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Buffering the Digital Gaze: The Synergistic Role of Multidimensional Leadership in Supporting Perceived Employee Creativity Under Electronic Perceived Monitoring

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Abstract

As organizations increasingly depend on electronic performance monitoring, data collection of perceived Electronic Performance Monitoring (EPM) threatens the psychological conditions required for employee creativity. This quantitative study examines how leaders can buffer against electronic performance monitoring through Creativity-Enabling Leadership (CEL); conceptualized in this study as a second-order, multidimensional construct operationalized through autonomy support, psychological safety, and cognitive stimulation. Through a cross-sectional survey design with 215 participants, results demonstrated a strong positive effect of CEL on employee creativity. Moreover, simple slopes analysis revealed an amplified effect of perceived EPM intensity moderated the CEL-employee creativity relationship. Critically, an exploratory dimension-level analysis showed a synergistic buffering effect; although the complete overarching CEL framework effectively secured creativity from EPM, individual leadership dimensions failed to achieve statistical significance independently. These findings theoretically challenge traditional unidimensional paradigms of leadership by demonstrating that tackling the complexity of EPM requires a synergistic response.

Keywords: creativity-enabling leadership, electronic performance monitoring, psychological safety, autonomy support, cognitive stimulation, multidimensional leadership, synergistic leadership

Introduction

Creativity plays a crucial role in modern organizations. In progressively competitive and dynamic environments, organizations have been relying on employees to not only create useful and novel ideas, but also to accomplish predefined tasks that improve services, processes, and products. Defined as the generation of new and useful ideas within work settings, employee creativity serves as the cornerstone for long-term organizational adaptation and creativity (Amabile, 1988; Amabile & Pratt, 2016; Zhou & George, 2001). Nevertheless, creativity is not exclusively an individual's attribute, but rather an outcome that emerges from the interactions of motivational states, individual capabilities, and the structural and social work contexts (Van Knippenberg & Hirst, 2020). This contextual perspective implies that leadership is one of the central contextual factors shaping employee creative behavior, as leaders influence both psychological and motivational conditions in the work environment.

Leadership is constantly recognized as one of the most pivotal contextual predecessors of creativity resulting from leaders shaping their employees' psychological and motivational conditions for creativity (Lee et al., 2019; Mumford et al., 2002). Despite that fact, the majority of the leadership-creativity literature has more or less emphasized and relied on more general and broad leadership styles; for instance, transformational leadership. Thus, the conceptually expansive literature and research may often obscure the distinct mechanisms that creativity is facilitated through by the leaders (Hugh et al., 2018). This may result in a theoretical and application gap. Prior research implies that leadership influences employee creativity through distinct psychological pathways rather than a single unified mechanism. Across theoretical and empirical work, these pathways are commonly described as structural, relational, and cognitive processes shaping the employees' ability and motivation to engage in creative behaviors (Amabile & Pratt, 2016; Carmeli et al., 2010; Hughes et al., 2018; Mumford et al., 2002). Thus, building on this classification, the present study focuses on structural autonomy, psychological safety, and cognitive stimulation as representative mechanisms through which leadership enables creativity. To maintain conceptual consistency throughout this study, Creativity-Enabling Leadership is explicitly positioned as a second-order theoretical framework constructed from these three distinct, mechanism-based building blocks. Therefore, research must treat those dimensions as distinct behaviors rather than treating them as unidimensional latent constructs. Conceptualization that is dependent on mechanisms is rather timely as work settings are

continuously shaped by digitalization and data-driven performance systems can change the employees' willingness to take risks, perceived discretion, and learning behaviors that are central to creativity (Ball, 2021; Ravid et al., 2020).

A defining feature of modern works is the rapid advancement of Electronic Performance Monitoring (EPM), including automated tracking and evaluations. While EPM may enhance performance, perceived surveillance also increases psychological pressure and reduces the risk-taking required for creative behavior (Ball, 2021; Ravid et al., 2020). Leadership could potentially buffer these restrictions by actively fostering autonomy, psychological safety, and cognitive stimulation. However, empirical research assessing how Creativity-Enabling Leadership (CEL) functions under EPM remains to be limited. Therefore, testing an explicitly mechanism based framework for CEL within digital monitoring contexts will not only advance leadership theory but also address emerging organizational challenges.

Study Aim

The present study aims to advance leadership-creativity research by conceptualizing Creativity-Enabling Leadership (CEL) as a multi-dimensional leadership construct built on three distinct mechanisms and examining its relationship with employee creativity in electronically perceived monitored environments. Particularly, this study operationalizes CEL through three different complementary leader dimensions: autonomy support (fostering participation and removing bureaucratic constraints), psychological safety (facilitating openness and reducing interpersonal risk), and cognitive stimulation (encouraging problem reframing and divergent thinking). Furthermore, the study aims to examine perceived electronic performance monitoring as a critical boundary condition, assessing whether it moderates the relationship between CEL and creative outcomes. Together, this study addresses how CEL mechanisms operate under constrained digital work conditions.

Significance & Contribution

This study bridges a critical gap in organizational behavior by addressing both scholarly needs and practical workplace challenges. By integrating the theoretical and practical implications, this research offers three primary contributions to the field of leadership, creativity, and EPM.

First, it advances leadership-creativity research by shifting from broad, unidimensional leadership styles to an accurate, mechanism-based theoretical framework. General leadership

constructs often obscure the ‘active ingredients’ central to creativity, which limits both theoretical framework design and practical application (Hughes et al., 2018). By operationalizing CEL as a multidimensional construct consisting of autonomy support, psychological safety, and cognitive stimulation, this study delivers greater theoretical precision and mechanism clarity. Furthermore, by assembling this framework using well-established measures rather than developing a new scale and a new leadership construct, the study contributes to theory development while maintaining strict methodological diligence. Second, this research advances the rapidly emerging literature on Electronic Performance Monitoring (EPM) by repositioning digital performance tracking from a mere performance tool to a critical psychological boundary condition. While prior research frequently highlights the adverse effects of monitoring on employee well-being, this study uniquely examines EPM’s moderating effect on complex cognitive outcomes like creativity. Testing this moderation provides nuanced evidence about boundary conditions, which is necessary for advancing theory in an increasingly digitized and changing organizational environment (Ball, 2021; Ravid et al., 2020). Third, this study enriches interactionist theories of organizational creativity by revealing the significance of synergistic leadership. It proposes that in highly monitored work environments, the simultaneous utilization of multiple leadership behaviors provides a more comprehensive buffer than relying on a single pathway. Instead, the combination of structural, relational, and cognitive mechanisms interacts to offer an enhanced collective buffer against the psychological constraints of EPM.

Practically, this research responds to a pressing organizational paradox: the simultaneous demand for employee creativity and the aggressive expansion of digital tracking. Employees are frequently expected to deliver creativity in environments where they feel constantly constrained, evaluated, and monitored. By demonstrating which specific leadership behaviors matter most, supporting autonomy, stimulating novel thinking, and fostering interpersonal safety, this mechanism-based CEL framework provides actionable guidance over generalized advice to simply 'be inspirational'.

Literature Review

The interactionist perspective prioritizes the emergence of creativity from the interaction between social contexts, task characteristics, and individual differences (Tromp & Sternberg, 2022). Mechanism-based perspective of CEL is particularly relevant in this case as it corresponds with leadership behaviors with established creativity theoretical frameworks. For

instance, Amabile's componential theory and its following expansion indicates that intrinsic motivation and supportive work environments are the essential facilitators of creativity (Amabile, 1988; Amabile & Pratt, 2016). D'Inverno and Luck (2012) demonstrated autonomy as a central foundation to creativity due to the increase of exploration and experimentation. Secondly, psychological safety theory highlights that interpersonal risk is required for creativity through voicing novel and unconventional ideas, questioning routines, and admitting uncertainty; hence creativity demands for an environment where risks and uncertainty are tolerated (Edmondson, 1999). Lastly, leadership that encourages cognitive stimulation through critical thinking and re-framing can enable flexibility for novel idea production (Mumford et al., 2002).

Creativity-Enabling Leadership as Multi-Mechanism Theoretical Framework

Existing leadership-creativity literature often examines concepts, such as 'support for creativity' or 'innovation-supporting leadership,' and these concepts vary in scope. Some measures strictly prioritize direct promotion of new ideas, whereas other measures conflate multiple distinct behaviors, such as individualized support, empowerment, and inspiration into broader and overarching frameworks. Such conflation may result in conceptual ambiguity and insufficiency of theoretical precision. Advancing theoretical clarity requires separating CEL into distinguishable mechanisms that map directly onto established psychological precedents for creativity. Therefore, this study proposes CEL as a focused, mechanism-based operationalization rather than an exhaustive representation of all leadership behaviors. While other leadership traits exist in the literature, this framework explicitly positions autonomy support, psychological safety, and cognitive stimulation as three central creativity-enabling mechanisms. These specific dimensions were selected because they map directly onto the foundational pathways required for creativity: providing the structural freedom to explore (autonomy), the relational security to voice novel ideas (safety), and the intellectual activation to challenge routines (stimulation) (Amabile & Pratt, 2016; Mumford et al., 2002). By operationalizing CEL as a multidimensional construct, this approach establishes a more precise and testable model.

Autonomy as Structural Mechanism for Creativity

Autonomy is widely known as one of the most contextual predictors of employee creativity. Autonomy is reflected in the degree to which employees practice choice, discretion, decision making, and control on the manner in which they perform (Parker et al., 2017). From the perspective of organizational application, autonomy has been found to be a central

characteristic for work outcomes and motivation (Gagné & Deci, 2005). Empirical studies have associated higher levels of autonomy to higher levels of creativity (Sia & Appu, 2015; Zhang & Bartol, 2010). When employees are allowed discretion over their work performance, they are more likely to engage in behaviors that are fundamental to creativity. For example, experimenting with different strategies, combining existing knowledge in novel ways, and engaging in creative problem solving (Amabile, 1988; Amabile & Pratt, 2016).

Autonomy has been found to be closely related to intrinsic motivation, which has been indicated to be a core drive for creativity. The Self-Determination theory (SDT) proposes that autonomy is a primary psychological necessity; when this need is satisfied, it fosters high-quality motivation that enhances exploration, curiosity, and persistence (Deci & Ryan, 1985). Intrinsic motivation has been shown in empirical studies to enable creativity as it enforces employees to engage with depth and to create novel solutions (Gagné & Deci, 2005; Zhang & Bartol, 2010). Moreover, autonomy may also govern creativity through behavioral and cognitive pathways. Autonomy widens individuals' behavioral variability and action possibilities, and in turn, reduces strict commitment to routine (Deci & Ryan, 1985). In environments with low autonomy, employees often prioritize compliance and avoiding error, and thus, restricting risk taking and cognitive flexibility, which are essential for generating creativity (Sia & Appu, 2015). Empirical studies have shown support to this hypothesis with autonomy predicting creative self-efficacy, creative performance ratings and proactive idea generation (Tierney & Farmer, 2002). Thus, these findings collectively support the conceptualization of autonomy as a structural mechanism for creativity.

Operationalizing Autonomy Through Empowering Behaviors

While autonomy represents the structural freedom required for creativity, leaders play the most significant role in structuring whether employees actually experience this discretion in their daily work. Therefore, within the CEL framework, autonomy support is empirically operationalized through empowering leader behaviors. Rather than introducing a separate theoretical model, empowering leadership functions as the specific behavioral pathway used to grant autonomy. By promoting participative decision-making, sharing power, and actively eliminating bureaucratic boundaries, leaders practically execute structural autonomy (Ahearne et al., 2005; Amundsen & Martinsen, 2014). Such behavior enables trust and results in increased employees' perceived flexibility in performance. Leaders may hinder or enable autonomy as they

overlook how their employees' experiment, perform tasks, and adapt. Therefore, empowering leadership provides the pathway for supporting autonomy.

Empirical studies have linked empowering leadership with creativity through cognitive and motivational mechanisms. Zhang and Bartol (2010) indicated that empowering leadership results in psychological empowerment by enabling intrinsic motivation, creative process (problem identification and searching information), and direct support for self-determination theory. Collectively, these cognitive and behavioral processes mediate and underlie creativity. Additionally, integrative and meta-analytic reviews further support this. Hughes et al. (2018) demonstrated that one of the most consistent predictors for employee creativity is within leaders who encourage autonomy and participation. Parker et al. (2006) concluded that proactive behavior and innovation implementation are linked with empowering leadership, indicating that autonomy allows continuous engagement with creative tasks and generating ideas. Amundsen & Martinsen (2014) found that empowering leadership is conceptually separate from broader leadership constructs as it emphasizes allowing discretion and participative control instead of inspiration and vision. Literature shows that autonomy is a foundation for creativity through the enhancement of cognitive flexibility, intrinsic motivation, and experimentation. Thus, empowering leadership is not a competing theory, but rather the vital behavioral mechanism used to drive autonomy within the CEL framework.

Psychological Safety as Relational Mechanism for Creativity

Parallel to the structural foundation of autonomy, the CEL framework necessitates a relational mechanism to sustain creative output; psychological safety. Within the CEL model, psychological safety operates as the foundational interpersonal condition required for organizational experimentation, learning, and voice (Song et al., 2025). Defined by Edmondson (1999) as a shared belief that a work environment is safe for interpersonal risk-taking, it allows employees to question established norms and concede errors without the fear of professional penalty.

This relational security is theoretically critical for the CEL framework because creative behavior inherently involves uncertainty and social exposure (Beghetto, 2018). Introducing novel ideas often requires deviating from established routines, which carries the risk of failure or interpersonal embarrassment (Song et al., 2025). Without a leader actively cultivating a climate of safety, employees naturally prioritize impression management over creativity, repressing novel

insights to avoid negative consequences (Solomon et al., 2025). Conversely, when the CEL framework successfully reduces this interpersonal fear, it allows for a critical cognitive shift, directly fostering 'creative process engagement' such as idea generation and problem construction (Edmondson & Bransby, 2022; Liu et al., 2016).

The nexus between psychological safety and creativity is grounded in motivational and social-cognitive perspectives. From the social-cognitive perspective, the anticipation of interpersonal consequences of 'speaking up' can determine if the employee will participate in discretionary behavior, such as experimentation and sharing ideas (Detert & Burris, 2007). Psychological safety functions as apprehension evaluation, and therefore, facilitates the 'speaking up' behaviors that have been associated with creative contributions (Morrison, 2011). Consequently, psychological safety determines creativity through the reduction of defensive behaviors. In environments distinguished by low psychological safety, employees are more likely to participate in self-censorship; prioritizing obedience over interpersonal risks associated with creativity (Solomon et al., 2025). Empirical studies found that consistent demonstration of psychological safety is essential for team emotional context, providing that the trust and respect needed to maintain the trial-and-error process is intrinsic to innovation (Roussin, 2008). Meta-analytic evidence has further found a consistent relationship between psychological safety and behaviors that are fundamental to creativity mechanisms, such as process engagement, learning from failure, and information sharing (Frazier et al., 2017). Ultimately, this aligns with Edmonson's (1999) theory; creativity is inherently a learning process and by eliminating the interpersonal penalty threat, psychological safety alters the employees from self-protections towards creative exploration.

Operationalizing Psychological Safety Through Inclusive Behaviors

While psychological safety demonstrates the internal state of the employee, leaders are the central architects of the interpersonal environment that fosters it (Edmondson & Bransby, 2023). Therefore, within the CEL framework, psychological safety is empirically operationalized through inclusive leader behaviors. Rather than introducing a separate leadership paradigm, inclusive behaviors, characterized by a leader's high accessibility, visibility, and availability, serve as the specific, measurable actions that practically generate a climate of safety (Carmeli et al., 2010). By actively inviting and including employees to voice their input in decision-making settings that are commonly otherwise absent and managers responding non-defensively to

challenges, inclusive leaders break down barriers that commonly suppress creative expression (Li & Tang, 2022).

Carmeli et al. (2010) presents the empirical foundation for this operationalization, demonstrating that inclusive leadership as a direct motivator for psychological safety and creative involvement. Their framework argues that when leaders show openness to novel perspectives and are able to sustain accessibility for problem-solving, employees are more likely to involve themselves in creative tasks due to the risk tolerance of the interpersonal climate. Such perspective is lined up with broader research on upward communication, which refers to the leader's responsiveness being a foundational antecedent for discretionary contribution (Morrison, 2011).

Within the context of the multi-mechanism model of CEL, inclusive leadership refers to the behavioral act of the psychological safety support pathway. Leaders foster creativity by directly creating an environment of interpersonal respect and ambiguity tolerance (Mumford et al., 2002). Such behavior enables employees to challenge and question tradition and routine and to report uncertainty; these conditions are vital for creativity in modern and high-complex work environments (Frazier et al., 2016). Ultimately, this relational mechanism ensures that the structural freedom granted by autonomy is actually utilized; by removing the threat of interpersonal penalty, the CEL framework shifts employees away from self-protection and toward creative exploration.

Cognitive Stimulation as Cognitive Mechanism for Creativity

Advancing onto structural discretion and relational safety, cognitive stimulation functions as the foundational cognitive mechanism for employee creativity (Khalil et al., 2019). Within the bounds of CEL framework, cognitive stimulation is defined as the process by which the leader activates the employee's intellectual effort, thereby fostering the re-assessment of critical assumptions and reframing complex problems (Sandvik et al., 2018). Theoretically, this mechanism is grounded in the Componential Theory of Creativity, arguing that 'creativity-relevant processes' refers to cognitive styles that favor new perspectives and the application of heuristic for exploring new pathways are essential for creativity (Amabile, 1983; Amabile & Pratt, 2016). Cognitive stimulation functions as a catalyst for these processes by moving employees away from well-established and routine-based thinking towards heuristic and novel thinking (Amabile, 1988; Bass & Avolio, 1995; Mumford et al., 2002).

The central function of cognitive stimulation is to facilitate Creative Process Engagement (CPE), which is a multidimensional cognitive journey that involves problem identification, information searching, and idea generation (Zhang & Bartol, 2010). Within contemporary work settings, employees tend to fall into the 'cognitive entrenchment', in which expertise often leads to rigid adherence to traditional mental models (Rosseel & Anseel, 2021). Cognitive stimulation interferes with this entrenchment by forcing a 're-representation' of tasks that requires the employees to perceive problems from multiple perspectives (Wigert et al., 2022).

Moreover, cognitive stimulation regulates creativity by increasing 'Creative Self-Efficacy', which refers to the individual's belief of their ability producing creative outcomes (Tierney & Farmer, 2002). When employees are intellectually challenged to solve problems autonomously, they often develop more complex cognitive abilities and a higher level of creative process (Dong et al., 2016). The stimulation of critical thinking and challenging tradition results in fostering the mechanism of 'growth mindset' towards creativity; failure is essentially perceived as a necessary cognitive data point for improvement (Love et al., 2026). Thereby, cognitive stimulation paves the way for the intellectual 'spark' that moves structural freedom and interpersonal safety into palpable creative expression.

Within the context of the CEL framework, the behavioral pathway for cognitive stimulation is operationalized through intellectual stimulation. Intellectual stimulation refers to leader behaviors that provoke employees to be creative by challenging assumptions and reframing problems (Khan et al., 2022). Unlike traditional leaders who prioritize emotional appeal, intellectual stimulation emphasizes the 'active ingredients' of cognition by urging employees to rethink their work methods and allows for cognitive scaffolding when navigating ambiguity (Mainemelis et al., 2021; Mumford et al., 2002).

Empirical studies have found the link between intellectual stimulation and creativity through problem-solving agility and divergent thinking (Hughes et al., 2018; Mainemelis et al., 2021). Searching for different perspectives and encouraging employees to suggest new ways of completing tasks, leaders are able to indicate their value for cognitive diversity over conformity. This was found in recent studies that demonstrated when leaders employ intellectual stimulation consistently, they can cultivate a supportive creative environment that is sustainable when employees are faced with complex tasks and high pressure demands (Afsar & Umrani, 2019; De Clercq & Mustafa, 2023). This leader's method of cognitive activation is specifically crucial in

modern and digitized organizations where automated systems and algorithmic tracking may indirectly encourage cognitive passivity or algorithmic compliance (Konjen, 2025). Therefore, intellectual stimulation warrants that the element of critical analysis remains active and counters the effects caused by technological surveillance. Essentially, in order to fully facilitate employee creativity, leaders must not only rely on providing autonomy and psychological safety, but also actively provide the intellectual stimulation necessary to suppress cognitive entrenchment and promote divergent thinking.

Perceived Electronic Performance Monitoring as a Boundary Condition for Creativity

While the CEL theoretical framework establishes the structural, relational, and the cognitive pathways required for sustaining creativity, leadership does not transpire in a vacuum. Modern organizational ecosystems have been increasingly incorporating Electronic Performance Monitoring (EPM) (Ravid et al., 2019). Unlike algorithmic management, which revolves around decision making, EPM records, observes, and analyzes employee behavioral data to evaluate performance (Ravid et al., 2022). Essentially, EPM functions as a pervasive digital 'gaze' that can track active screen times and communication frequency (Meijerink et al., 2021). Although organizations employ such technologies with the goal of optimizing efficiency and performance output, an increasing body of research has demonstrated that pervasive digital monitoring fundamentally changes the psychological association between employees and their environments (Meijerink et al., 2021).

Recent studies (Ravid et al., 2019; Ravid et al., 2022) have distinguished EPM from traditional human supervision on a psychological level. Although human supervision is rather contained and deliberate to specific work contexts, EPM utilizes digital tools to track both outward tasks and inward states through email, social networks, and at times through biometric indicators. Additionally, the digital presence of security cameras allows for recording employees during their break time, when they arrive and leave, and who they interact with, this often results in the psychological state of hyper-visibility.

Within the context of CEL, perceived algorithmic monitoring functions as a crucial boundary condition that may cause a buffering moderation effect on employee creativity. Particularly employees who perceive high levels of digital performance tracking, the positive impact of creativity-enabling leadership is notably weakened (Pengxiang et al., 2025). This moderation materializes due to the continuous and ever-presence of digital tracking that may

psychologically override the leadership behaviors that aim to promote autonomy, safety, and cognitive stimulation (Kellogg et al., 2019; Parent-Rocheleau & Parker, 2021).

The Integrated Moderating Role of Creativity-Enabling Leadership

Because perceived Electronic Performance Monitoring (EPM) restricts the creative process on multiple fronts simultaneously, effective leadership greatly benefits from a comprehensive, rather than fragmented, approach. Instead, the CEL framework functions as a combined moderation model, simultaneously buffering against structural, relational, and cognitive constraints.

The most immediate conflict between perceived EPM and CEL happens within the structural pathway of autonomy support. Drawing upon Cognitive Evaluation Theory, external interference perceived as highly controlling may alter an individual's locus of causality from internal to external, consequently breaking down the intrinsic motivation necessary for creativity (Gagné & Deci, 2005). EPM is fundamentally an external control mechanism that can be interpreted as a lack of trust. Leaders who aim to provide structural autonomy while the organization simultaneously applies intensive tracking software create a 'structural contradiction' (Wood, 2021). The 'autonomy paradox' manifests when employees are subjected to high levels of EPM; essentially, the leader's verbal permission to explore is psychologically invalidated by the software's requirement for constant presence (Zhao & Wu, 2022). Empowering leader behaviors function as the critical buffer to this paradox. When leaders promptly share power, involve employees in decision-making, and protect them from bureaucracy, they shield the employee's internal locus of causality from the pressure of digital monitoring (Amundsen & Martinsen, 2014; Kellogg et al., 2020). Through the verbal reinforcement of trust and by framing EPM as developmental rather than punitive, empowering leaders maintain the structural flexibility required for creative outcomes.

Beyond these structural constraints, EPM simultaneously elevates interpersonal risk, thereby threatening the relational foundation of creativity. Due to digital performance monitoring systems' constant evaluation and recording, the perceived risk of failure is amplified, which may result in defensive behaviors, anxiety, and self-censorship (Ravid et al., 2020; Solomon et al., 2025). The hyper-visibility of EPM devalues psychological safety as employees fear experimental mistakes or unconventional ideas will be penalized by the system (Meijerink et al., 2021). Within the context of heightened monitoring, inclusive leadership serves as the necessary

relational buffer. Leaders who exhibit openness to new ideas and sustain high accessibility can foster a 'climate of safety' that overrides the fear of digital monitoring (Carmeli et al., 2010). By proactively shaping errors as critical learning opportunities and protecting employees from automated reprimands, inclusive leaders lower perceived interpersonal tension and guarantee the psychological safety needed to sustain exploration (Edmondson & Bransby, 2023).

Finally, the integrated CEL framework must address the cognitive constraints introduced by digital tracking. High-intensity EPM may induce 'algorithmic compliance' or 'metric fixation,' in which employees restrict their cognitive focus only to behaviors that can be rewarded and quantified by the monitoring systems (Kellogg et al., 2020). Because creativity is a non-linear process that is rarely recorded as 'productive' in standard systems, employees may fall into 'cognitive entrenchment', completing tasks through predictable routines to ensure digital metrics remain high (Ravid et al., 2020). Intellectual stimulation functions as the buffer against this cognitive restriction by intentionally disrupting routine. By challenging assumptions and inviting employees to solve problems from multiple perspectives, leaders counteract the push for standardized conformity (Mainemelis et al., 2021). Essentially, while the technology demands compliance, the leader acts as a counterbalance by demanding intellectual flexibility. By actively rewarding divergent thinking over metric rewards, the leader reinforces the cognitive growth needed to prevent employees from cognitively shutting down under the pressure of automated evaluations (Zhang & Bartol, 2010).

Ultimately, these structural, relational, and cognitive buffering mechanisms complement one another within the broader workspace. By simultaneously securing operational freedom, interpersonal safety, and intellectual activation, the complete CEL framework acts as an integrated psychological shield against the multifaceted pressures of digital surveillance.

Hypothesis Development

Conceptualizing CEL as a Multidimensional Construct

Prior leadership research has often treated the paradigm as a broad and unidimensional latent construct (Hughes et al., 2018). This latent approach obscures the distinct psychological mechanisms required to foster creative processes and outcomes. From an interactionist perspective, providing structural support (autonomy support) is not equivalent to providing interpersonal security (psychological safety) or pushing for intellectual agility (cognitive stimulation. Thereby, they target entirely distinct employee needs. Drawing upon the

mechanism-based theories of organizational behavior (Amabile & Pratt, 2016), CEL is conceptualized in this study as a second-order multidimensional construct rather than a singular latent trait.

CEL on Employee Creativity

Drawing upon the Componential Theory of Creativity and the interactionist perspective, leadership that provides structural autonomy, relational security, and intellectual challenge theoretically satisfies the inherent cognitive and motivational requirements for creative outcomes. By operationalizing these three distinct variables, the leader will effectively construct an environment where intrinsic motivation is preserved, fear of interpersonal risk is diminished, and cognitive entrenchment linked with routine tradition work is disrupted. Thus, the comprehensive CEL framework will function as a strong predictor of creative outcomes.

Hypothesis 1. Creativity-Enabling Leadership (CEL) is positively associated with employee creativity.

Buffering Role of EPM

Although the main effects of CEL are crucial, leadership is not isolated. Because of the increasing use of electronic performance monitoring, employees' autonomy restriction, apprehension, and 'algorithmic compliance' (Kellogg et al., 2020) increases. Thus, the presence of supportive leadership becomes increasingly critical. Under high EPM environments, employees intrinsically rely on their leaders to combat the 'autonomy paradox' by allowing operational freedom, interpersonal safety, and divergent thinking. Therefore, highly supportive CEL behaviors are predicted to act as a buffer as intensity increases.

Hypothesis 2. Perceived Electronic Performance Monitoring (EPM) moderates the relationship between CEL and employee creativity.

Synergistic of CEL Dimensions

Although the overarching CEL framework is theorized to buffer the restriction of EPM, isolating the mechanisms is crucial for theory precision. Because of the complexity of modern digital performance monitoring and its threat to employee creativity, effective leadership cannot depend on one pathway. From the interactionist perspective, providing structural autonomy without relational safety may leave the employee fearful of the failure of monitoring evaluation, while providing safety without intellectual challenge can result in psychological comfort without stimulating creative output. Therefore, the buffering capacity of CEL depends on the synergistic

combination of all three dimensions. Leaders must provide the complete framework to improve the EPM-employee creativity relationship.

Hypothesis 3. The buffering capacity of CEL functions interactively. The combined multidimensional framework will significantly moderate the EPM-creativity relationship, demonstrating a stronger collective buffering effect than individual dimensions operating independently.

Methodology

Research Design

This study used a quantitative and cross-sectional survey design to investigate the relationship between CEL, perceived EPM, and employee creativity. While a cross-sectional design prevents the establishment of strict causal relationships, it is theoretically and methodologically appropriate for evaluating associations and interactions between workplace conditions and employee perceptions at a specific point in time. Furthermore, self-report methodology was deemed the most appropriate approach for capturing subjective experiences, such as perceived leadership behaviors, the psychological intensity of digital performance monitoring, and self-evaluated creative output.

However, because all core variables (CEL, EPM, and creativity) were collected concurrently through self-reports, the data is inherently susceptible to Common Method Bias (CMB). To proactively mitigate this risk, several procedural countermeasures were implemented during the survey design phase. These mitigation strategies included guaranteeing strict participant anonymity to reduce social desirability bias, employing psychological separation between the predictor and criterion measurement scales, and embedding specific attention checks to ensure response validity and overall data integrity.

Participants and Procedure

A multi-source sampling strategy was employed in this study to ensure external validity and to capture a diverse representation of the modern organizational workforce. Firstly, purposive and convenience sampling was used by distributing the survey online through professional networks that targeted employees working in organizations. The geographic restriction and network bias was reduced by distributing the survey on the academic research platform ‘SurveyCircle’ and further recruited participants through ‘Prolific’. Prolific is a

crowdsourcing platform through its strict participant vetting processes, which enabled for higher data quality and more diverse participant geographical and industry pools (Peer et al., 2017).

Data collection was secured through an online survey platform with an estimated completion time of approximately 6-9 minutes. Prior to the participants accessing the survey items, the participants were provided with a Participant Information and Consent Form. This form explicitly laid out the study's purpose, guaranteed voluntary participation, and guaranteed participants of their right to withdraw at any time. This goes along with the Lund University's research ethics guidelines and the General Data Protection Regulation (GDPR) that assured them of anonymity as no personal identifiable information was collected.

Specific inclusion criteria were enforced through the preliminary screening questions to ensure data integrity. Participants were required to be over 18 years and older, currently employed in an organization, and worked under a direct supervisor/manager for a minimum of three months. The three-months work duration requirement was enlisted to guarantee that the participants had adequate exposure time to accurately evaluate their manager's specific leadership behaviors.

The raw sample consisted of 290 participants; however 75 participants were eliminated due to failing the two attention check questions, completing the survey at a relatively fast time, failing to finish the survey, failing to meet the participation requirements, and data that showed straight-lined answers. Therefore, the final validated sample consisted of 215 participants that demonstrated a highly balanced gender distribution and was primarily composed of full-time employees.

Measures

All primary constructs were assessed by using multi-item scales adapted from established and validated organizational behavior research. The selected instruments were chosen for their strong psychometric properties, widespread validation in prior research, and their conceptual alignment with this study's theoretical framework. Unless otherwise asked, participants responded to the items by using a 5-point Likert scale ranging from 1 (Strongly disagree) to 5 (Strongly agree).

Creativity-Enabling Leadership (CEL)

Aligned with the theoretical framework premise that leadership is a multidimensional construct, CEL was measured and operationalized as a second-order, multidimensional variable

consisting of 25 total items. The overarching scale showed strong internal consistency with α = .882 and was composed of the following three sub-dimension.

Autonomy Support. A 12-item scale was used to assess the extent to which leaders provide operational freedom, structural support, and encourage independent decision making. This construct was taken from the Leadership Empowerment Behavior scale (Ahearne et al., 2005) as it captures the complete structure of autonomy. The scale measures meaningfulness through the leader's ability to provide strategic context, participation through collaborative input, confidence through the leader supporting the employees, and extent of bureaucracy through employee operational freedom. Sample items include, "My leader allows me to do my job my way" and "My leader consults me on strategic decisions". The scale achieved robust reliability with (α = .904).

Psychological Safety. A 9-item scale taken from the Inclusive Leadership Scale (Carmeli et al., 2010) that measures the specific and observable actions that a leader can take to foster safety. Carmeli's scale was selected as it treats psychological safety as an active outcome of inclusive leadership. The scale measures openness through the leader's receptivity to creativity from employees, availability through the leader's physical and mental presence, and accessibility through the leader's approachability during crisis and support. Sample items include, "The manager is an ongoing 'presence' in this team-someone who is readily available" and "The manager is attentive to new opportunities to improve work processes". The scale achieved robust reliability with (α = .934).

Cognitive Stimulation. A 4-item scale used to measure the leader's ability to inspire divergent thinking and challenge the status quo. This was taken from the Intellectual Stimulation subscale from the Multifactor Leadership Questionnaire (MLQ; Bass & Avolio, 1995). The MLQ is known as the standard for assessing transformational leadership behaviors and ensuring high construct validity. Sample items include, "My leader gets me to look at problems from many different angles" and "My leader re-examines critical assumptions to question whether they are appropriate". The scale achieved robust reliability with (α = .826).

Employee Creativity

Participants' creative work behaviors were evaluated by using the 10-item scale developed by George and Zhou (2001) that captures the generation of novel, practical, and creative solutions within the workplace. This instrument was selected due to its emphasis on

practical and creativity within the job rather than abstract artistic creativity, thus making it appropriate for evaluating professionals in organizational settings. Additionally, evaluating creativity through self-report using this scale is a strongly validated and widely used approach in organizational psychology. Sample items include, “Suggests new ways to achieve goals or objectives" and "Comes up with creative solutions to problems". The scale demonstrated excellent reliability (α = .912).

Electronic Performance Monitoring (EPM)

Capturing the perceived intensity of digital performance monitoring, EPM was measured using a 6-item scale specifically adapted for this study. Due to the rapid evolution of digital monitoring technology, using older scales from the 1990s that measured for example, telephone logging and early keystroke, would lack contemporary and ecological validity. Consequently, to ensure high construct validity, the items for this scale were directly taken from the foundational theoretical framework of EPM (Ravid et al., 2020). Instead of measuring a deeply latent psychological trait, these items were designed to measure the perceived presence of digital monitoring across the specific dimensions that were outlined in the literature; recording, tracking, and evaluating. Sample items include, "My organization uses electronic systems to monitor my work performance" and "My work performance is evaluated using data collected by digital systems". An additional frequency item was included, "How often are your activities monitored through digital systems?" consisting of five provided responses, ‘Never’, ‘Rarely’, ‘Sometimes’, ‘Always’, and ‘Not sure’. Despite being an adapted, framework-derived measure, the EPM scale demonstrated strong internal consistency within this sample (α = .918), well above the accepted threshold for empirical reliability.

Control Variables

To separate the specific effects of leadership and monitoring, several demographic and organizational variables were measures to be used as a potential control measure. Participants were asked to report their age, gender, employment location, employment status, industry, work duration in the corporation and the duration of working under their current immediate supervisor. Moreover, participants were also asked to report their manager’s age, gender, role, and education.

Data Analysis Strategy

Data processing and statistical analyses were conducted using the Jamovi statistical software platform (Version 2.3), built upon the R programming language. The analytical strategy

proceeded in two primary phases. First phase consisted of the Second-Order Confirmatory Factor Analysis (CFA) employing Maximum Likelihood estimation was conducted to rigorously test the construct validity of the measurement model and confirm the multidimensional architecture of the CEL framework.

Second, the hypothesis testing was conducted through the Generalized Linear Model (GLM). All continuous predictor variables (CEL, EPM, and the individual leadership dimensions) were mean-centered prior to regression analysis. Following the detection of a significant interaction, simple slopes analyses were conducted to unpack the conditional effects of the moderation at high (+1 *SD*) and low (-1 *SD*) levels of electronic performance monitoring.

Results

Descriptive Statistics and Preliminary Analysis

The final sample consisted of 215 participants ($N = 215$). The demographic profile showed a highly balanced gender distribution with 49.3% ($N = 106$) male, 49.3% ($N = 106$) female, and 1.4% ($N = 3$) identifying as other. The participants were primarily made of early-career professionals with 32.1% ($N = 69$) were aged between 18-24 years old, and 32.6% ($N = 70$) were aged between 25 to 34 years old. Regarding the employment status, the majority of the final sample were employed full-time with 68.8% ($N = 148$), with the largest segment of 37.2% ($N = 80$) reported employment duration with the organization to be from three to five years. A Pearson correlation matrix was computed to assess the preliminary relationships amongst the variables. Age and gender demonstrated no significant correlations with employee creativity (all $p > .134$), indicating that demographics did not confound the primary outcomes.

Table 1
Descriptives and Pearson Correlation

	M	SD	1	2	3	4	5	6
1. Mean_Aut	3.84	0.773	_					
2. Mean_PsychSafe	4.08	0.836	0.779	_				
3. Mean_CogStim	3.66	0.903	0.683	0.698	_			
4. Mean_Creativity	3.96	0.738	0.439	0.310	0.359	_		
5. Mean_EPM	3.07	1.320	0.079	0.128	0.168	0.230	_	
6. Mean_CEL	3.90	0.747	0.944	0.926	0.815	0.407	0.123	_

Note. $N = 215$. All continuous variables represent composite scale mean scores. *M* = Mean; *SD* = Standard Deviation.

As shown in Table 1, the three sub-dimensions of CEL were significantly and positively correlated with employee creativity; autonomy ($r = .429$, $p < .001$), cognitive stimulation ($r = .359$, $p < .001$), and psychological safety ($r = .310$, $p < .001$). Notably, electronic performance monitoring (EPM) demonstrated a significant positive correlation with cognitive stimulation ($r = .168$, $p = .014$), but was not significantly associated with autonomy ($r = .079$, $p = .250$).

Measurement Model and Construct Validity

A core theoretical argument of this study proposes that CEL is not a unidimensional behavior, but rather a complex and multidimensional construct made up of three distinct but synergetic facets; autonomy, psychological safety, and cognitive stimulation. In order to empirically validate this theoretical framework and ensure that the survey items accurately reflected this structure, a Second-Order Confirmatory Factor Analysis (CFA) was computed using maximum likelihood estimation.

The evaluation of the measurement model emerged in two phases. The first phase, the first-order measurement model, was computed to evaluate whether all the observable survey items loaded accurately onto their respective targeted latent factors. Results demonstrated strong item-level convergence; all standardized factor loadings for the individual items onto autonomy, psychological safety, and cognitive stimulation were statistically significant and robust (all ps < .001).

Table 2

Absolute Fit Indices for the Second-Order Latent Measurement Model

		95% Confidence Intervals		
SRMR	RMSEA	Lower	Upper	RMSEA p
0.069	0.076	0.071	0.081	<.001

Note. $N = 215$. SRMR = Standardized Root Mean Square Residual; RMSEA = Root Mean Square Error of Approximation. CI = Confidence Intervals.

Following that, the second-order structural model was evaluated to support that these three distinct sub-dimensions statistically converge to form the broader and overarching CEL construct. The second-order CFA provided acceptable absolute fit to the data (see Table 2). The Standardized Root Mean Square Residual (SRMR) was .069, and the Root Mean Square Error of Approximation (RMSEA) was .076, 95% CI [.071, .081]; both fell within the recommended

threshold of < .08 for good model fit. While incremental fit indices were slightly below the most conservative .90 thresholds (CFI = 0.848; TLI = 0.838), the model was retained. In organizational research using highly complex, multidimensional higher-order models with a large number of observable items, minimal penalties to incremental fit are common as the model's strong absolute fit through RMSEA and SRMR yielded sufficient empirical evidence for structural validity (Marsh et al., 2004; Shi et al., 2017).

Prior to evaluating the overarching structural framework, the item-level parameters of the first-order measurement model were examined to ensure sufficient indicator convergence. All 25-items adapted to capture the dimensions of CEL loaded robustly and significantly onto their respective target latent factors. Autonomy support, psychological safety, and cognitive stimulation with standardized loadings (β) ranging from 0.612 to 0.880 (all $p < .001$). Moreover, the model demonstrated strong structural integrity with indicators for perceived EPM ($\beta \geq 0.837$, $p < .001$), and the 10-items for Employee Creativity showed ($\beta \geq 0.535$, $p < .001$), confirming the significant construct validity across all instruments.

The second-order element of the model indicated excellent construct validity. All three first-order latent variables provided exceptionally strong and statistically significant loadings onto the higher-order CEL construct; autonomy support ($\beta = 0.929$, $p < .001$), psychological safety ($\beta = 0.890$, $p < .001$), and cognitive stimulation ($\beta = 0.829$, $p < .001$).

Table 3
Comprehensive Reliability for Study Instruments

Variable Scale Instrument	Number of Items	Cronbach's Alpha (α)	McDonald's Omega (ω)
CEL- Sub-Scales	25	0.882	0.887
Autonomy Support	12	0.904	0.098
Psychological Safety	9	0.934	0.935
Cognitive Stimulation	4	0.836	0.838
Employee Creativity	10	0.912	0.916
EPM	4	0.918	0.918

Note. $N = 215$. Internal consistency was evaluated simultaneously using Cronbach's alpha (α) and McDonald's omega (ω)

Finally, internal consistency reliability (see Table 3) was assessed and deemed excellent across all measures by exceeding the standard .70 benchmark. To ensure that the three measures

worked cohesively together, a secondary reliability check testing the averages of autonomy support, psychological safety, and cognitive stimulation yielded a strong reliability score of α = .882. This strong statistical link proves that while these three behaviors are unique, they belong under the same umbrella. The dimensions of the Creativity-Enabling Leadership framework displayed exceptional measurement stability: autonomy support (α = .904), psychological safety (α = .934), and cognitive stimulation (α = .836). Employee Creativity demonstrated excellent reliability (α = .912, ω = .916), and EPM demonstrated (α = .918, ω = .918), confirming that the final scale parameters are psychometrically robust and free from configuration errors.

Hypothesis Testing

To test the primary hypotheses regarding the main and moderating effects on employee creativity, a Generalized Linear Model (GLM) was used. Prior to the analysis, all continuous predictor variables were mean-centered in order to minimize any possible multicollinearity and to facilitate the interpretation of the interaction. Furthermore, multicollinearity diagnostics indicated acceptable levels, with all Variance Inflation Factor (VIF) values falling well below the conservative threshold of 5 with VIF score for both variables being 1.02. The overall omnibus model showed a statistically significant fit to the data, $\chi2(3) = 25.6$, $p < .001$, indicating that the model explains approximately 22.0% of the variance in employee creativity (R2 = .220, Adjusted R2 = .194).

Table 4

Generalized Linear Model Parameter Estimates for Employee Creativity

			95% Confidence Intervals			
Name	Estimate	SE	Lower	Upper	z	p
(Intercept)	3.95	0.05	3.86	4.04	87.58	<.001
Mean_CEL	0.41	0.06	0.29	0.53	6.65	<.001
Mean_EPM	0.10	0.03	0.03	0.16	2.80	.005
Mean_CEL ✻ Mean_EPM	0.11	0.05	0.02	0.20	2.41	.016

Note. N = 215. All continuous predictors are mean-centered prior to analysis. CI = confidence interval. Unstandardized estimates (*B*) are reported. Overall model fit: R2 = .220, Adjusted R2 =.194, $\chi2(3) = 25.6$, $p < .001$.

Hypothesis 1 argues that CEL would have a direct and positive effect on employee creativity. The parameter estimates (see Table 4) showed a highly significant positive main effect of CEL on creative outcomes with ($B = 0.412$, $SE = 0.062$, 95% CI [0.291,0.533], $p < .001$). This

finding indicates that higher levels of CEL are positively associated with employees' self-reported creativity increases, therefore, Hypothesis 1 is supported.

Hypothesis 2 introduces a boundary condition and argues that the perceived intensity of EPM would moderate the relationship between CEL and employee creativity. The GLM analysis demonstrated a significant interaction effect between the mean-centered CEL and EPM variables (B = 0.113, SE = 0.047, 95% CI [0.021,0.204], p = .016). This significant interaction indicates that the effect of CEL on creativity varied as a function of perceived EPM perceived by the employees (See Table 4).

Table 5

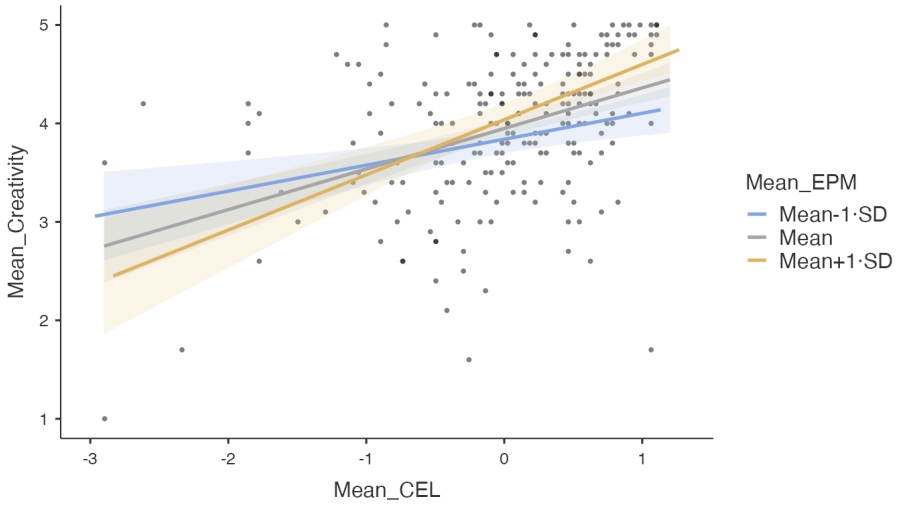
Simple Effects of Creativity-Enabling Leadership (CEL) on Employee Creativity at Levels of EPM

Moderator				95% Confidence Intervals			
Mean_EPM	Effect	Estimate	SE	Lower	Upper	z	p
Mean-1·SD	Mean_CEL	0.26	0.08	0.11	0.42	3.41	<.001
Mean	Mean_CEL	0.41	0.06	0.29	0.53	6.65	<.001
Mean+1·SD	Mean_CEL	0.56	0.1	0.37	0.75	5.83	<.001

Note. N = 215. Unstandardized estimates (B) are reported. EPM = Electronic Performance Monitoring. SD = standard deviation. CI = confidence interval.

Figure 1

Interaction Between Creativity-Enabling Leadership and EPM on Employee Creativity



Note. CEL = Creativity-Enabling Leadership. EPM = Electronic Performance Monitoring. High EPM represents +1 *SD* above the mean; Low EPM represents –1 *SD* below the mean.

In order to establish the nature of this moderation, a simple slopes analysis was conducted by evaluating the conditional effects of CEL at ±1 standard deviation from the mean of EPM. The analysis showed that the positive impact of CEL on creativity remains significant under low intensity EPM with (−1 SD; $B = 0.264$, $SE = 0.077$, 95% CI [0.111,0.416], $p < .001$). However, under the conditions of high monitoring (+1 SD), the association between CEL and creativity was stronger at high levels of EPM compared to low levels with ($B = 0.561$, $SE = 0.096$, 95% CI [0.371,0.750], $p < .001$). This finding provides empirical evidence for the buffering effect. It statistically indicates that although good CEL is helpful for everyone, it is significantly more effective for employees under heavy perceived monitoring. Thus, every bit of autonomy and supportive leader behavior provides double the creative output compared to employees who experience low perceived monitoring (see Table 5 and Figure 1).

Exploratory Dimension-Level Analysis

An exploratory 'deep dive' model was computed in order to provide a deeper mechanistic understanding of the buffering effect in the primary analysis. In the disassembled model, the three distinct dimensions of CEL, autonomy, psychological safety, and cognitive stimulation, were entered simultaneously with their individual predictors alongside their respective interaction with EPM. The omnibus model remained highly significant with $\chi2(7) = 29.5$, $p < .001$. The inclusion of the individual dimensions increased the explanatory power of the model accounted for 25.4% of the total variance in employee creativity ($R2 = .254$). The omnibus test confirmed that the overall model was highly significant, and more importantly, demonstrated that by breaking down leadership into the three dimensions, the model's predictive accuracy went from 22.0% to 25.4% of explaining employee creativity.

When evaluating the main effects within the expanded model (see Table 6), strikingly, autonomy emerged as the strongest and only statistically significant direct predictor of creativity amongst the three dimensions ($B = 0.421$, $SE = 0.097$, 95% CI [0.231, 0.610], $p < .001$). However, when evaluating the moderation by testing the sub-dimensions individually against EPM, none of them were statistically significant enough to function as a buffer on their own. The interactions for autonomy ($B = -0.047$, $p = .529$), psychological safety ($B = 0.113$, $p = .092$), and cognitive stimulation ($B = 0.023$, $p = .689$) independently failed to cross the $p < .05$ threshold. Thus, this provides that the moderation effect found in the main model relies almost entirely on the synergy of the complete CEL theoretical framework working together.

Table 6

Generalized Linear Model Parameter Estimates for Exploratory Dimension-Level Analysis

			95% Confidence Intervals			
Name	Estimate	SE	Lower	Upper	z	p
(Intercept)	3.95	0.05	3.86	4.03	87.6	<.001
Mean_Aut	0.42	0.10	0.23	0.61	4.34	<.001
Mean_PsychSafe	-0.09	0.09	-0.27	0.10	-0.93	0.352
Mean_CogStim	0.10	0.07	-0.05	0.24	1.34	0.181
Mean_EPM	0.10	0.03	0.03	0.17	2.87	0.004
Mean_CogStim ✻ Mean_EPM	0.02	0.06	-0.09	0.13	0.40	0.689
Mean_PsychSafe ✻ Mean_EPM	0.11	0.07	-0.02	0.25	1.68	0.092
Mean_Aut ✻ Mean_EPM	-0.05	0.07	-0.19	0.10	-0.63	0.529

Note. $N = 215$. All continuous predictors were mean-centered prior to analysis. CI = confidence interval. Unstandardized estimates (*B*) are reported. Overall model fit: R2 = .254, $\chi 2(7) = 29.5$, $p < .001$.

Although there was a marginally significant trend that was observed for psychological safety ($p = .092$), the lack of individual differences allows for a critical theoretical insight. The moderation that was provided in the primary model relies on shared variance and the synergistic combination of all three leadership behaviors. This alludes to providing autonomy, psychological safety, or cognitive stimulation alone is an ineffective measure against the pressure of perceived monitoring. Thus, this indicates that leaders deploying the multidimensional CEL framework by combining all three dimensions together may support the buffering impacts against intense workplace EPM. Thereby, Hypothesis 3 is supported.

Robustness Checks

To ensure the structural validity and integrity of the primary findings, a robustness check was administered to account for any possible biases introduced by self-reporting ambiguity. An analysis was conducted to confirm that participants who chose ‘Not sure’ regarding the frequency of their electronic performance monitoring did not alter the creativity outcomes. An independent sample *t*-test (see Table 7) was conducted to compare the dependent variables across two groups; those who were certain of their monitoring frequency ($n = 197$) and those who reported uncertainty ($n = 18$). The analysis showed no statistically significant difference in the baseline creativity scores between the highly certain group ($M = 3.97$, $SD = 0.73$) and the

uncertain group (M = 3.87, SD = 0.82), $t(213) = 0.574$, $p = .567$, with a mean difference of 0.104 (*SE* diff. = 0.182).

Table 7

Independent Samples t-Test and Group Descriptives for EPM Certain and Uncertain Frequency

Frequency Group	N	M	SD	SE	t	p	Mean Diff.	SE Diff.
Certain Frequency	197	3.97	0.732	0.052	0.574	0.567	0.104	0.182
Uncertain Frequency	18	3.87	0.815	0.192	–	–	–	–

Note. $N = 215$. M = mean; SD = standard Deviation; SE = standard Error of the mean; t = Student's t-statistic; p = probability value; Mean Diff. = raw difference between group averages; *SE* Diff. = standard error of the difference score.

These non-significant findings suggest that uncertainty responses did not significantly bias the results. This indicates that the primary moderation findings were driven by actual experiences and perceptions of monitoring and leadership, rather than being artificially skewed by participant confusion regarding their organization's monitoring conditions.

Discussion

The primary aim of this study was to advance organizational leadership and creativity research by assessing the intersection of multidimensional leadership behaviors and contemporary digital work monitoring. Particularly, this research conceptualized Creativity-Enabling Leadership as a synergistic framework operationalized through autonomy support, psychological safety, and cognitive stimulation, by utilizing a cross-sectional self-report design, this study examined the associations between CEL and employee creativity to evaluate the framework's capacity to buffer against the restrictive pressures of EPM.

The empirical findings demonstrated robust support for the proposed theoretical model. The results supported that CEL is a significant and positive predictor for employee creativity (Hypothesis 1) and that perceived EPM intensity significantly moderates the relationship (Hypothesis 2). Most remarkably, the exploratory dimension-level analysis exhibited the buffering capacity of leadership against digital performance monitoring is solely synergistic; the individual mechanisms failed to moderate the EPM-creativity relationship independently (Hypothesis 3). This discussion contextualizes these findings within the existing literature, outlines the theoretical and practical implications, and addresses the study's limitations.

Interpretation of Findings

The Direct Effect of Creativity-Enabling Leadership

Consistent with Hypothesis 1 and the foundational Componential Theory of Creativity (Amabile, 1988), the results revealed a robust main effect of CEL on employee creativity. The overall model explained approximately 22.0% of the variance in creative outcomes ($R^2 = .220$). While a portion of the variance naturally remains unexplained, this represents a substantial effect size within the context of organizational behavior research. An assessment of over 250 meta-analyses conducted across 30 years of management literature indicates that the average uncorrected effect size in this field often explains less than 4% of outcome variance (Paterson et al., 2015). Thus, capturing 22% of variance outcome in creativity highlights the strong predictive validity of CEL theoretical framework. This findings aligns with the interactionist perspective (Woodman at al., 1993), supporting that when leaders simultaneously provide the structural freedom to execute tasks through autonomy, the relational security to take interpersonal risks through psychological safety, and the intellectual push to challenge routines through cognitive stimulation, employees are significantly more likely to participate in the divergent thinking required for creative outcomes.

The Buffering Role of Electronic Performance Monitoring

The most crucial findings of this study supports Hypothesis 2 by establishing perceived EPM as a vital boundary for the leadership-creativity relationship. The simple slopes analysis exhibited an amplified effect; while statistically, the interaction suggests that the positive association between CEL and creativity was stronger under higher perceived monitoring conditions.

This statistical amplification allows for a critical insight into the psychological reality of the modern digital workspaces. Under low EPM, the work environment is comparatively unconstrained. Essentially, employees inherently hold a baseline level of psychological flexibility, resulting in leadership being helpful rather than strictly fundamental for creativity. However, under high EPM, the environment is inherently altered. The persistent digital tracking introduces the ‘autonomy paradox’ (Kellogg et al., 2020), which in essence, fosters an extreme interpersonal risk, cognitive entrenchment, and algorithmic compliance (Ravid et al., 2020). Therefore, in modern work environments, these findings are consistent with the idea that supportive leadership behaviors may help employees maintain creativity under more intensive

monitoring conditions. Rather than functioning as an absolute psychological shield, the data indicates that as digital performance monitoring intensity increases, the structural, relational, and cognitive support provided by CEL is positively associated with employees' ability to maintain their creative output and intrinsic motivation.

The Synergistic Necessity of the CEL Theoretical Framework

The exploratory dimension-level analysis provided theoretically insightful outcomes; while the overarching CEL framework successfully buffered against EPM, the individual dimensions of autonomy, psychological safety, and cognitive stimulation, independently failed to pass the threshold for statistical significance in moderation. Importantly, this study conceptualizes CEL as a focused, mechanism-based operationalization rather than an exhaustive representation of all leadership behaviors relevant to creativity. While autonomy, psychological safety, and cognitive stimulation capture three central pathways highlighted in prior research, other leadership mechanisms may also contribute to creativity but fall outside the scope of the present model.

These findings suggest that addressing the multifaceted restriction of modern digital monitoring requires a multifaceted leadership approach. Theoretically, EPM has been proposed to not only restrict the psychological domain, but rather simultaneously introduce structural rigidity, relational fear, and cognitive passivity. In alignment with this perspective, if a leader only provides autonomy, the employee may still fear algorithmic evaluation, lacking safety. If a leader only provides safety, the employee may feel comfortable but lack the motivation to break routine, lacking stimulation. The results in this sample suggest that there is no ‘miracle drug’ in leadership. Rather, the data are consistent with the theoretical framework that it is the synergistic intersection of all three behaviors; the simultaneous provision of structural autonomy, interpersonal security, and intellectual challenge; that is associated with a stronger psychological buffer to counteract the effects of EPM.

Theoretical Implications

This study offers three distinct contributions to organizational and leadership literature. First, this study challenges the primary methodological tendency in treating leadership as a unidimensional and latent construct. Prior literature offers broad leadership paradigms, such as empowering leadership and transformational leadership, in which they have been operationalized as a single latent variable that assumes specific supportive behaviors are simple interchangeable

indicators of a generally ‘effective leader’ (Hughes et al., 2018). However, by effectively validating CEL as a second-order and multidimensional construct through CFA, the findings support that autonomy support, psychological safety, and cognitive stimulation are distinct and non-interchangeable mechanisms. From the theoretical perspective, this supports the argument that CEL cannot be treated as overarching and vague. Instead, it is an intentional framework that requires leaders to consciously and specifically implement distinct tools to facilitate creativity.

Second, this research advances the rapidly evolving literature on EPM. Prior EPM literature has primarily emphasized stress, privacy, and task-based performance (Meijerink et al., 2021). Thus, by situating EPM as a psychological boundary condition that moderates complex cognitive outcomes, such as creativity, this study bridges the gap between digital performance monitoring literature and organizational creative theories.

Third, this study enhances the interactionist perspective of creativity by empirically proving the concept of ‘leadership synergy’. By statistically proving that individual supportive behaviors are ineffective under conditions of high monitoring, the research supports a new standard for evaluating leadership effectiveness in technologically saturated work environments.

Practical Implications

The findings provide practical insights for modern organizations that are struggling with the tensions between digital performance monitoring and the need for constant creativity. The primary practical takeaway suggests that organizations should be cautious about installing tracking software without also considering leadership behaviors. The data indicates that installing high-intensity EPM without simultaneously cultivating a framework like CEL may risk stifling perceived employee creativity.

As a result, human resource management and executive management may benefit from implementing and prioritizing mechanism-based leadership training. Rather than training managers to be ‘inspiring’ and ‘emotionally appealing’, organizations must train them to consciously implement psychological buffers. Managers could be taught how to systematically provide autonomy, foster psychological safety by shaping digital errors as learning strategies, and to intentionally stimulate cognitive stimulation to help prevent employees from falling into algorithmic compliance. Additionally, when organizations create and install EPM dashboards, they should consider the extent of the impact on employee discretion and thus utilize the technology as a tool for developmental feedback rather than punitive monitoring.

Limitations and Directions for Future Research

While this study provides significant results and implications, it comes with limitations. First, the cross-sectional survey design does not indicate a strict causal relationship. While the theoretical model is grounded in established literature, it is still likely that employees who are relatively creative naturally draw out more empowering behaviors from their leaders, such as trust and more autonomy. This can be attributed to 'reverse causality'. Thus, future research should implement longitudinal or quasi-experimental study designs to capture the causal direction over time definitively.

Second, the study used a self-reported measure for employee creativity. While this is a validated approach in organizational research for capturing complex internal processes (George & Zhou, 2001), it remains susceptible to common method bias. Thus, future research could implement supervisor-rated creativity scores or objective creative measures to further validate the findings.

Lastly, while the adapted EPM scale showed strong reliability and validity, it captured the psychological perception intensity of monitoring. Future research may incorporate object system-level EPM data, such as the actual frequency of evaluations, and compare them with the employee perception to assess whether the objective reality aligns with the subjective perceptions. Thus, one can assess which plays a more dominant role in restricting creativity.

Conclusion

As organizations increasingly incorporate performance monitoring, modern workplaces are subjected to fundamental changes. This study demonstrates that while EPM introduces psychological restrictions that are needed for employee creativity, it does not necessarily result in the death of creativity. However, in order to diminish those restrictions, leaders must implement a synergistic framework for CEL in order to create an effective psychological buffer. Ultimately, these findings support the relevance of multidimensional synergistic leadership behaviors in digitally monitored work environments.

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