeDoux, J. E. (2015). Anxious: Using the brain to understand and treat fear and anxiety. Viking.

Maslow, A. H. (1943). A theory of human motivation. Psychological Review, 50(4), 370–396.

Miller, E. K., & Cohen, J. D. (2001). An integrative theory of prefrontal cortex function. Annual Review of Neuroscience, 24, 167–202.

Peters, A., McEwen, B. S., & Friston, K. (2017). Uncertainty and stress: Why it causes diseases and how it is mastered by the brain. Progress in Neurobiology, 156, 164–188.

Rosenblat, A., & Stark, L. (2016). Algorithmic labor and information asymmetries: A case study of Uber's drivers. International Journal of Communication, 10, 3758–3784.

Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. American Psychologist, 55(1), 68–78.

Schultz, W. (1998). Predictive reward signal of dopamine neurons. Journal of Neurophysiology, 80(1), 1–27.

Singh, P. (forthcoming-a). Needs without a hierarchy: An integrative model of motivation in digitally mediated work [Motivation Ecology framework]. Manuscript in preparation.

Singh, P. (forthcoming-b). Regret-sensitive strategic persistence: Anticipated regret and pivot-avoidance in organizational decision-making under AI-mediated governance. Manuscript in preparation.

Wahba, M. A., & Bridwell, L. G. (1976). Maslow reconsidered: A review of research on the need hierarchy theory. Organizational Behavior and Human Performance, 15(2), 212–240.

भारतीय भाषा, शिक्षा, साहित्य एवं शोध

ISSN 2321 – 9726

WWW.BHARTIYASHODH.COM

INTERNATIONAL RESEARCH JOURNAL OF MANAGEMENT SCIENCE & TECHNOLOGY

ISSN – 2250 – 1959 (0) 2348 – 9367 (P)

WWW.IRJMST.COM

INTERNATIONAL RESEARCH JOURNAL OF COMMERCE, ARTS AND SCIENCE

ISSN 2319 – 9202

WWW.CASIRJ.COM

INTERNATIONAL RESEARCH JOURNAL OF MANAGEMENT SOCIOLOGY & HUMANITIES

ISSN 2277 – 9809 (0) 2348 - 9359 (P)

WWW.IRJMSH.COM

INTERNATIONAL RESEARCH JOURNAL OF SCIENCE ENGINEERING AND TECHNOLOGY

ISSN 2454-3195 (online)

WWW.RJSET.COM

INTEGRATED RESEARCH JOURNAL OF MANAGEMENT, SCIENCE AND INNOVATION

ISSN 2582-5445

WWW.IRJMSI.COM

JOURNAL OF LEGAL STUDIES,POLITICS AND ECONOMICS RESEARCH

WWW.JLPER.COM