

Positivity at Work: How Personal Strength, Job Stressors, and Gender Shape Employee Creativity

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Abstract

Creativity is essential for organisations to remain competitive in rapidly evolving environments. In China's automotive industry, the transition from internal combustion engine vehicles to new energy vehicles has intensified technological competition, shortened development cycles, and heightened expectations for creativity. These shifts impose significant constraints on research and development employees, raising important questions about how personal psychological resources interact with contextual job stressors to shape creative performance. Despite increasing scholarly attention to workplace creativity, the dynamic interplay between individual strengths and constrained work environments remains underexplored. This thesis adopts a mixed-methods design to investigate how psychological resources enable employees to sustain creativity under pressure. Study One draws on semi-structured interviews with 13 R&D professionals to capture employees' lived experiences and interpretations about time pressure and learning requirements during the creative process, highlighting resilience and self-efficacy as core psychological strengths in coping with adversities, thereby supporting creative performance. Building on these insights, Study Two develops and tests a moderated curvilinear model using multi-wave survey data from 639 employees. Results indicate that time pressure exhibits a curvilinear relationship with creative performance. Psychological capital (PsyCap) plays a critical moderating role. In addition, learning requirements exert a generally beneficial influence on creative performance regardless of employees' levels of PsyCap. Study Three further examines the direct relationship between PsyCap and creativity and identifies a moderating effect of gender. The findings demonstrate that the PsyCap–creativity

linkage is contingent upon socio-cultural factors, underscoring gender as a meaningful boundary condition rather than merely a demographic control. Theoretically, this thesis integrates positive organisational behaviour with the actor-context interplay for creativity, conservation of resources theory, challenge–hindrance stressor framework, and gender theories, offering a coherent explanation of when and how job stressors, psychological strengths, and socio-cultural factors jointly shape creative outcomes. Practically, it provides evidence-based guidance for organisations seeking to enhance employees' creative performance by strengthening psychological capital, managing time pressure and learning requirements strategically, and adopting gender-sensitive approaches within creativity management systems.

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only to have your love but also your support as my “research assistant,” which many of my peers admire. Your presence reminds me that strong Psychological Capital grows not only from within but also through the support of loved ones—clear empirical evidence right at home, so I can confidently conclude that no further studies on this topic are needed.

I still remember the words I wrote to you on your 21st birthday: *As Confucius reflected by the river, “All things pass as this water flows”. People around us and moments may drift away and fade into memory, yet we will always remain together.* Time has proven this true, and it will continue to do so, always.

Preface

The origin of this thesis can be traced back to the researcher's professional experiences in the automotive industry in China before starting the PhD. The introduction of the Chinese government's new energy vehicle (NEV) policy triggered a swift transformation in the automotive sector, accelerating the industry's shift from internal combustion engine vehicles (ICEVs) to NEVs. While many established car manufacturers approached this change cautiously, emerging companies viewed it as a rare opportunity to enter the market. These newcomers have invested substantial resources and effort to establish their presence and secure a share in the rapidly evolving automotive landscape. However, the competition was fierce, and many companies could not withstand the market pressures and failed midway through their ventures.

Within this turbulent environment, the researcher's former company, as the car component supplier, faced unprecedented difficulties. To meet the varying demands of its clients, the R&D team was split: one team continued serving traditional vehicle customers, while the other specialised in NEV customers. Almost immediately, tensions arose. The team focused on NEV customers, who reported intense pressure, as they faced relentless time pressure and rising design challenges. Unlike traditional vehicle clients, NEV customers often require just-in-time services, making spontaneous requests and expecting immediate replies. As a result, R&D engineers faced workloads and stress levels considerably higher than those of engineers serving traditional clients. The rapid pace of technological change, shorter development cycles, and increasing customisation demands placed immense pressure on engineering teams. Many engineers expressed frustration over the

imbalance between work demands and available resources, while managers struggled to identify effective strategies to alleviate pressure without compromising productivity and innovation.

This phenomenon drew the researcher's attention to the complex interplay between individual and contextual factors that shape creativity in high-pressure environments. Consequently, this thesis seeks to explore how employees experience and sustain creativity under conditions of intense time pressure and learning requirements, and how they navigate adversities during the creative process. It further investigates the psychological and contextual factors that influence creative performance and examines potential mechanisms to foster employee creativity.

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List of Abbreviation

Abbreviations	Full Name
AC	Artificial Creativity
AI	Artificial Intelligence
AIC	Akaike Information Criteri
AVE	Average Variance Extracted
CFA	Confirmatory Factor Analysis
CFI	Comparative Fit index
CI	Confidence Interval
CMB	Common Method Bias
CMV	Common Method Variance
COR	Conservation of Resources
CP	Creative Performance
CR	Composite Reliability
CSE	Creative Self-Efficacy
DV	Dependent Variable
EFA	Exploratory Factor Analysis
FASS	Faculty of Art and Social Sciences
ICEV	Internal Combustion Engine Vehicle
IPA	Interpretative Phenomenological Analysis
IV	Independent Variable
LLCI	Lower Level Confidence Interval
LO	Learning Organisation
LRs	Learning requirements
NEV	New Energy Vehicle
OEM	Original Equipment Manufacturer
POB	Positive Organisational Behaviour
PsyCap	Psychological Capital.
R&D	Research and Development
RMR	Root Mean Square Residual
RMSEA	Root Mean Square Error of Approximation
SD	Standard Deviation
SDG 5	Sustainable Development Goal 5
SEM	Structural Equation modelling
TLI	Tucker-Lewis Index
TP	Time Pressure
ULCI	Upper Level Confidence Interval
ULMC	Unmeasured Latent Method Construct
VIF	Variance Inflation Factor

Chapter One: Introduction

Chapter Overview

This chapter provides an overview of the thesis. It begins by outlining the research background, highlighting the importance of creativity, and identifying the key issues in the existing literature. Drawing on the dynamic context in China's automotive industry, it establishes the research objectives and formulates the research questions. The chapter then briefly introduces the empirical studies conducted in the thesis, followed by the significance and potential contributions to improving employee creativity. Finally, it presents the overall structure of the thesis, outlining each chapter in turn.

Background of the Study

Organisations are increasingly operating in highly competitive and dynamic environments (Pan et al., 2020). This is particularly true for China's automotive industry, which is undergoing a profound transformation driven by the national policy shift towards sustainability (Zhu, 2025). It redefined the competitive landscape, accelerating the transformation from internal combustion engine vehicles (ICEVs) to new energy vehicles (NEVs) and placing greater demands on employee creativity (Liu et al., 2023b; Xu & Chen, 2020). This transformation is rooted in broader environmental and energy challenges faced by China, including severe air pollution and the depletion of fossil fuels, which have positioned NEVs as a key national strategy to address sustainability and energy security concerns (Dong & Liu, 2020). Specifically, a wide range of policy instruments, including purchase subsidies, tax exemptions, dual-credit regulations, and large-scale investment in

charging infrastructure, have been implemented to accelerate both market adoption and industrial upgrading (Tian et al., 2024). In parallel, continuous policy reinforcement has progressively strengthened the institutional environment supporting technological development and innovation within the industry (Dong & Liu, 2020). Empirically, the rapid expansion of the NEV sector illustrates this policy-driven transformation: annual sales increased from only 18K units in 2013 to over 770K units by 2017, with China becoming the world's largest NEV market. By 2023, it had skyrocketed to 9495K units (Dong & Liu, 2020; Zeng et al., 2025). At the same time, rapid cost reductions and intensified competition, such as price declines in lithium battery cells, have further accelerated product iteration cycles and market competition within the industry (Tian et al., 2024).

However, the NEV industry continues to face significant structural challenges, including technological bottlenecks, uneven infrastructure development, intense market competition, and evolving regulatory requirements, all of which place increasing pressure on firms to continuously innovate and adapt (Dong & Liu, 2020; Shou & Li, 2025). This rapid industrial expansion, largely driven by intensive government intervention and technological development initiatives (Shou & Li, 2025), has significantly reshaped competitive dynamics and heightened expectations for continuous innovation and creativity among employees within the industry. Consequently, the industry's rapid expansion highlights the interplay between institutional forces and competitive dynamics, intensifying the demand for organisational adaptability. At the core of this adaptability are employees, whose creativity and innovative capacity become critical in sustaining competitive advantage under accelerated technological cycles.

Employee creativity, defined as the generation of novel and useful ideas, products, or processes (Amabile et al., 1996; Anderson et al., 2014), has become a critical resource for organisational growth, adaptability, and long-term sustainability (George & Zhou, 2002). Beyond driving innovation and competitive advantage, creativity also plays an important role in shaping employees' own psychological well-being, as engaging in creative work can foster a sense of purpose, competence, and fulfilment (Amabile & Pratt, 2016; Ludowyke et al., 2023).

Within this context, employees in the automotive sector emerge as pivotal agents of transformation, operating in environments marked by rapid technological advancement and relentless product iteration. Among them, research and development (R&D) professionals play a central role in converting environmental and institutional pressures into organisational opportunities (Chang et al., 2023; Khedhaouria et al., 2017), as they respond to accelerated innovation cycles, frequent technological updates, and heightened competitive demands (Liu et al., 2023b).

Employee creativity has become an important underpinning of organisations' growth and sustainable competitiveness (Anderson et al., 2014; Zhang & Bartol, 2010). However, in the workplace, employees face many job stressors, such as deadlines, scarce resources, and rules (Finney et al., 2013; House, 1974) during the creativity process, which may foster or hinder creativity (Acar et al., 2019). Job stressors are commonly conceptualised as work-related demands that exceed employees' available resources, thereby triggering adverse psychological and physiological responses which may lead to negative effects on health and well-being (Eftekhari et al., 2025; Sonnentag, 2018).

According to House (1974), job stressors can be conceptualised into five categories: intrinsic to the job (e.g. time pressure), role in organisation (e.g. role

conflict), career development (e.g. under promotion), relationships at work (e.g. level of participation), and organisation's structure and climate (e.g. imbalance between the demands placed on individuals and their ability to cope). In the workplace, job stressors interact with individual characteristics (House, 1974), which may lead to job stress and even burnout, ultimately exerting influence on employee performance (Finney et al., 2013). In the Chinese context, job stressors are shaped by rapid economic transformation and intensified global competition, which expose employees to increasingly demanding work conditions (Lu et al., 2021). Chinese employees commonly experience six core stressors, including organisational constraints, excessive workload, interpersonal conflict, limited work autonomy, job insecurity, and work-family conflict (Li et al., 2023; Lu et al., 2021).

Empirical studies and systematic reviews have shown that heavy workload, as reflected in both the pace and volume of work, is a dominant stressor in enterprises (Battams et al., 2014; Hong et al., 2022; Xu & Shi, 2023). Other stressors include unsupportive workplace relationships and job demand (Battams et al., 2014), management issues and time pressure (Wang et al., 2022), and a lack of autonomy (Li et al., 2023). These stressors may hinder employees' ability to translate effort into effective performance (Lu et al., 2010), thereby weakening employee creativity (Xu & Shi, 2023; Yang et al., 2023a). However, not all job stressors inhibit performance. While many stressors, such as reduced collaboration and lower contextual performance, are more consistently associated with negative outcomes (Lu et al., 2010), others (e.g. job responsibility and learning requirements) may stimulate effort and engagement, thereby enhancing performance (Podsakoff et al., 2023).

At the industry level, such stressors are further intensified in knowledge-based and innovation-driven roles. For instance, design professionals whose work closely resembles R&D tasks often operate under compressed timelines, tight project schedules, and rapidly changing requirements (Zhang et al., 2023a). These conditions require employees to continuously update their knowledge and adapt to evolving technologies while managing multiple tasks simultaneously, thereby increasing cognitive load and performance pressure. The dynamic contextual demands in the automotive industry in China are likely to manifest as key job stressors. Such stressors are particularly salient in industrial settings, where both psychosocial pressures (e.g., workload, role conflict) and physical-technical conditions jointly shape employees' work experiences and well-being (Podsakoff et al., 2023; Sonnentag & Fritz, 2015). Tasked with responding to emerging challenges under compressed development cycles, to sustain high levels of creative performance (CP), they must learn quickly to adapt to continuous technological advancements and evolving industry standards (Hsu & Fan, 2008; Khedhaouria et al., 2017). This may stimulate CP by encouraging problem-solving and knowledge acquisition; it may also impose cognitive and emotional strain, thereby shaping how employees engage in the creative process.

Based on the actor–context interaction for creativity (Woodman et al., 1993; Zhou & Hoever, 2023), personal factors may interact with contextual job stressors to influence creativity. These interactive effects are complex and multifaceted, giving rise to a range of possible outcomes. These include synergistic effects or diminishing gains when favourable actor characteristics interact with supportive contextual factors; antagonistic effects or diminishing losses when both actor and contextual factors are detrimental to creativity; and inhibitory or remedial effects

when creativity-enhancing actor characteristics interact with unfavourable contextual conditions, or vice versa. In addition, configurational effects may emerge, reflecting more nuanced patterns of interaction across different combinations of actor and contextual factors (Zhou & Hoever, 2023).

The challenge–hindrance stressors framework (Cavanaugh et al., 2000; Podsakoff et al., 2023) helps explain this complexity by suggesting that not all stressors exert uniform effects on CP. In particular, challenge-related stressors may produce positive feelings; they may be interpreted as eustress, which is stress that encourages challenge and feelings of fulfilment or achievement (Cavanaugh et al., 2000). These stressors can promote engagement and problem-solving, thereby positively influencing CP. In contrast, hindrance stressors tend to evoke negative emotions such as upset or anger. They are more likely to inhibit creativity.

A substantial body of research has examined the psychological and organisational factors that enable or hinder employee CP, albeit with mixed results (Anderson et al., 2014; Standing et al., 2016). Recently, scholars have acknowledged employees' psychological capital (PsyCap) as having a strong role in enhancing employee CP (Avey et al., 2012; Cai et al., 2019; Rego et al., 2012; Sweetman et al., 2011). Broadly, PsyCap refers to an individual's positive psychological state of development in terms of using their motivational and cognitive resources to achieve a high level of performance (Luthans et al., 2007a). Conceptually, PsyCap is said to consist of cognitive (efficacy), motivational (hope) and adaptive emotional (e.g. optimism and resilience) strength, which assist employees in psychologically managing their course of action when faced with challenges and in searching for novel ideas (Sweetman et al., 2011). From a conservation of resources (COR) theory (Hobfoll, 2001) perspective, PsyCap

provides a unique insight into how psychological resources can predict employee CP (Sweetman et al., 2011). However, it is important to acknowledge that these agentic psychological resources (Walumbwa et al., 2014) often reflect the characteristics of the prevailing “ideal worker” prototype, one that is implicitly gendered and rooted in traditionally masculine norms (Williams, 2001).

The automotive industry is characterised by a strongly masculinised organisational culture and set of practices (Utzeri, 2019). Long working hours and agentic behaviours are regarded as indicators of competence (Coffin & Lawrence, 2020; Pang et al., 2025; Utzeri, 2019). Given that organisational structures are inherently gendered rather than neutral (Acker, 1990), prior research suggests that gender is associated with both psychological resources and creative outcomes, indicating that gender should be systematically considered in studies of creativity. Research has indicated that creativity is associated with masculine and agentic behaviours such as assertiveness and risk-taking (Hora et al., 2022; Hora et al., 2021). According to social role theory (Eagly, 1987), men and women are likely to perform roles which comply with society’s stereotypical and gendered expectations of those roles. In particular, individuals of different genders are rewarded or punished based on their match with traditional social roles and gendered expectations, which most simply break down as an alignment of agency and action with masculinity, while communion and harmony with femininity (Eagly & Karau, 2002; Eagly et al., 2000). Role congruity theory (Eagly & Karau, 2002) further extends social role theory by considering the potential misalignment between gender and task roles and focuses on the prejudicial consequences of perceived incongruity.

A growing body of evidence suggests that gender may therefore condition how psychological strengths are translated into employee creativity. Recent studies

in Chinese contexts indicate that gender differences in creativity are often less about average levels of creativity per se and more about the confidence, variability, expression, and recognition associated with creativity. For example, He and Wong (2021b) found that gender differences in the mean scores of divergent thinking and creative problem solving were generally trivial, but that greater male variability appeared more often in some creativity distributions, especially in figural domains. In a related study, they also found gender differences in creative self-efficacy, an especially relevant mechanism because self-efficacy is a core component of PsyCap and one of the most proximal psychological resources linked to creative action (He & Wong, 2021a).

This distinction is important because psychological strengths do not directly produce creativity unless they are converted into confidence, persistence, and idea expression in work settings. Luo et al. (2023) conducted a study of Chinese visual arts students, showed that both male and female students overwhelmingly associated creativity with stereotypically masculine traits, and that these stereotypes were linked to creative self-efficacy. This implies that even when women possess strong internal resources, gendered beliefs about who is “naturally” creative may weaken the extent to which those resources are enacted as visible creativity (Luo et al., 2023). At the level of realised creativity, one analysis of Chinese patent data shows that gender diversity is associated with patent quality, indicating that gender composition matters for innovation outcomes in China (Zhang & Zong, 2023). It suggests that gender does not merely affect self-perceptions. It can also shape the quality of creativity and innovation at the output level.

The Chinese context is especially important here because gendered opportunity structures remain salient. Experimental evidence from China’s graduate

labour market shows that women receive fewer callbacks than comparable men in the early hiring stage, indicating that gender inequality continues to affect access to career opportunities. In parallel, Woodhams et al. (2015) argue that women managers' careers in China are shaped by the combined influence of gender and collectivist social expectations. These studies suggest that women's psychological strengths may be less readily translated into creativity when organisational pathways, recognition systems, and career opportunities are themselves gendered (Woodhams et al., 2015; Zhang et al., 2021a).

Taken together, these findings imply that PsyCap may not translate into employee creativity uniformly across genders. Instead, the conversion of hope, optimism, efficacy, and resilience into creativity is likely to depend on whether employees also possess the creative self-belief, social legitimacy, and organisational opportunity needed to express those strengths in creative work. In the Chinese context, where traditional gender norms and contemporary career inequalities can coexist with rising demands for innovation, gender may therefore shape both the psychological pathway from PsyCap to creativity and the contextual conditions under which that pathway becomes visible in performance (He & Wong, 2021a; Luo et al., 2023; Zhang et al., 2021a).

Problem Statement, Research Objectives, and Questions

Research and development (R&D) employees in the automotive sector are navigating high creative demands while driving a sustainability-focused industrial transformation. R&D employees are the key people who convert threats into opportunities (Chang et al., 2023) by finding novel and useful ideas, products, processes, and solutions to meet customer requirements in developing new vehicles.

They work under significant job stress. Tasked with solving emerging requirements and problems amid rapid product iteration, they must maintain creative output while adapting to evolving technical and competition challenges (Hsu & Fan, 2008; Khedhaouria et al., 2017). However, creativity inherently demands courage to challenge the status quo, as it often involves risk-taking, uncertainty, and the possibility of failure (Amabile & Pratt, 2016; Shalley et al., 2004). For R&D employees, this means engaging not only in cognitive exploration but also in continuous learning to bridge knowledge gaps (Chang et al., 2023; Lee & Walsh, 2016) and stay abreast of emerging technologies and processes. Equally important is the capacity for psychological regulation, the ability to stick to goals, maintain self-confidence, keep motivation, and recover from setbacks (Bakker & De Vries, 2021). As creative endeavours are frequently accompanied by trial and error, disappointment, and ambiguity (Anderson, 2023; Green et al., 2024), sustaining creativity over time requires resilience, adaptive coping, and an optimistic attitude that transforms failures into opportunities for learning and refinement.

With the rapid transformation of industries worldwide, employees are increasingly exposed to heightened job stressors, which have become critical factors influencing employee health, well-being, and performance (Lu et al., 2010; Nixon et al., 2011; Sonnentag, 2018). Job stressors refer to aspects of work or work-related events that individuals perceive as demanding, triggering strain responses that may lead to adverse psychological and physical outcomes (Sonnentag, 2018).

Early evidence has long demonstrated the pervasive impact of such stressors across occupations. For instance, House et al. (1979) showed that job stressors affect a wide range of employees and their health outcomes. More recent studies continue to highlight their significance across contexts, for example, in China, job stressors

such as health concerns, occupational risks, interpersonal tensions, high job demands, and strict supervision have been linked to a 49.58% intention among nurses to leave the profession (Wang et al., 2022). Similarly, research conducted in Beijing, Hong Kong, and Taipei identified workload, organisational constraints, and interpersonal conflict as key stressors influencing job performance (Lu et al., 2010). At the same time, job stressors such as high workload, emotional dissonance, and blurred work–home boundaries have been found to hinder psychological detachment and recovery (Sonnentag et al., 2010). More critically, a systematic review and meta-analysis revealed that prolonged exposure to job stressors is associated with an increased risk of suicidal ideation and behaviour (Milner et al., 2018).

While this body of research demonstrates the broad and significant consequences of job stressors, their nature and impact are often context-dependent, varying across industries and work environments. In the automotive industry, job stressors are particularly salient due to the demanding nature of production systems (Zhang, 2015; Zhu, 2025). Employees operate in machine-paced environments characterised by complex assembly processes, tight schedules, and high performance expectations (Solke et al., 2022; Zhang, 2015). They are frequently exposed to hazardous conditions, including noise, vibration, and heavy machinery, which further intensify physical and psychological strain (Ryou et al., 2009). Empirical evidence from this sector shows that reducing stressors such as psychological demands, job insecurity, and unsafe working conditions can significantly improve employees' mental health outcomes, including depression, anxiety, and stress (Ryou et al., 2009).

The transition from ICEVs to NEVs in the Chinese automotive industry has accelerated innovation cycles, intensified competitive pressures, and heightened

performance expectations for employees, particularly in R&D roles (Liu et al., 2023b). As a result, employees must navigate not only traditional operational demands but also intensified time pressure (TP) and continuous learning requirements (LRs) (Zhang, 2015). Within such a dynamic environment, job stressors play a dual role in shaping employee outcomes. Existing evidence suggests that challenge stressors may enhance CP, whereas hindrance stressors tend to undermine it (Ohly & Fritz, 2010; Prem et al., 2018; Xu & Shi, 2023). This distinction is particularly critical in innovation-driven contexts, where sustained creativity is essential for organisational success. Consequently, understanding how job stressors influence employee creativity in the Chinese automotive industry has become both theoretically and practically important.

Among the various types of job stressors, task-related demands and change-related demands are especially salient (Podsakoff et al., 2023; Sonnentag & Fritz, 2015). In particular, TP and LRs represent two core stressors faced by employees engaged in creative and innovation-driven tasks. These demands not only shape how employees allocate their cognitive resources but also influence their ability to maintain creative performance over time (Hael et al., 2024; Lee & Walsh, 2016; Zhou et al., 2024). By focusing on these two key stressors, this study responds to the need to better understand how employees sustain creativity in a context characterised by accelerated innovation cycles, intensified competitive pressures, and heightened performance expectations.

TP refers to the perceived stress associated with the need to work at a faster pace than usual or with insufficient time (Prem et al., 2018; Zhou et al., 2024). It is a paramount factor linked to employees' stress and well-being (Kubicek et al., 2023). To sustain high levels of CP, employees must continuously learn and rapidly adapt

to evolving technologies and industry standards (Hsu & Fan, 2008; Khedhaouria et al., 2017; Khushk et al., 2026). In such contexts, LRs can be understood as a form of challenge demand that stimulates skill development and knowledge acquisition. It simultaneously consumes cognitive resources and may contribute to strain when demands become excessive. These two job stressors stem from the accelerating pace of technological advancement and the continuous iteration of products, which require employees to adapt rapidly and acquire new knowledge and skills to remain effective in their roles.

The literature offers conflicting findings regarding the influence of TP on creativity. Existing studies have generally converged around three main perspectives. The first suggests that TP can stimulate creativity, as deadlines may enhance focus, trigger problem-solving urgency, and motivate employees to think more efficiently under constraint (Baer & Oldham, 2006; Hsiao et al., 2017). The second perspective argues that TP hinders creativity, as it restricts cognitive flexibility, limits information processing, and increases stress levels, thereby impairing individuals' ability to engage in divergent thinking and idea incubation (Acar et al., 2019; Yu & Wang, 2022). The third adopts a contingent or nonlinear view, proposing that the relationship between TP and creativity depends on factors such as the intensity of pressure, individual appraisal, and psychological resources (Kuutila et al., 2020; Zhou et al., 2024). From this perspective, moderate levels of TP may enhance creativity, whereas extremely high or low levels may suppress it, often represented through curvilinear patterns such as U-shape, inverted U-shape, or J-shape relationships (Acar et al., 2019; Aleksic et al., 2017; Yu & Wang, 2022).

Despite these diverse perspectives, no consensus has been reached on the precise mechanism through which TP affects creativity. The mixed findings indicate

that contextual and individual factors, such as job craft, job burnout, leader-member exchange, support, and openness to experience, may shape this relationship through mediating or moderating effects (Aleksic et al., 2017; Baer & Oldham, 2006; Yu & Wang, 2022). In the automotive industry, where innovation cycles are accelerating due to the transition from ICEVs to NEVs, both organisations and employees are increasingly exposed to intensified TP. Managing TP effectively has therefore become a critical concern. However, existing research offers limited practical guidance on how automotive organisations can balance time demands with the need to sustain and enhance employees' CP.

A similar limitation can be observed in the literature on LRs and creativity. While creativity inherently involves learning, through acquiring new knowledge, integrating diverse perspectives, and refining ideas, empirical research examining how LRs shape employee creativity remains scarce (Sidelkivska & Bilbao-Calabuig, 2023). During the creative process, employees need to learn new knowledge to generate novel and useful ideas, solutions or products to overcome the challenges. Creativity can be learned (Haase et al., 2023; Kaufman & Beghetto, 2009; Rhodes, 1961; Sidelkivska & Bilbao-Calabuig, 2023). To underscore the significance of learning, Kaufman and Beghetto developed the concept of "mini-c" to capture the creativity inherent in the learning process (Kaufman & Beghetto, 2009). Learning and creativity are closely linked in people's everyday lives. But only a few studies have examined the relationship between LRs and creativity, and there is a gap in empirical studies to clarify the role of LRs in relation to employee creativity (Sidelkivska & Bilbao-Calabuig, 2023).

Moreover, because the creative process is inherently uncertain and iterative, individuals frequently encounter setbacks, rejections, and failures along the way

(Amabile & Pratt, 2016). These experiences require them to continuously endure and adapt to adversity, which can deplete both their cognitive and psychological resources (Nijstad et al., 2010; Serban et al., 2023). Sustaining creativity, therefore, demands not only technical expertise but also substantial emotional and motivational regulation. Despite R&D employees serving as the core drivers of innovation within organisations, scholarly understanding of their lived experiences, particularly their genuine insights, emotional struggles, and unspoken reflections when facing creative obstacles, remains limited. Existing research has largely focused on observable outcomes and contextual enablers of creativity, while overlooking the subjective and experiential dimensions of how individuals interpret and cope with creative failures (De Rooij, 2023). In particular, little is known about how R&D employees navigate the interplay between TP, LRs, and repeated adversities during the creative process.

This gap is theoretically and practically significant. Under conditions of intensified creative demands, employees' capacity for psychological self-regulation, such as goal persistence, self-confidence, sustained motivation, and recovery from failure, becomes critical (Bakker & De Vries, 2021). As creative endeavours are frequently accompanied by trial and error, disappointment, and ambiguity (Anderson, 2023; Green et al., 2024), resilience and adaptive coping are essential for maintaining creative engagement over time. Without a deeper understanding of employees' lived experiences, current research risks overlooking the dynamic and processual nature of creativity, as well as the ways in which individuals mobilise psychological resources to sustain it.

Furthermore, although recent trends indicate a gradual increase in qualitative approaches (Thelwall & Nevill, 2021), much of the existing literature on creativity

relies primarily on quantitative methods and questionnaire-based data collection. While quantitative research has contributed valuable statistical generalisations, it often overlooks the nuanced, lived experiences and implicit reflections of individuals engaged in creative work. As Zhou and Hoever (2014) emphasised, quantification is important for identifying patterns and testing theoretical models, yet understanding the processual, contextual, and experiential aspects of creativity requires qualitative inquiry. Numerical data alone, without considering individuals' unspoken thoughts, emotions, and the situational contexts in which creativity unfolds, can lead to an incomplete or even distorted understanding of creative behaviour (Glaveanu et al., 2020). Consequently, a significant research gap remains in understanding how R&D employees genuinely interpret and cope with job stressors, as well as how they navigate setbacks and failures throughout the creative process. Such insights are critical for developing a deeper, more human-centred understanding of creativity in organisational settings.

Qualitative inquiry can provide rich, process-oriented insights into how employees interpret, respond to, and cope with the complex demands of innovation work (Smith, 2011; Zhou & Hoever, 2014). By uncovering the underlying psychological narratives and meaning-making processes (Smith & Fieldsend, 2021), qualitative research can advance a more holistic understanding of creativity, not merely as an outcome, but as an evolving journey shaped by cognitive effort and continuous adaptation within challenging work environments.

Empirical research has consistently shown that PsyCap positively predict employee CP, as individuals high in PsyCap demonstrate greater motivation, persistence, and confidence in managing uncertainty and generating novel ideas (Sun & Huang, 2019; Sweetman et al., 2011; Yu et al., 2019). Given that both

PsyCap and creativity are vital drivers of organisational innovation and long-term competitiveness, developing a deeper understanding of how PsyCap influences CP provides significant theoretical and practical insights.

PsyCap positively links to employee performance, satisfaction, and commitment (Luthans et al., 2008b). However, there remains a research gap on how PsyCap and job factors jointly shape employee performance (Loghman et al., 2023). Specifically, the literature shows a limited understanding of how and when PsyCap moderates TP and LRs' impact on employee performance. Existing studies offer limited insights into the roles of psychological resources, time constraints, and learning in shaping employee performance. These areas of research remain largely fragmented. For example, regarding TP, recent research has started to investigate how psychological resources interact with TP. Cifuentes-Férez et al. (2024) showed that self-efficacy acts as a protective factor under TP, allowing individuals to sustain their performance despite constraints. Likewise, Song et al. (2024) found that experienced creative TP can affect employee creativity through psychological factors such as perceived availability and well-being. These findings indicate that TP does not consistently impede performance; instead, its effects vary with individuals' internal psychological resources. However, these studies tend to concentrate on isolated psychological constructs rather than PsyCap as an integrated higher-order resource.

In addition, research on learning indicates that cognitive optimism and self-directed learning capabilities can improve individuals' ability to handle complex and demanding tasks (Onah et al., 2020). Similarly, project-based learning has been shown to boost motivation and self-efficacy, which are closely linked to the core components of PsyCap, such as hope and confidence (Shin, 2018). These findings

suggest that LRs, when presented as developmental opportunities, may trigger positive psychological resources that support performance. Further evidence highlights the importance of resilience and psychological empowerment in learning and organisational contexts. For example, Blaique et al. (2024) demonstrated that employee resilience helps develop learning organisations, suggesting that individuals' psychological resources mediate the conversion of demands into positive outcomes. Similarly, Kranthi et al. (2024) found that Psychological empowerment acts as a mediator between leadership and organisational learning, highlighting that employees' internal psychological states influence their responses to the workplace demands. These studies indirectly support the argument that PsyCap-related resources affect how people experience and respond to LRs, even though they do not specifically investigate creativity results.

Furthermore, other literature on hope and learning emphasises the significance of positive psychological states in managing demanding situations. Studies on hope-based pedagogy and professional learning emphasise that hope can strengthen individuals' adaptability in the face of challenges (Bourn, 2021; McEwen et al., 2016). These insights align with the PsyCap framework, which is the key element that helps individuals maintain effort in setbacks. However, these studies are mainly set in educational or general organisational contexts, with little focus on high-pressure, innovation-driven work environments like the automotive industry in China.

To fill the literature gap and explore how PsyCap, TP, and LRs influence CP in the workplace, we draw on a theoretical framework of the actor–context interplay for creativity (Zhou & Hoever, 2023) and conservation of resources (COR) theory (Hobfoll et al., 2018). The actor–context interplay for creativity indicates that actor

factors may interact with the context factors of job stressors to influence creativity. COR theory stipulates that individuals strive to retain, protect, and increase their resources (Hobfoll, 1989). Resources can be objective (e.g. car, financial security) or psychological (e.g. personal control) (Hobfoll, 2001). Individuals who possess resources have the ability to gain resources (Hobfoll, 2001).

Given that PsyCap interacts with job stressors and impacts employee outcomes (Ghafoor & Haar, 2022), this thesis investigates how PsyCap, as a personal resource, interact with job stressors of TP and LRs to shape employee CP. Additionally, according to the challenge-hindrance stressors model (Cavanaugh et al., 2000), challenge stressors can bring resource benefits and promote employee growth and goal achievement, whereas hindrance stressors consume resources and undermine employee growth and goal achievement. In line with this framework, we conceptualise TP as a hindrance stressor and LRs as a challenge stressor. PsyCap shapes how challenge and hindrance stressors influence employees' CP.

Resources help employees cope with job stressors (Hobfoll, 1989; Hobfoll et al., 2018). However, Ely (1994) suggests that gendered organisational contexts may disproportionately limit women's access to these resources, for example, role models. Role congruity theory further postulates that a mismatch in expectations across roles often results in prejudice and backlash (Eagly & Karau, 2002). In addition, Broadbridge and Simpson (2011) highlight how exclusion from male inner circles perpetuates stereotypes and power asymmetries that undermine women's advancement. Even when organisations introduce formal programmes or gender-equality policies, underlying inequalities may continue to persist because of deeply embedded social norms and practices (Utzeri, 2019). Gendered organisation continually, and often unconsciously, reproduce subtle, taken-for-granted

inequalities through routine interactions, informal expectations, and the construction of the “ideal worker” (Acker, 1990, 2006). These invisible mechanisms operate beneath formal policy frameworks, enabling gender bias to be reproduced.

Over time, such inequality may become internalised, as women repeatedly encounter gendered biases, such as the devaluation of their contributions and difficulties in establishing supportive professional relationships and networks (Kossek et al., 2017). These experiences can undermine self-efficacy (Ancis & Phillips, 1996; Whitcomb et al., 2020), deplete resilience (Ghowrui & Mukherjee, 2024), diminish hope, and dampen optimism, ultimately weakening their overall PsyCap. Thus, one’s gender may condition their PsyCap, consequently shaping one’s capacity for creativity.

These gender prejudices, stereotypes, and biases may hinder the development and use of PsyCap among female employees. They influence how psychological resources are expressed in the workplace. Societal expectations and gendered norms prescribe different behavioural standards for men and women (Eagly, 1987; Eagly & Karau, 2002), often positioning assertiveness, confidence, and risk-taking, traits aligned with high PsyCap, as more fitting for male roles. As a result, when women display these agentic traits, they may encounter subtle social penalties or less recognition, leading to the underuse or suppression of their psychological resources.

A substantial body of literature confirms the positive role of PsyCap in enhancing employee performance and creativity (Sweetman et al., 2011; Tho, 2022; Yu et al., 2019; Zhang et al., 2024; Zhou et al., 2022). More recent research indicates that PsyCap enhances engagement and digital innovative behaviour, especially among female managers navigating complex organisational environments

(Widiati et al., 2024). However, the potential conditioning role of gender in the PsyCap–creativity relationship remains largely unexplored.

In parallel, an extensive stream of research has explored gender differences in creativity, though with highly mixed and sometimes contradictory results. Early reviews show that males and females generally demonstrate similar levels of creative ability, despite differences in creative achievement across various domains (Baer & Kaufman, 2008). Subsequent empirical studies suggest that gender differences are often not seen in average creativity scores but rather in variability and distribution patterns, with males more often found at both the highest and lowest ends of CP (He & Wong, 2021a; He et al., 2013). Moreover, meta-analytic evidence points to a small and inconsistent male advantage in CP, which depends on contextual and methodological factors such as cultural environment, evaluation methods, and task characteristics (Hora et al., 2022).

Beyond ability differences, recent research has increasingly emphasised the role of gender, stereotypes, and psychological mechanisms in shaping creativity outcomes. For instance, masculinity-related traits (e.g., assertiveness and independence) are more strongly associated with creative self-efficacy and creative behaviours, particularly under challenging conditions such as negative feedback (Li et al., 2024). In the Chinese context, creativity is often implicitly linked with masculine traits, which can benefit males while restricting females' creative self-efficacy (Luo et al., 2023). Research further shows that women may report lower creative self-efficacy than men, which can lead to lower creative performance. However, supportive contexts such as psychological safety can reduce this gap (Hora et al., 2021).

Furthermore, the automotive sector remains gender-imbalanced, with women continuing to face barriers in skills development, career progression, and leadership opportunities (Zavala-Parrales et al., 2025). In China, gender equality has made substantial progress, yet women still face unequal opportunities in employment, promotion, and decision-making, particularly in professional and technical fields (National Bureau of Statistics of China, 2025). Therefore, gender is not introduced as an isolated demographic variable in this thesis, but as a socio-cultural boundary condition that may influence how employees convert psychological resources into CP (Zavala-Parrales et al., 2025).

This issue is especially relevant in the Chinese automotive and manufacturing context, where digital and green transitions are reshaping automotive value chains and increasing the strategic importance of NEV technologies (Dzienis & McCaleb, 2025). In China, fiscal and taxation policies have further encouraged technological innovation in the NEV industry, reinforcing the sector's innovation-driven transformation (Yang et al., 2023b). Recent evidence on gender and innovation suggests that gender disparities are caused not only by individual differences but also by organisational inclusion practices that shape whether gender diversity translates into creative outcomes. For example, Vedres and Vásárhelyi (2023) found that gender diversity alone did not automatically enhance collective creativity; rather, its creative benefits emerged when women were meaningfully included in team networks. This provides a stronger theoretical basis for examining whether the positive effect of PsyCap on CP differs by gender.

Including gender also strengthens the social relevance of this thesis by aligning the research with the United Nations Sustainable Development Goal 5 (SDG5), which calls for gender equality and the empowerment of all women and

girls, including equal participation and opportunities in economic and public life (United Nations, n.d.). From this perspective, examining gender in the PsyCap–CP relationship is not intended to suggest that female employees lack psychological resources. Rather, it asks whether organisational and socio-cultural conditions allow employees of different genders to translate PsyCap into CP equally. This is important because global evidence continues to show persistent gender gaps in economic participation and workplace advancement, despite improvements in education and labour market participation (World Economic Forum, 2024). Therefore, strengthening the value of the testing gender's role in the PsyCap–CP relationship and linking the study of creativity to broader concerns about inclusion, equity, and sustainable organisational development (United Nations, n.d.).

Taken together, although prior research has extensively examined PsyCap, creativity, and gender from separate perspectives, these streams remain largely disconnected. Existing studies either focus on the direct effects of PsyCap on performance and creativity or on gender differences in creativity outcomes, with scarce attention to how gender influences the relationship between PsyCap and creativity. Consequently, the role of gender as a boundary condition in the PsyCap–creativity link remains underexplored.

Collectively, this thesis aims to achieve following three primary objectives in the Chinese automotive industry context:

a) *Explore employees' experience during the creative process under job stressors of time pressure and learning requirements, and to identify the psychological resources that enable them to sustain creative engagement when facing adversities.*

b) *Understand how and when job stressors of time pressure and learning requirements interact with PsyCap, and affect creative performance.*

c) *Examine the influence of PsyCap and its individual sub-dimensions on employee creative performance, and determine how gender influences this relationship.*

Accordingly, to ensure a clear alignment between the research objectives and the empirical investigation, each objective is translated into a corresponding research question. As outlined below:

a) *How do employees experience creativity in the Chinese automotive industry under job stressors of time pressure and learning requirements, and what psychological resources enable them to sustain creative engagement?*

b) *How and when does PsyCap moderate job stressors (time pressure and learning requirements)–creative performance relationships?*

c) *How do PsyCap and its subdimensions influence creative performance, and how does gender shape this relationship?*

Empirical Studies

Building upon the research objectives and questions outlined above, this thesis employs a multi-study design encompassing three empirical studies to provide a holistic understanding of the relationships among constraint job stressors of TP and LRs, personal resource of PsyCap, gender, and employee CP. It explores ways of improving employees' creativity in the Chinese automotive industry. These studies are theoretically anchored in the synergistic and remedial integration of multiple frameworks.

To answer the research question a) of the thesis, Study One is designed as a qualitative study. It is based on the framework of actor–context interplay for creativity (Woodman et al., 1993; Zhou & Hoever, 2014) and employs an interpretative phenomenological analysis (IPA) (Smith, 2011) approach to exploring individuals' lived experiences about the creativity under job stressors and psychological resources utilised to deal with adversities during creative process. It explores the insights and experiences of the R&D departments' employees to hear the unheard voices during their creative process. Including their experiences in the demanding circumstances of their job, and how they interpret and face setbacks and failures during the creative process.

To answer the research question b) of the thesis, building on the identified psychological strengths that help employees navigate adversities to enable creativity, and R&D employees' interpretation of the influences of TP and LRs on CP, along with the curvilinear TP-CP relationship (Aleksic et al., 2017; Baer & Oldham, 2006) and both positive and negative impacts of LRs on creatitity and performance (Glaser et al., 2015; Mikkelsen & Olsen, 2019). Study Two is designed to quantitatively examine and verify the curvilinear relationship between TP, LRs, and CP, and the underlying moderating mechanisms from PsyCap.

The study draws on the framework of actor–context interplay for creativity, the COR theory (Hobfoll, 1989; Hobfoll, 2001), and the challenge–hindrance stressor framework (Cavanaugh et al., 2000; Podsakoff et al., 2023). It explores how PsyCap buffer the impact of job stressors of TP and LRs, thereby facilitating employee creativity. Specifically, this study examines the moderating role of PsyCap, providing a more nuanced understanding of the moderating effects on the relationships between TP, LRs, and CP.

Study Three, a quantitative study aiming to answer the research question c) of the thesis, integrates COR theory (Hobfoll et al., 2018), social role theory (Eagly, 1987), and role congruity theory (Eagly & Karau, 2002) in providing a robust conceptual foundation for examining how individual psychological resources, such as PsyCap, interact with the socio-cultural structure of gender to influence creativity. It examines the influence of gender on the PsyCap–creativity relationship, which is sparked by the phenomenon the researcher observed in Study One: out of the 13 unmanipulated purposive samples, only one female participant from the R&D departments of two companies joined the interview. Thus, we put gender as one conditioning factor in Study Three to examine its influence on the relationship between PsyCap, its sub-dimension factors and CP.

The present thesis adopts a sequential mixed methods design, which enables the convergence of evidence in the classic sense of triangulation (Kasirye, 2024; Povee & Roberts, 2015). As Greene et al. (1989) argued, complementary mixed-methods research that integrates both qualitative and quantitative approaches allows scholars to capture the shared and distinct features of a phenomenon, thereby generating a richer and more comprehensive understanding. In line with this rationale, the present thesis employed both qualitative interviews and quantitative surveys to investigate employees' creativity across three interrelated studies.

From an empirical perspective, this design enables the triangulation of findings across methods, enhancing the robustness and credibility of the results. From a theoretical perspective, the sequential integration of qualitative and quantitative evidence supports the development and refinement of the theoretical framework (Greene et al., 1989), whereby insights from employees' lived experiences inform hypothesis formulation, and quantitative analyses provide

systematic tests of the proposed relationships and mechanisms. From a methodological perspective, the mixed methods approach ensures complementarity (Matovic & Ovesni, 2023; Stoecker & Avila, 2021), with qualitative inquiry offering contextual depth and explanatory richness, and quantitative methods contributing generalisability and analytical precision. The mixed method design of the thesis provides a more holistic understanding of the research objectives.

This integrative theoretical approach enables the thesis to move beyond isolated examinations of either individual or environmental factors by illuminating how actor–context dynamics impact creativity within real organisational settings. It also highlights how employees can leverage their psychological strengths as a personal resource to dealing with the negative effects of job stressors and influence CP. Together, these frameworks provide a comprehensive, multi-perspective lens for understanding the mechanisms that shape, enable, or constrain employee creativity, thereby offering both theoretical enrichment and practical insights for managing creativity in the Chinese automotive industry.

Significance of the Thesis

The thesis advances understanding of how personal psychological factors, job stressors, and socio-cultural factors jointly influence employee creativity from both qualitative and quantitative approaches, thus providing a holistic understanding of employee creativity, offering actionable implications for organisational practice. The significance of each study is outlined below.

By adopting a qualitative perspective, Study One provides an understanding of the employees' experience toward job stressors of TP, LRs in creative process, and how they navigate adversities in sustaining creative engagement. It diversifies

the predominantly quantitative literature. Specifically, it addresses research gaps arising from inconsistent findings regarding the effects of job stressors of TP and LRs on creativity by investigating the lived experiences of R&D employees with a qualitative approach. The study sheds light on how employees interpret and respond to workplace challenges, thereby integrating both actor and contextual factors to deepen understanding of the psychological processes underlying creativity. Theoretically, the study advances the framework of actor–context interplay for creativity by grounding it in empirical evidence from employees' lived experiences.

Study Two contributes to actor-context interplay for creativity and COR theory by extending the concept of the resource, demonstrating a curvilinear relationship between TP and CP, and how the job stressors and personal resources jointly shape creative performance. Theoretically, the study clarifies ongoing debates about the roles of TP and LRs by providing empirical evidence of the mechanisms by which challenge and hindrance job stressors (TP and LRs) affect creativity. It also identified PsyCap function as dynamic adaptive resources that mitigate the negative effect of TP, which acts as a hindrance stressor on CP in overall, and LRs act as a motivational challenge stressor that enhances CP.

Study Three contributes to the literature by providing additional empirical evidence of the significance of PsyCap and its individual sub-dimensions in predicting CP, while only limited research has concurrently studied the association between PsyCap and its four sub-dimensions and creativity. Drawing on social role theory and role congruity theory, it enriches the understanding of gender disparities in creativity (Hora et al., 2022) by examining whether the PsyCap–creativity relationship is contingent on gender, thereby providing a novel contribution on literature by positioning gender as a contextual moderator between PsyCap, its

subdimensions, and CP. The study advances theorisation within the interactionist perspective of creativity by positioning gender as a socio-cultural contingency factor, thereby extending our understanding of the processes of how creativity emerges.

Studies Two and Three examine and expand the exploratory findings from Study One. The three studies provide a comprehensive and multi-level contribution to the literature on employee creativity. By combining qualitative insights with quantitative evidence, this thesis not only deepens theoretical understanding of how psychological resources (PsyCap and its sub-dimensions), contextual factors (TP and LRs), and socio-cultural factors (gender) shape creativity but also bridges persistent gaps between individual-level processes and outcomes. The integration of COR theory, actor–context interplay for creativity, challenge–hindrance stressors framework, and gender theories provides a robust, multi-theoretical foundation for advancing research on creativity in complex work environments. Beyond its academic contributions, the thesis offers practical guidance for organisations seeking to foster employee creativity, supporting in dealing with the highly demanding environment. It provides evidence-based guidance for organisations, managers, and human resource practitioners on designing supportive work environments that not only stimulate creativity but also protect employees from resource depletion and psychological strain. By integrating psychological, contextual, and socio-cultural perspectives, the findings contribute to building organisations that are more resilient, inclusive, and capable of fostering long-term, sustainable creativity among their workforces.

Organisation of the Thesis

Building on the background outlined above, this thesis investigates individual-level creativity in organisational settings, conceptualising employee CP as an outcome of interaction between personal psychological resources, job stressors, and socio-cultural factors. To achieve this, a mixed methods research design is employed. The studies begin with a qualitative investigation of the practical challenges faced by employees in the Chinese automotive industry, followed by two parallel quantitative studies that further examine and extend the findings in a more fine-grained manner. This thesis includes eight chapters. The content of each chapter is introduced below:

Chapter One

The introduction outlines the research's overall background. It discusses the challenges of the world and the importance of creativity, while highlighting contextual job stressors, personal psychological resources, and gender as key antecedents of creativity. Following the introduction of the background and creativity, the chapter reviews existing problems related to creativity within literature and the Chinese automotive context. Based on this examination, the researcher defines primary research objectives and accordingly research questions of the thesis. To address the research questions, three interconnected empirical studies are introduced, each contributing to a comprehensive response to the overall objectives. Finally, the chapter also outlines the significance and contributions of the research.

Chapter Two

The Chapter introduces the key theories and framework adopted in the thesis, which support the research objectives. It explains the interconnection between the theories and frameworks and how they support each other. Then, the chapter

introduces the key concepts of the thesis, reviews the current literature, particularly linked to the Chinese automotive industry context. At the end, an integrative theoretical framework is presented, followed by the introduction of the conceptual frameworks for each study and the integrated conceptual framework of the thesis.

Chapter Three

The chapter introduces the philosophical position of the thesis, research design and methods adopted in the thesis. The research design explains the quantitative or qualitative approach adopted in each study and the rationale for it. The research method outlines the detailed field procedures of the empirical studies conducted in this thesis. The chapter then addresses the ethical approvals obtained.

Chapter Four

The chapter introduces the empirical Study One. It starts with a background introduction, identifies the gap, and raises the need to explore employees' experiences of TP, LRs, and the resources they used to navigate adversities during the creative process. Grounded in the theoretical framework of the actor–context interplay for creativity and COR theory. It introduces the IPA approach adopted in the study. The chapter describes the interview, presents the key parts of the manuscript transcribed from the interview, and interprets them using the IPA method. The key codes, sub-themes, and superordinate themes are presented and discussed.

Chapter Five

Chapter five introduces the empirical Study Two. According to the actor-context interplay for creativity, COR theory, and the challenge-hindrance stressors framework, it examines how constraint job stressors of TP and LRs interact with personal resources of PsyCap to influence CP. It provides the contextual background

of the Chinese automotive industry and the job stressors faced by employees. Then, the rationale and hypotheses are presented. Using data collected from a multilevel online survey, SPSS, SPSS Amos, and PROCESS are used to confirm data quality, assess the validity of the measurement and measurement model, and obtain the results of the data analysis. The findings are presented and discussed following the data analysis output.

Chapter Six

This chapter presents the empirical Study Three. Drawing on the COR theory and actor-context interplay for creativity, this study explores the relationship between PsyCap, its individual sub-dimensions, and employee CP. Additionally, informed by social role theory and role congruity theory, and given the gendered nature of many workplaces, this study further examines whether the effects of PsyCap and its individual sub-dimensions on employee CP are contingent upon gender. The proposed hypotheses are tested using multi-wave data from employees in China's automotive industry. SPSS and SPSS Amos are used for the data analysis. Accordingly, findings and discussions are presented at the end.

Chapter Seven

The Chapter presents integrated findings and the flow and development of the data analysis, the theoretical contributions and practical implications for each study, and it then situates them within the broader academic discourse. The chapter outlines the key theoretical contributions and practical contributions for organisations seeking to foster employee creativity in dynamic work environments. At the end, it acknowledges its limitations and proposes directions for future research.

Chapter Eight

The chapter draws a conclusion on the studies, consolidating the key findings, contributions, limitations, and future directions, providing a comprehensive summary of the thesis and its significance.

Chapter Summary

This chapter introduced the real-world challenges faced by companies in China's automotive industry and reviewed the literature relevant to the core topics of this thesis: creativity, its key antecedent of PsyCap, contextual factors of job stressors, and the socio-cultural factor of gender. It then highlighted research gaps and existing problems, which in turn informed the thesis's research objectives. Following this, the research questions were formulated, and the design of the three empirical studies was briefly outlined. The chapter serves three key purposes. First, it situates the research within the challenges faced by contemporary organisations, thereby highlighting the importance of creativity in organisational contexts. Second, it identifies limitations in the existing literature, underscoring the need for further research. Finally, it positions the present research as both theoretically and practically contributing, aiming to enhance employee CP.

Chapter Two: Literature Review

Chapter Overview

This chapter introduces the theoretical framework of the thesis, including the actor–context interplay for creativity as an overarching framework, COR theory as the core theoretical lens for the resources, the challenge-hindrance stressors framework for the contextual factors, and the gender theories for the socio-cultural context. It reviews the framework and theories and describes the interlink between them and how they work together to support the thesis. Following the theoretical framework, the literature review examines the key constructs investigated in this thesis, including creativity, creative performance, PsyCap, and job stressors, with particular attention to the focal stressors of TP and LRs. It also reviews the role of gender as an influencing factor in relation to PsyCap and CP. Overall, this chapter adopts the actor–context interplay framework and COR theory as complementary lenses to explain how contextual job stressors, individual psychological resources, and gender as a socio-cultural factor interact to shape creativity. Accordingly, it presents the theoretical and conceptual framework for empirical studies that follow.

Theoretical Framework

The Overarching Framework of the Actor–Context Interplay for Creativity

Creativity is not determined by individual traits alone (Amabile, 1983; Woodman et al., 1993). Over decades of research, scholars have increasingly recognised that creativity emerges from the dynamic interaction between individual characteristics and contextual factors (Woodman et al., 1993; Zhou & Hoever, 2014, 2023). Among these perspectives, the interactionist perspective of creativity (Woodman et al.,

1993; Woodman & Schoenfeldt, 1990) provides a foundational lens for understanding how actor–context interactions shape creative outcomes.

Building on this perspective, Zhou and Hoever developed the framework of actor–context interplay for creativity (Zhou & Hoever, 2014, 2023), which offers a comprehensive synthesis of how individual and contextual factors jointly influence the creative process and performance. Given its integrative and process-oriented nature, the framework is adopted as the overarching theoretical structure for this thesis.

The Interactionist Perspective of Creativity. Woodman and colleagues developed an interactional framework of organisational creativity that emphasises the interplay between individual, group, and organisational factors (Woodman et al., 1993; Woodman & Schoenfeldt, 1990). Drawing on interactional psychology, this perspective posits that creativity is not solely a function of individual traits or contextual conditions, but rather the result of their continuous and reciprocal interaction over time.

From this viewpoint, creativity is regarded as an individual's response to a particular situation, in which both personal factors (such as cognitive skills, personality, and motivation) and contextual factors (such as task features, social environment, and organisational structures) collectively influence creativity. Importantly, the framework goes beyond the individual level to include multiple layers of analysis. Individual creativity is embedded within group processes (e.g., team interactions, norms, and composition), which are situated within wider organisational contexts (e.g., culture, resources, and reward systems). Organisational creativity, therefore, results from the combined and interactive effects of individual

behaviours, group dynamics, and contextual influences across different levels. (Woodman et al., 1993).

This interactionist perspective marked a notable shift in creativity research. Earlier studies primarily focused on identifying stable personality traits associated with creativity (Woodman & Schoenfeldt, 1990), whereas such an approach is inadequate to explain creative behaviour in complex social contexts. Instead, understanding creativity necessitates integrating personality, cognitive, and social psychological perspectives into a cohesive framework (Woodman & Schoenfeldt, 1990).

Subsequent research has consistently reinforced this view, showing that employee creativity is influenced not only by personal characteristics but also by contextual factors and, importantly, by their interaction. For example, Shalley et al. (2004) emphasise that creativity is a function of personal characteristics, contextual conditions, and their interaction, in which certain contexts may enhance or suppress the expression of individual creativity potential. Chang and Chen (2013) revealed that work discretion interacts with proactive personality, and TP interacts with employee cognitive style, influencing employee creativity. Similarly, Ramos et al. (2022) argues that the work context of training and development interacts with individual factors of work passion to enhance employee creativity.

Overall, the interactionist perspective provides a strong theoretical foundation for understanding creativity as a dynamic, multi-layered, and context-dependent phenomenon. It offers a comprehensive view to examine the complex relationships among job stressors (e.g., TP and LRs), psychological resources (e.g., PsyCap), and socio-cultural factors (e.g., gender). Consequently, this perspective underpins the development of more integrative frameworks of the actor–context

interplay for creativity (Zhou & Hoever, 2014, 2023), which is adopted as the main theoretical framework of this thesis.

The Theoretical Framework of the Actor–Context Interplay for Creativity. Based on this interactionist perspective of creativity, Zhou and Hoever (2014, 2023) further developed the dynamic interplay between actor and context for creativity (hereafter referred to as the actor–context interplay for creativity). This framework seeks to better understand the complexity and potential of workplace creativity. Thereby shifting the focus from static determinants of creativity to the reciprocal and evolving nature of these interactions.

Importantly, Zhou and Hoever (2014) argue that while the actor–context interaction perspective has significantly advanced creativity research, its conceptual underpinnings require further refinement and theoretical development. To address this, they proposed the actor–context interplay for creativity, which captures the nuanced ways in which individuals and contexts jointly shape creativity. This typology highlights a diverse range of interaction patterns, synergistic (where individual and contextual factors mutually enhance creativity), antagonistic (where one undermines the other), inhibitory (where either the actor or the context constrains creative expression), remedial (where one compensates for deficiencies in the other), and configurational (where creativity emerges through a particular combination of factors). In addition, they identify more complex dynamics such as diminishing gains (where continued increases in resources yield smaller creative benefits) and diminishing losses (where negative effects taper off over time). This framework revealed multiple potential interaction patterns between an actor and the context, highlighting the need for further conceptual development (Zhou & Hoever, 2023). Their advocacy of examining the interplay between personal and contextual

factors on employee creativity resonates with the principle of interaction between individual resources and contextual perspectives in COR theory (Hobfoll & Shirom, 2000b).

From an interactionist perspective, the actor–context interaction significantly affects employee creativity (Oldham & Cummings, 1996; Zhou & Hoever, 2023). However, few studies have provided insights into the interplay between positive personal characteristics and constraint contexts. There are calls for greater research attention to identifying individual and contextual factors of creativity and to revealing the underlying mechanisms (Anderson et al., 2014; Choi et al., 2021; Mustafa et al., 2021). Zhou and Hoever (2023) raise a call for more academic efforts to examine how and when employees can overcome the influence of negative contextual factors in workplaces. They explicitly call for more studies to find crucial new contextual factors that may explain the underlying mechanism of employee creativity with the predictive function. They also expect more key actor factors to be identified, regardless of whether they facilitate or restrict employee creativity.

Collectively, this typology underscores the multifaceted nature of creativity and provides a fertile ground for future research seeking to uncover the mechanisms by which creativity is enacted and sustained within organisations.

Conservation of Resources Theory as the Core Theory

Creativity involves the generation of novel and useful ideas (Amabile, 1988) and often entails risk-taking, uncertainty, ambiguity, unforeseen obstacles, and a high likelihood of failure (Amabile & Pratt, 2016; Mustafa & Ramos, 2018; Shalley et al., 2004; Wang et al., 2020). As such, engaging in creative processes can be resources demanding and requires the consumption of individual psychological

resources (Ghafoor & Haar, 2022; Tho, 2022; Wang et al., 2024b). The COR theory (Hobfoll, 1989) provides a comprehensive, resource-oriented framework for understanding how individuals respond to stress and strive to adapt. Accordingly, COR theory is adopted as the core theoretical lens of this thesis.

Introduction of the Conservation of Resource Theory. The central tenet of COR theory is that people strive to acquire, retain, protect, and cultivate resources that they value. These resources may include tangible objects, favourable conditions, personal characteristics, or forms of energy that help individuals attain their goals (Halbesleben et al., 2014; Hobfoll, 2001; Hobfoll & Shirom, 2000b). The goal-oriented definition is widely accepted and helpful for understanding the function of resources within the COR theory (Halbesleben et al., 2014).

COR theory posits that resources play a key role in individuals' perceptions of events as stressful and in how people deal with these events (Hobfoll et al., 2018; Hobfoll & Shirom, 2000b). In addition, COR theory proposes that there are interrelations between the resources; one or more changes in resources can affect other resources (Hobfoll & Shirom, 2000b). COR includes principles in relation to changes in resources, such as the resource loss principle, which means that "resource loss is disproportionately more salient than resource gain", and the resource investment principle, which depicts "people must invest resources in order to protect against resource loss, recover from losses, and gain resources" (Hobfoll, 2011, p. 117).

COR theory allows for a broad range of specific hypotheses rather than theories that only focus on one single, isolated resource (Hobfoll et al., 2018). It proposes that resources exist in caravans, and they travel in packs (Hobfoll, 2011; Hobfoll et al., 2018). Furthermore, they propose the concept of caravan

passageways, that is, the organisational environmental conditions which “support, foster, enrich, and protect the resources of individuals” or “detract, undermine, obstruct, or impoverish” the resource reservoirs (Hobfoll, 2011, p. 118). The concepts provide a clear picture of the interrelationship between resources and context, supporting resource creation and maintenance (Jabeen et al., 2022). It also provides practical instruction to employers and managers who wish to improve employee engagement, as it will be more efficient to enhance resources in the caravans ecologically and holistically instead of only focusing on one single resource (Hobfoll, 2011).

Employees with higher levels of personal resources show better capability to deal with demanding conditions. In turn, they can successfully reduce the negative outcomes. COR theory has been applied to many areas related to stress management (Hobfoll et al., 2018).

Conservation of Resources Theory and Creativity. According to the COR theory, the employee creativity process is a highly cognitive resource consumption process (Zhou et al., 2022). Researchers have found that creativity is “an inherent property of human cognitive functioning” (Nijstad et al., 2010, p. 38). It is the outcome of cognition and other antecedents (Anderson et al., 2014). The cognitive process generates practical solutions during creative activities (Wang & Nickerson, 2017). However, people have to consciously use their cognitive resources during their daily lives since cognitive resources are limited (Lua et al., 2023). The employee creativity process involves employee personal resources, including cognitive resources (Nijstad et al., 2010; Pesout & Nietfeld, 2021; Puryear, 2015). Those who have higher efficiency in resource usage will stave off the depletion process of the resources and gain achievement in the creativity tasks. The

completion of the creativity tasks will improve employees' self-efficacy, which is one of the resources in the caravans (Hobfoll et al., 2018), thereby generating resource gain and forming a resource gain spiral. In sum, the creative process involves cognitive resources, which are one of the personal resources in COR theory. Effectively using cognitive resources can optimise employees' resource capacity to enhance creativity. COR theory also highlights the importance of addressing systemic barriers, such as gender biases, that hinder certain groups from accessing or utilising their resources (Hobfoll, 2001). Therefore, COR theory may support the exploration of creativity. Hence, this research employs the COR theory to elucidate how employees mobilise, preserve, and replenish their psychological and cognitive resources to sustain creativity under challenging work conditions, and how gender, as a socio-cultural role, shapes the transformation of psychological strengths into CP.

Challenge-Hindrance Framework for Job Stressor Analysis

Work in modern organisations is inherently demanding and often accompanied by stress (Sonnentag & Fritz, 2015). Over the past decades, workplace stress has not only become more prevalent but has also reached what some scholars describe as an epidemic level (Cavanaugh et al., 2000; Podsakoff et al., 2023). While stress is commonly associated with strain, exhaustion, and diminished performance, this view provides only a partial picture. Increasing evidence suggests that certain types of stress can, under specific circumstances, have motivational and performance-enhancing effects (Podsakoff et al., 2023; Schilbach et al., 2023).

To better explain this dual nature of workplace stress, Cavanaugh et al. (2000) developed the challenge–hindrance stressors framework based on an

empirical investigation of U.S. managers. Their findings distinguished between two qualitatively different forms of stressors. Challenge stressors, such as high workload, job responsibility, and task complexity, were positively related to job satisfaction and negatively related to job search intentions. In contrast, hindrance stressors, such as organisational politics, red tape, and job insecurity, were negatively related to job satisfaction and positively related to turnover intentions. Central to their argument is the idea that the impact of stressors depends largely on employees' cognitive appraisal, that is, how individuals interpret and evaluate work demands in relation to their personal goals and resources. This interpretation marked an important shift from viewing stress as purely detrimental to recognising its potential adaptive and growth-promoting aspects.

Building on this perspective, Podsakoff et al. (2023) further clarified that hindrance stressors refer to job demands that constrain personal development or impede goal attainment, thereby evoking frustration and strain. Conversely, challenge stressors are those that, while demanding, also offer opportunities for mastery, learning, and achievement. Subsequent research has extended this framework to diverse organisational contexts and outcomes, including job performance, engagement, and innovation. Findings consistently indicate that the effects of stressors are contingent on multiple contextual and individual factors, such as cultural norms, the magnitude or frequency of the stressor, and individual psychological resources (Podsakoff et al., 2023; Prem et al., 2018).

TP and LRs are two prominent job stressors in Chinese organisations (Wang et al., 2022; Xu & Shi, 2023; Zhang, 2015). TP typically refers to the experience of insufficient time to complete work tasks (Ohly & Fritz, 2010), often arising from heightened competition, quick production cycles, and demanding performance

standards (Zhang et al., 2023b). In the Chinese context, practices such as extended working hours (e.g., “996” schedules) and lean production systems (e.g., Just-In-Time) further intensify TP, making it a widespread aspect of employees’ daily work experience (Xu & Shi, 2023; Zhang, 2015).

LRs refer to the increasing expectations for employees to continuously acquire new knowledge, update skills, and adapt to evolving technologies and job demands (Liu et al., 2023a; Senge, 1990). These requirements are especially significant in China’s rapidly growing, innovation-focused economy, where organisational competitiveness relies heavily on employees’ continuous learning and skill development (Liu et al., 2023a). Thus, in the context of this thesis, TP reflects constraints on temporal resources, whereas LRs represent demands on cognitive and developmental resources. Both serve as major job stressors that influence employees’ psychological experiences and creative performance.

In the dynamic, knowledge-intensive sectors, the significance of TP and LRs have garnered increasing scholarly interest (Prem et al., 2018; Schilbach et al., 2023; Tapak et al., 2024; Zhou et al., 2024). Both demands in contemporary workplaces can serve as either challenges or hindrances, depending on how they are perceived and managed (Glaser et al., 2015; Khedhaouria et al., 2017; Mikkelsen & Olsen, 2019; Schilbach et al., 2023; Yu & Wang, 2022). Therefore, this thesis employs the challenge–hindrance stressor framework as a theoretical perspective to explore how TP and LRs affect employees’ creativity and engagement, and how these outcomes are influenced by individual psychological resources such as PsyCap.

Social Role Theory and Role Congruity Theory in Gender Research

Existing evidence suggests that gender influences not only access to psychological resources but also how these resources are developed, expressed, and recognised within organisational contexts (Acker, 1990; Broadbridge & Simpson, 2011; Eagly & Karau, 2002). Gendered organisational structures and social expectations may limit women's opportunities to develop and use essential aspects of PsyCap, such as self-efficacy, resilience, hope, and optimism (Acker, 1990; Ely, 1994; Kossek et al., 2017). These constraints can ultimately influence their ability to convert psychological resources into CP. Furthermore, even when women have similar levels of psychological resources, gender norms and stereotypes may influence how such resources are expressed and assessed in the workplace (Broadbridge & Simpson, 2011; Eagly, 1987; Utzeri, 2019).

To better understand this conditioning role of gender in the PsyCap–creativity link, it is crucial to examine the wider social structures that influence gendered behaviour and expectations. In this regard, social role theory (Eagly, 1987) explains how societal norms impose different behavioural expectations on men and women, while role congruity theory (Eagly & Karau, 2002) further suggests that individuals who behave inconsistently with these expectations may encounter bias, penalties, or reduced recognition. Together, these theoretical perspectives offer a solid foundation for understanding how gender may serve as a boundary condition in the relationship between PsyCap and CP.

Organisations are not gender neutral. The gendered nature of the organisations is partly concealed by obscuring the embodied aspects of work, and it is socially structured (Acker, 1990), influenced by societal stereotypes (Eagly & Wood, 2012). According to social role theory, gender stereotypes originate from

individuals' direct and indirect observations of women and men within their social roles (Eagly, 1987). Role-constrained behaviour offers important insights because most actions are performed within specific roles, leading people to naturally infer an individual's social role based on their behaviour, which then influences the traits they ascribe to that person in a role-consistent manner (Eagly et al., 2020). It posits that individuals are likely to act in accordance with the stereotypical and gendered expectations found in society. Their behaviour is influenced not only by biological processes involving hormonal changes but also by socio-cultural factors related to gender identity and others' stereotyped expectations (Eagly & Wood, 2012).

A fundamental idea of social role theory is that most gender-related beliefs connect to communal and agentic traits (Eagly, 1987). Communal traits, linked more with women, focus on caring for others and include qualities like affectionate, helpful, kind, sympathetic, sensitive, nurturing, and gentle. Conversely, agentic traits, associated more with men, describe assertiveness, control, and confidence, such as being aggressive, ambitious, dominant, forceful, independent, self-sufficient, and self-confident, often characterised by a tendency to act as a leader (Eagly & Karau, 2002)

As such, we conceptualise gender not merely as a biological attribute but as a socially constructed category that shapes workplace experiences. Prior research indicates that stereotypical and gendered expectations can erode individuals' self-efficacy (Heilman, 2012) and may also simultaneously deplete resilience, constrain hope, and dampen optimism. Collectively, these processes undermine the core dimensions of PsyCap. Accordingly, we argue that gender operates as a salient social context that interacts with personal resources, influencing how employees mobilise PsyCap in the pursuit of creativity. In this sense, creativity is not only a

function of individual strengths but also of the gendered environment in which those strengths are enacted.

Role congruity theory was developed by Eagly and Karau (2002), primarily in the context of female leadership to explain the prejudice women face when their gender roles are seen as incongruent with leadership roles. It explains why women often face prejudice in leadership. It argues that prejudice arises when there's a mismatch between the female gender role (stereotypically communal: caring, nurturing, supportive) and the leader role (stereotypically agentic: assertive, dominant, decisive). Because of this mismatch, women leaders may be judged as "less suitable" or evaluated more harshly when they show leadership behaviours. It's about the fit (or misfit) between social roles and leadership roles in general (Eagly & Karau, 2002).

Role congruity theory explores the potential disconnect between gender and task roles, emphasising how perceived incongruity can lead to bias (Eagly & Karau, 2002). It highlights how individuals of different genders might be rewarded or penalised- either directly or indirectly- depending on how well they conform to traditional social norms. These norms generally associate agency and assertiveness with masculinity, while traits linked to femininity are communion and harmony (Hora et al., 2021). Creativity involves being unique, independent from the group by challenging existing practices and taking risks with new methods. It has often been viewed as primarily an agentic and male prerogative. Proposing a change to the current understanding or approach, particularly when such a change might disrupt routines and team harmony, demands a level of assertiveness and independence typically stereotyped as male traits, but not often associated with women (Hora et al., 2021).

Luksyte et al. (2018) conducted an empirical study and confirmed the existence of this prejudice. They found that innovative work behaviours are often stereotypically expected more of men than women. This bias may lead to women who innovate not receiving higher performance evaluations compared to those who do not, whereas for men, engaging in innovative behaviours tends to be advantageous. The argument uncovers a previously overlooked form of gender bias, which is especially important for efforts to promote creativity and innovation in the workplace since organisations have to confront the idea of "think innovation- think male." (Luksyte et al., 2018).

Both social role and role congruity theory provide a unique understanding of how gender may condition the effects of PsyCap on CP. Specifically, the perceived masculine focus of CP is said to misalign with the female gender role, resulting in women putting forth less effort in creativity-related tasks (Eagly & Karau, 2002; Hora et al., 2021). Such notions have been supported by prior research showing that a gender gap in CP favours men (Hora et al., 2022; Hora et al., 2021).

Literature Review

An Overview of Creativity and Creative Performance

Creativity. There has been a long development in the definition of creativity with confusion and limitations (Amabile, 1983; Hughes et al., 2018). The definition of creativity has varied from time to time, and in relation to the domain studied, there is no common term so far, and it is still ambiguous and clouded (Green et al., 2024; Moreno & Jurado, 2023).

In 1949, J.P. Guilford claimed in his presidential address that there are too few studies on creativity, evidenced by fewer than 0.2% (186 out of 121,000) studies

in the area of creativity, searched from Psychological Abstracts over 25 years (Rhodes, 1961). Urged by the growing interest in creativity, Rhodes raised his question: What is creativity? After collecting forty definitions of creativity and sixteen of imagination, he gave out his answer as "creativity is a noun naming the phenomenon in which a person communicates a new concept (which is the product)" (Rhodes, 1961, p. 305) and proposed the concept of Four P's of creativity: person, process, press, products (Rhodes, 1961). Person covers individual characteristics like personality, intellect, temperament, and so on that relate to creativity. Process refers to perception, motivation, thinking, learning, and communicating. Press represents the association between humans and the environment. Product refers to the tangible outcome of the creative process, representing the point at which an idea is transformed into a concrete result or artefact.

In 1982, Amabile claimed that a product-centred definition is useful for empirical research and presented her product-centred operational definition of creativity as "the quality of products or responses judged to be creative by appropriate observers, and it can also be regarded as the process by which something so judged is produced" (Amabile, 1982, p. 1001). One year later, she stated that a conceptual definition is necessary for "theoretical formulations of creative process" and proposed a conceptual definition to support theoretical formulations: "A product or response will be judged as creative to the extent that (a) it is both a novel and appropriate, useful, correct, or valuable response to the task at hand and (b) the task is heuristic rather than algorithmic" (Amabile, 1983, p. 360).

According to Nijstad et al. (2010, p. 35), creativity is " the production of ideas, problem solutions, and products that are both novel (original) and appropriate (feasible, potentially useful)". After comparing the major definitions, Klijn and

Tomic (2010, p. 323) proposed that “creativity is viewed as the production of new and useful ideas or solutions by one or more individuals within a work environment”.

In the later article, Amabile and Pratt (2016, p. 158) re-defined creativity as “the production of novel and useful ideas by an individual or small group of individuals working together”, which considered both individual psychological processes and organisational work environment. Walia (2019) claimed that the prior definitions of creativity mixed creativity and creation. To address this issue, he proposed incorporating the dynamic feature of creativity into its definition. Through the analysis of the former definitions, Walia observed that most conceptualisations of creativity concentrated on four aspects: individual, process, environment and product. This perspective aligns closely with Rhodes’ 4P theory of creativity. Accordingly, Walia (2019, p. 242) defined creativity as “an act arising out of a perception of the environment that acknowledges a certain disequilibrium, resulting in productive activity that challenges patterned thought processes and norms, and gives rise to something new in the form of a physical object or even a mental or an emotional construct”. The definition highlights that looking into the creative act itself may not necessarily lead to creation. Sternberg and Karami (2021) raised another definition as the generation of ideas and products that are novel, useful or effective. Recently, Harvey and Berry (2023, p. 504) summarised the definitions and proposed a definition as “developing ideas, products, processes, or other outcomes that are both novel and useful”. Lastly, it’s worth mentioning that with the emergence of Artificial Intelligence (AI), AI can also generate some novel and useful ideas or outcomes, Runco (2023) argued that there are two essential elements missed in the output of AI, that is, authentic and intentional, so he claimed the

output from AI is not creativity, instead, he names it Artificial Creativity (AC), in the same vein as the definition of Artificial Intelligence (AI).

Although there is no universal definition of creativity, it should be noted that the most common definitions are associated with one or more elements of Rhodes's 4Ps of creativity: person, process, press, and products (Moreno & Jurado, 2023). Major definitions from previous literature are summarised in Table 1. It demonstrates that despite differences in emphasis on person, process, and context, most scholars agree on a core definition of creativity as the generation of ideas or outcomes that are both novel and useful.

Table 1

Major Definitions of Creativity

No	Aspect	Definition	Who/When	Sample/method
1	Person/Process /Products	creativity is a noun naming the phenomenon in which a person communicates a new concept (which is the product)	Rhodes, 1961	Conceptual/theoretical (4P framework synthesis)
2	Process/Press /Products	the quality of products or responses judged to be creative by appropriate observers, and it can also be regarded as the process by which something so judged is produced	Amabile, 1982	Conceptual + methodological (introduces Consensual Assessment Technique)
3	Press/Products	A product or response will be judged as creative to the extent that (a) it is both a novel and appropriate, useful, correct, or valuable response to the task at hand and (b) the task is heuristic rather than algorithmic	Amabile, 1983	Conceptual/theoretical model development
4	Process/Products	the production of novel and useful ideas	Mumford, 2003	Narrative review/conceptual synthesis
5	Process/Products	the production of ideas, problem solutions, and products that are both novel (original) and appropriate (feasible, potentially useful)	Nijstad et al., 2010	Theoretical model (supported by prior empirical research)
6	Person/Process /Press/Products	creativity is viewed as the production of new and useful ideas or solutions by one or more individuals within a work environment	Klijn & Tomic, 2010	Literature review
7	Person/Process /Products	Creativity, which we define as the production of novel and useful ideas by an individual or small group of individuals working together	Amabile & Pratt, 2016	Conceptual/theoretical extension

Table 1 (Continued)

Major Definitions of Creativity

No	Aspect	Definition	Who/When	Method
8	Process/Products	Creativity is an act arising out of a perception of the environment that acknowledges a certain disequilibrium, resulting in productive activity that challenges patterned thought processes and norms, and gives rise to something new in the form of a physical object or even a mental or an emotional construct.	Walia, 2019	Conceptual/theoretical paper
9	Process/Products	Creativity is traditionally defined as the generation of ideas and products that are both novel, on the one hand, and useful (Kaufman & Sternberg, 2019) or effective (Runco & Jaeger, 2012) in some way, on the other hand.	Sternberg & Karami, 2021	Conceptual/theoretical framework
10	Process/Products	developing ideas, products, processes, or other outcomes that are both novel and useful	Harvey & Berry, 2023	Conceptual/theoretical (meta-theory development)

For the purpose of the studies, this thesis adopts the definition from Amabile and Pratt (2016); Harvey and Berry (2023); Klijn and Tomic (2010). The researcher views employee creativity as the production of new and useful ideas, products, processes, or other outcomes by an individual or a small group of individuals within a work environment.

Individual creativity underpins organisational creativity and innovation, which are linked to organisations' performance and survival; therefore, it is essential that employees be creative in their work (Shalley & Gilson, 2004). Improving employees' CP is essential for organisations seeking a competitive edge. When employees act creatively, they generate innovative and practical products, ideas, or procedures that become valuable resources for future growth and potential execution (Oldham & Cummings, 1996). Therefore, organisations aim to leverage their employees' ideas and suggestions. It is widely accepted that the process of creativity has become a key source of competitive advantage for organisations (Anderson et al., 2014).

Based on the process flow of the dynamic componential model of creativity and innovation theory (Amabile & Pratt, 2016), this thesis specifically examines the aspects of CP at the individual level to explore ways of boosting employee creativity.

In this thesis, creativity is conceptualised not only as a valued organisational outcome but also as a fundamental human strength and virtue. Peterson and Seligman (2004) proposed a classification of 24 character strengths organised under six core virtues: wisdom and knowledge, courage, humanity, justice, temperance, and transcendence. Within this framework, creativity is positioned as a key strength associated with the virtue of wisdom and knowledge, reflecting the capacity to

generate novel and adaptive ideas that contribute to personal growth and collective advancement. The character strengths and virtues model was developed as a foundational framework to advance the scientific study of character and to support research on human flourishing and well-being (Seligman et al., 2005).

Building on this perspective, the present thesis seeks to integrate creativity as both a strength and an outcome, rather than a mental process, related to other constructs from positive psychology and organisational behaviour. The study conceptualises PsyCap as a core positive psychological resource, CP as both a character strength and a work-related secondary resource (Wright & Bonett, 2007). By situating these constructs within a coherent framework, this thesis explores employees' experiences throughout the creative process and examines how PsyCap, job stressors, and socio-cultural factors interact to shape CP. This approach highlights the role of positive psychological resources and contextual factors in influencing creativity, thereby identifying ways to enhance employee creativity and support organisational success.

Employee Creative Performance in Organisations. Employee creative performance (CP) is defined as employees' "ability to generate novel and valuable ideas, solutions or products" in an organisation (Wadei et al., 2023, p. 428). It evaluates the individual-level creative outcomes (Oldham & Cummings, 1996). Employee CP depends on many factors, including individual factors such as psychological status, personal traits, and cognitive status. For example, Toyama et al. (2023) conducted empirical studies and found that employees with higher levels of persistence tend to achieve better CP. Shaw and Choi (2023) found that employees with higher openness, extraversion, and conscientiousness get better supervisor ratings of CP.

Based on the dynamic componential model of creativity and innovation theory, the successful outcomes of novel idea assessment will become "the fruits of the entire process of individual creativity", entering the stage of the organisational-level innovation process (Amabile & Pratt, 2016, p. 165). Accordingly, in this thesis, CP can be viewed as the result of novel idea assessment on individual employees' creative outcomes.

Job Stressors in Organisations

Job stressors are generally understood as characteristics of the work environment that impose demands on employees and may elicit strain reactions when they tax or exceed individuals' resources or coping capacity (Sonnentag, 2018; Sonnentag & Fritz, 2015). According to COR theory, stress arises when individuals perceive a threat of resource loss, experience actual resource depletion, or fail to gain resources following significant effort (Hobfoll, 1989).

Job stressors have been classified in various ways. For example, Sonnentag and Fritz (2015) categorise stressors into physical, task-related, role-related, social, career-related, traumatic, and change-related stressors. Earlier work by House (1974) identified five categories: intrinsic job factors, role in the organisation, career development, relationships at work, and organisational structure and climate. More recent approaches further simplify these classifications, distinguishing between high job demands and social environmental factors Sonnentag (2018), or adopting the widely used dichotomy of challenge and hindrance stressors (Cavanaugh et al., 2000). Within the challenge–hindrance stressors framework, challenge stressors are demands (potentially stressful) associated with potential gains such as learning, achievement, and personal growth, whereas hindrance stressors are demands that

obstruct goal attainment and are typically associated with negative outcomes (Cavanaugh et al., 2000; Podsakoff et al., 2023).

Among the most frequently examined stressors are task-related stressors, such as TP, workload, interruptions, and situational constraints; role stressors, including role overload, role conflict, and role ambiguity; and social stressors, such as incivility, harassment, workplace violence, and abusive supervision (Sonnentag & Fritz, 2015). Early research further emphasised that workplace stressors are inherently multidimensional rather than unitary. For instance, House et al. (1979) examined multiple indicators of perceived stress in their study of factory workers and argued that psychosocial stressors should be considered alongside physical and chemical hazards, as both can influence worker health and may interact.

Building on this multidimensional perspective,Cavanaugh et al. (2000) proposed that some stressors are appraised as challenges, while others function as hindrances. Their findings demonstrated that these two types of stressors relate differently to work outcomes, underscoring the importance of distinguishing between stressor types rather than treating job stress as homogeneous. Subsequent reviews have confirmed that the challenge–hindrance framework has become one of the most influential approaches for understanding workplace stressors (Horan et al., 2020; LePine, 2022)

The consequences of job stressors are substantial and well-documented. Across the literature, exposure to workplace stressors has been associated with a range of negative outcomes, including psychological distress, diminished well-being, reduced organisational commitment, burnout, lower job satisfaction, and decreased productivity. Finney et al. (2013) noted that prolonged exposure to job stressors may culminate in burnout, characterised by exhaustion, cynicism,

detachment, ineffectiveness, and diminished personal accomplishment. More broadly, Ganster and Rosen (2013) concluded that work stress remains a central pathway through which job conditions influence employee health and functioning. Sonnentag and Fritz (2015) further demonstrated that job stressors impede psychological detachment and recovery, thereby exacerbating strain and undermining well-being. Meng and Meng (2025) revealed that job stressors caused a prevalence of psychological distress among Chinese manufacturing employees. Nearly a third of all participants faced burnout, with 21% experiencing anxiety and 27% facing depression. Lu et al. (2021) argued that China represents a critical context for job stressor research due to ongoing industrial restructuring, social modernisation, and intensified market competition. They identified six common job stressors across different regions: interpersonal conflict, quantitative workload, organisational constraints, organisational politics, job insecurity, and work–family conflict. These stressors were positively associated with physical and psychological symptoms and negatively related to job satisfaction and supervisor-rated performance.

Related research has similarly identified heavy workload, organisational constraints, limited autonomy, and interpersonal conflict as salient stressors among Chinese employees. Lu et al. (2010) found that these stressors were significantly associated with various aspects of job performance, highlighting that job stressors are not merely abstract pressures but concrete workplace conditions with tangible consequences. Consistent findings have also been reported among Chinese civil servants, where stressors such as pressure from superiors, interpersonal relationships, job characteristics, career prospects, and work demands were

positively related to stress responses and negatively associated with subjective well-being (Zhang et al., 2019).

Taken together, the literature suggests that job stressors are best conceptualised as multidimensional workplace demands arising from task, role, relational, career, and organisational sources. Although they differ in form and appraisal, they collectively shape employees' physical, psychological, and attitudinal outcomes. In the Chinese context in particular, job stressors are embedded within rapid economic transformation, intensified competition, organisational constraints, and work–family pressures (Lu et al., 2021). This underscores their importance as a key contextual factor for understanding employee functioning and provides a strong foundation for examining specific stressors within this thesis.

Job Stressors and Creativity. Research on job stressors and creativity indicates that their relationship is complex, contingent, and often nonlinear rather than consistently negative. Early research in this field has demonstrated that workplace stressors can both stimulate and inhibit creativity, depending on their characteristics and how employees perceive and experience them. For instance, Binnewies and Wörnlein (2011) demonstrated that daily job stressors such as TP and situational constraints can influence creativity at the within-person level, emphasising that creativity varies across contexts and time. Similarly, Wang et al. (2021a) noted that empirical findings on the link between stressors and creativity are inconsistent, showing positive, negative, and nonlinear effects. These disparities imply that the impact of job stressors on creativity depends on various factors, such as the type and intensity of stressors, individual appraisal processes, and the surrounding context.

There is a key distinction between challenge stressors and hindrance stressors (Cavanaugh et al., 2000). Challenge stressors, such as job responsibility and LRs, are usually associated with opportunities for growth, mastery, and achievement, while hindrance stressors, such as role ambiguity, role conflict, and situational constraints, tend to block goal achievement and drain resources without providing comparable benefits. Empirical evidence generally supports this distinction. For example, challenge stressors have a direct positive effect on employee creativity, whereas hindering stress diminishes it (Sun et al., 2019; Xu & Shi, 2023). However, stressors often exhibit double-edged effects on creativity. Sun et al. (2019) showed that challenge stressors promote creativity through increased self-efficacy, reflecting a resource-building mechanism, and challenge stressors can stimulate creative engagement by enhancing motivation, self-efficacy, and learning. However, the same stressors may simultaneously lead to emotional exhaustion, which undermines creativity through resource depletion. This dual pathway highlights that stressors are not inherently beneficial but operate through competing mechanisms that can either facilitate or hinder creative outcomes.

TP, one of the most extensively studied job stressors (Adler & Koch, 2017; Zhang et al., 2023b; Zhou et al., 2024), further demonstrates this complexity. Using a diary design, Binnewies and Wörnlein (2011) found that TP has an inverted U-shaped relationship with daily creativity, such that moderate levels of TP are associated with the highest creativity, whereas very low or very high levels are less beneficial. This finding is consistent with results reported by Antwi et al. (2019), who also observed an inverted U-shaped relationship between TP and creativity in an airport context (Antwi et al., 2019). These studies indicate that moderate TP can boost focus and engagement, thereby fostering creativity, whereas excessive

pressure might overload cognitive resources and limit creative thought. Interestingly, contradictory effects were also found. A study conducted in a European company reported a U-shaped association between TP and CP, rather than the expected inverted U-shaped relationship, suggesting that both low and high TP have favourable effects on creativity, while moderate TP does not (Aleksic et al., 2017). It further indicates the complicating nature of stressors' effect on creativity.

In general, hindrance stressors are most often linked to negative effects on creativity, though their impacts are not always straightforward. For example, situational constraints, which disrupt goal-oriented behaviour, may diminish CP by diverting effort away from idea development (Binnewies & Wörnlein, 2011). Similarly, Wang et al. (2021a) argued that role stressors, especially role ambiguity, tend to hinder creativity by creating uncertainty and negative work attitudes, although they also noted that empirical findings remain mixed. Interestingly, Antwi et al. (2019) reported U-shaped relationships between role ambiguity, role conflict, and creativity, suggest that hindrance stressors may have nonlinear effects under certain conditions. These findings emphasise the importance of moving beyond simple linear assumptions when examining stressor–creativity relationships.

Another important aspect is how resources and appraisal processes affect the way job stressors impact creativity. From a resource-based perspective, Ghafoor and Haar (2022) demonstrated that job stressors can boost creativity when employees have high levels of PsyCap, suggesting that individuals with greater psychological resources are better able to utilise stress constructively. Likewise, Prem et al. (2018) showed that the effects of challenge stressors depend on whether employees assess them as challenges or hindrances, with challenge appraisal promoting learning-related outcomes. In a similar vein, Sun et al. (2019) found that learning behaviours

enhance the positive impact of challenge stressors on self-efficacy and, consequently, creativity. These findings suggest that stressors do not act alone but are interpreted and managed through cognitive and resource-based processes. Glaser et al. (2015) further demonstrated that different types of job stressors may have distinct implications for creativity. Specifically, they showed that learning requirements are positively associated with intrinsic motivation and CP. This is particularly relevant in contemporary work contexts, where employees are increasingly required to continuously acquire new knowledge and skills. In such environments, LRs may function more as developmental challenges rather than as stressors per se, thereby fostering rather than constraining creativity.

Overall, the literature suggests that the relationship between job stressors and creativity is best understood as multidimensional and context-dependent. Challenge stressors can boost creativity by increasing motivation and self-efficacy, but they may also hinder it by depleting resources and causing emotional exhaustion. Hindrance stressors generally block creativity by disrupting goal achievement, though their impact can vary depending on intensity and context.

Among the various types of job stressors, TP and LRs are two common contextual and task-related job stressors (Anderson et al., 2014; Glaser et al., 2015; Podsakoff et al., 2023; Prem et al., 2018; Sonnentag & Fritz, 2015) that employees face in their daily work. They are also the key job stressors in China's automotive industry (Liu et al., 2023b; Zhang, 2015), particularly in the context of the rapid transition from ICEVs to NEVs. Building on this perspective, this thesis specifically examines the effects of TP and LRs on employee CP.

Time Pressure. Organisations operate in increasingly dynamic and uncertain environments, where continuous change and unpredictability have intensified

employees' job demands, including TP (Herttalampi et al., 2023; Zhang et al., 2023b). "The only constant is change" is becoming increasingly accepted by organisational leaders globally (Brown & Eisenhardt, 1997; Burk, 2019; Mızrak, 2024). Many organisational leaders believe that employees need to "fail fast and learn fast" (Koporcic et al., 2024), to adapt to the fast-changing market to remain competitive (Gu et al., 2023), which imposes greater TP on the shoulders of employees. TP is the key contextual job stressor contemporary employees encounter. Nonetheless, the same context may engender differing perceptions among employees, as each individual interprets their environmental context uniquely (Schilbach et al., 2023). Each person possesses distinctive life experiences, values, and beliefs, therefore, the impact of TP on each employee may vary.

TP has been identified as playing both promoting and inhibiting roles in creativity, and there are inconsistent findings in the academic (Adler & Koch, 2017; Zhang et al., 2023b; Zhou et al., 2024). For example, Song et al. (2023) made a meta-analysis and revealed that there is a positive J-shaped relationship between TP and employee creativity. They conducted an empirical study on MBA students in northern China and proved the result. However, Aleksic et al. (2017) demonstrated a U-shaped curvilinear linkage between perceived TP and creativity in European companies. Interestingly, Zhang et al. (2023b) found that TP has an indirect, inverted U-shaped relationship with incremental creativity across various organisations in China. Using data collected from companies in various industries in China, Song et al. (2024) found a negative relationship between experienced creative TP and employee creativity.

The arguments are becoming increasingly louder, which reflects the insufficient focus and the urgency to clarify the issues. Some efforts have been made

to unravel the underlying mechanisms of the contradictory results. Bormann (2020) conducted a diary study in various organisations and sectors in Germany, and they disclosed that there is a positive and significant relationship between TP and daily employee creativity in conditions of high neuroticism and low dispersion of TP ranking of employees. Yu and Wang (2022) conducted empirical research and found that TP has a negative and indirect relationship with employee creativity through job burnout, and job crafting positively mediates the relationship between TP and employee creativity. Zhou et al. (2024) conducted a field study in Chinese enterprises and research institutes. They claim that mindset moderated the relationship between TP and employee creativity. Specifically, the mindset of stress-is-debilitating plays a negative moderating role through thriving at work, while the mindset of stress-is-enhancing plays a positive role through thriving at work (Zhou et al., 2024). These inconsistent findings indicate a gap in the literature that requires more effort to clarify the contextual and boundary conditions governing the relationship between TP and creativity.

Although a body of research (Bormann, 2020; Cavanaugh et al., 2000) suggests that TP may act as a challenge stressor, it can bring job satisfaction, reduce turnover intentions and promote engagement (e.g., when employees view it as an opportunity for growth). In the Chinese organisational context, the evidence is less supportive. In China, heavy overtime, a continuous high work pace, and persistent unfinished tasks mean that employees often experience TP not as a motivator but as a burden (Chang & Chen, 2013; Song et al., 2024). Thus, in the Chinese context, TP does not necessarily lead to greater job satisfaction or lower job-search intentions, which were defined as “to be related to positive work outcomes” and “positively related to job satisfaction and negatively related to job search” (Cavanaugh et al.,

2000, p. 65). Instead, it may reduce job satisfaction and increase turnover intentions. In line with existing findings from the Chinese context (Chang & Chen, 2013; Song et al., 2024), this thesis operationalises TP primary as a hindrance stressor.

Learning Requirements. LRs relate to obtaining the necessary theoretical, social, and technical knowledge and skills to fulfil work tasks effectively in the workplace (Glaser et al., 2015; Meyer & Hünefeld, 2018; Prem et al., 2018). As business environments evolve, the requirements for job competencies also shift accordingly. Employees are thus compelled to acquire and integrate new knowledge and skills to effectively fulfil their roles (Burmeister et al., 2022), which leads to LRs for them. Moreover, the expectation of career development and maintaining employability also requires employees to acquire new knowledge and skills constantly (Glaser et al., 2015; Meyer & Hünefeld, 2018).

To respond to rapid changes and complexities, implementing the learning organisation (LO) is a strategy that supports organisations in adapting to these changes. One prerequisite for LO is individual learning. The learning organisation's core goal is to shape its future proactively by fostering a culture of continuous learning among its employees to support the organisation in reacting to and adopting changes (Tapak et al., 2024). It raises LRs for employees as well.

In order to underscore the significance of learning, Kaufman and Beghetto (2009) developed the concept of "mini-c" to capture the creativity inherent in the learning process. Creativity can be learned (Haase et al., 2023; Kaufman & Beghetto, 2009; Rhodes, 1961; Sidelkivska & Bilbao-Calabuig, 2023). To overcome the challenges during the creative process, employees need to learn new knowledge to have novel and useful ideas, solutions or products. Learning and creativity are

closely linked in people's everyday lives. However, the relationship between them needs to be further explored (Sidelkivska & Bilbao-Calabuig, 2023).

Extant studies present contradictory results on the impact of LRs on CP. Glaser et al. (2015) conducted an empirical study in service companies and the general working population and found that LRs were positively linked to CP. In contrast, researchers found a negative mediating role of LRs between change-oriented leadership and employee work performance in physicians (Mikkelsen & Olsen, 2019). There is an argument that daily knowledge-seeking behaviour leads to intrinsic cognitive load, which in turn induces the experience of knowledge overload and resource depletion, consequently inhibiting employees' daily goal attainment (Burmeister et al., 2022). The extent to which LRs function as either a challenge or a hindrance stressor remains unclear, as do the contextual boundary conditions shaping their impact. Existing studies reveal a lack of empirical research clarifying the role of LRs in organisational contexts (Meyer & Hünefeld, 2018).

Time Pressure, Learning Requirements, and Creative Performance. According to the theoretical framework of actor–context interplay for creativity (Zhou & Hoever, 2014, 2023), creative outcomes emerge from the dynamic interaction between individual characteristics (actors) and situational conditions (context). From this perspective, the same contextual factor may produce different effects on creativity depending on how it interacts with employees' psychological resources, interpretations, and behavioural responses.

Consistent with this view, empirical findings on the relationship between TP and creativity remain highly inconsistent. Prior research has reported a range of effects, including positive, negative, and various nonlinear patterns such as J-shaped, U-shaped, and inverted U-shaped relationships (Acar et al., 2019; Aleksic et al.,

2017; Kuutila et al., 2020; Song et al., 2024; Yu & Wang, 2022; Zhou et al., 2024). These divergent findings suggest that TP does not exert a uniform influence on creativity but instead operates as a contextual condition whose effects depend on its intensity, appraisal, and interaction with individual-level factors.

In contrast, comparatively less attention has been devoted to LRs as a form of work demand in the creativity literature. The limited available evidence also points to inconsistent findings. While some studies suggest that LRs enhance creativity by stimulating learning, skill development, and intrinsic motivation, others indicate that excessive LRs may overwhelm employees and hinder CP (Burmeister et al., 2022; Glaser et al., 2015; Mikkelsen & Olsen, 2019).

These mixed and sometimes contradictory findings highlight a significant gap in the literature regarding the roles of TP and LRs. In particular, there remains limited empirical understanding of how and under what conditions these demands facilitate or constrain employee creativity, especially when considering the joint influence of contextual pressures and individual psychological resources. This gap underscores the need for a more nuanced, interaction-based approach to examining the effects of TP and LRs on creativity.

Psychological Capital at Work

Psychological Capital. Personal resources are the key concept in COR theory. One personal resource is psychological capital (PsyCap) (Grover et al., 2018; Jabeen et al., 2022; Schaufeli & Taris, 2014). PsyCap is a concept from positive organisational behaviour that Luthans and his colleagues coined as an individual's positive psychological state of development, comprising four factors: hope, optimism, self-efficacy, and resilience (Luthans & Youssef, 2004).

During and after World War II, psychology entered a prolonged period in which the primary emphasis was on healing mental illness and addressing human pathologies, often at the expense of the broader mission of enhancing the lives of all people and cultivating human potential (Csikszentmihalyi & Seligman, 2000). This narrowed focus left behind psychology's earlier aspirations to nurture genius. The emergence of the positive psychology movement, initiated by Martin Seligman in the late 1990s, sought to restore this balance by redirecting attention to the "forgotten missions" of making people's lives more meaningful, productive, and fulfilling, as well as actualising their potential (Luthans & Youssef, 2004).

Positive psychology seeks to shift the focus of psychological research from merely addressing the most adverse aspects of human functioning to also understanding and cultivating individuals' strengths and optimal potential (Snyder & Lopez, 2002). It emphasises positive subjective experiences across temporal dimensions, including the past (e.g., well-being and life satisfaction), the present (e.g., flow, joy, pleasure, and happiness), and the future (e.g., optimism, hope, and faith).

The movement emphasised that psychology is not solely the study of pathology, weakness, and damage but also the scientific exploration of human strengths, virtues, and flourishing (Csikszentmihalyi & Seligman, 2000). To advance this perspective, Peterson and Seligman (2004) developed a comprehensive classification of character strengths and virtues, thereby laying the foundation for a scientific understanding of human strengths that can be systematically identified and cultivated. Building on this framework, subsequent empirical research has demonstrated that positive psychological interventions can effectively enhance these

strengths and promote well-being, thus translating positive psychology from theory into practical applications (Seligman et al., 2005).

Inspired by positive psychology, Luthans and his colleagues introduced the concept of Positive Organisational Behaviour (POB), which applies positively oriented human resource strengths and psychological capacities to the workplace. These positive capacities of hope, optimism, self-efficacy, and resilience are state-like, meaning they can be measured, developed, and effectively managed to enhance employee performance. Collectively, Luthans and Youssef (2004) referred to these four capacities as PsyCap, positioning it as a core construct within positive organisational scholarship and a critical driver of workplace performance.

Hope is commonly used in everyday language, it draws on the work of Snyder et al. (1991). Hope is a motivational state that relies on the interplay of three elements: goals, agency, and pathways. People are motivated to reach their goals through their sense of agency, which provides them with internal motivation and willpower to dedicate the necessary energy. Individuals with high hope also believe in their capacity to find different ways to achieve their desires, allowing them to develop alternative routes toward their goals if the original ones are blocked (Snyder & Lopez, 2002). To possess hope as defined and operationalised, one must have both the will to succeed in a specific task and a viable means, or way to achieve the task (Luthans et al., 2008b).

Optimism has been examined and utilised by Seligman and others within the positive psychology movement. It entails a positive explanatory approach that attributes positive outcomes to internal, lasting, and widespread causes, while negative outcomes are linked to external, temporary, and situational factors. This perspective helps people take pride in positive events, enhancing their self-esteem

and morale. Additionally, it allows them to detach from negative life experiences, protecting them from feelings of depression, guilt, self-blame, and similar emotions of despair (Luthans & Youssef, 2004). To prevent accusations of false optimism, POB focuses on realistic optimism. This means optimism is grounded in practical assessment rather than unfounded hope. As a transient state rather than a personality trait, this type of realistic optimism involves objectively evaluating what can be achieved in a particular situation, taking into account the resources available at that moment, it therefore can vary (Luthans et al., 2008b).

Self-efficacy, based on Albert Bandura's extensive theory and research, refers to an individual's confidence in their ability to mobilise motivation, resources, and actions needed to complete a specific task within a particular context. Those with high self-efficacy (self-confidence) tend to select challenging tasks, apply sustained motivation and effort to achieve their goals, and persist when facing difficulties or obstacles (Bandura, 1997). Self-efficacy can be enhanced through four specific methods. First, it builds when an employee successfully completes a task (task mastery). Second, it can grow by observing others in their relevant comparison group perform a task and receive a reward (modelling). Third, efficacy is reinforced through persuasion or positive feedback from respected individuals. Fourth, it is developed and increased by physiological and/or psychological arousal wellness (Bandura, 1997).

Resilience refers to an individual's capacity to recover and adapt in the face of adversity, uncertainty, failure, or even positive yet demanding changes such as assuming greater responsibilities (Luthans, 2002; Sweetman et al., 2011). It reflects a dynamic psychological process through which individuals not only endure challenges but also emerge strengthened from them. As Luthans et al. (2014) noted,

resilience functions as a protective mechanism that enhances individuals' ability to manage stressors by reinforcing personal assets and reducing the impact of risk factors within their environment. In this sense, resilience is not merely about enduring hardship but about effectively navigating both negative and positive stressors. Accordingly, Luthans et al. (2008b) emphasised that resilience embodies the ability to cope successfully with adverse circumstances as well as to maintain equilibrium and performance under conditions of extreme opportunity or growth. Within the organisational context, resilience thus enables employees to sustain motivation, recover from setbacks, and continue contributing creatively and productively amid continuous change and uncertainty.

The four positive psychological resources: hope, efficacy, resilience, and optimism, together constitute a higher-order construct known as PsyCap. Unlike stable personality traits, PsyCap represents a state-like form of psychological resource that can be developed, enhanced, and managed over time through targeted interventions (Youssef & Luthans, 2007). Each of its components meets the core criteria of POB: being positive in nature, unique and conceptually independent, measurable through reliable instruments, open to development, and linked to improved performance outcomes (Luthans & Youssef, 2004). This implies that strengthening overall PsyCap or any of its sub-dimensions can meaningfully enhance individual and team performance, as employees with higher PsyCap tend to demonstrate greater motivation, creativity, and resilience in the face of challenges.

The concept of PsyCap and its four sub-dimensions is in line with the concept of "resource caravans" in the COR Theory (Hobfoll et al., 2018), which means psychological resources "may travel together and interact synergistically to produce differentiated manifestations over time and across contexts" (Luthans &

Youssef, 2017, p. 343). In the positive psychology and POB, PsyCap literature has shown explosive growth in recent years (Loghman et al., 2023). The four-dimensional structure supports both individual-level and socio-psychological level framework characterisation. Previous research suggests that PsyCap can improve employee creativity and other outcomes (Ghafoor & Haar, 2022; Newman et al., 2014; Zhou et al., 2022). Thus, PsyCap has been widely applied across management, psychology, and organisational behaviour (Shan et al., 2023).

Psychological Capital and Creativity. Positive psychology, as a scientific study of human strengths and virtues, emphasises positive emotions and characteristics such as happiness, optimism, hope, courage, creativity, and altruism (Csikszentmihalyi & Seligman, 2000; Snyder & Lopez, 2002). In the character strengths and virtues list, creativity is classified as a strength within the virtue of wisdom and knowledge (Peterson & Seligman, 2004). PsyCap is a key individual resource in the workplace (Luthans & Youssef, 2004; Raza et al., 2022), reflecting a person's positive psychological state of development (Luthans & Youssef, 2004). Numerous empirical studies have demonstrated that PsyCap exerts a positive influence on employees' creativity (Ghafoor & Haar, 2022; He, 2024; Sweetman et al., 2011; Wang et al., 2024b). Moreover, each of the four components of PsyCap has been shown to be positively associated with creative achievement (Sweetman et al., 2011).

Employees with higher levels of hope, characterised by both strong willpower and waypower, tend to invest more motivated effort and develop multiple pathways for achieving their goals (Snyder et al., 1991). This resourcefulness facilitates the mental strategies required for creative problem solving, thereby enhancing their potential for CP. An optimistic explanatory style further strengthens

creativity by helping employees perceive greater control over their outcomes (Sweetman et al., 2011). Optimism fosters a self-fulfilling process, where positive interpretations of situations lead to constructive behaviours and, ultimately, real achievements. Although direct empirical evidence linking optimism to creativity remains limited, theory suggests a strong connection through expectations: individuals who hold positive expectations of creative success are more likely to realise such outcomes (Sweetman et al., 2011). Because creativity often involves setbacks and frequent failure (Amabile & Pratt, 2016), self-efficacy plays a critical role. Individuals with higher self-efficacy are more willing to take on difficult and uncertain tasks, including creative endeavours. Their belief in their capabilities shapes activity choices and sustains persistence. Moreover, efficacious employees interpret challenges as opportunities for mastery, which not only fuels motivation but also stimulates innovative approaches to problem-solving (Sweetman et al., 2011). Finally, resilience provides the endurance to persist under pressure and adapt to setbacks. Since CP requires sustained effort in the face of uncertainty and change, resilience enables individuals to recover from difficulties, maintain their drive, and unlock their latent potential. In doing so, it serves as a crucial psychological resource for advancing creative pursuits (Sweetman et al., 2011).

Employees with higher levels of PsyCap are more likely to remain engaged and persistent throughout the creative process, even when confronted with uncertainty, risks, stress, or setbacks, factors that are not only common but often unavoidable in creative endeavours (Ghafoor & Haar, 2022; Kalyar et al., 2020; Wang et al., 2020). By sustaining effort under such conditions, PsyCap enables individuals to transform challenges into opportunities for novel idea generation and creative output.

The employee creativity process is a highly cognitive resource-consumption process (Zhou et al., 2022). PsyCap is a positive psychological state, acting as a positive internal resource for individuals (Zhao and Gao, 2014). Employees with sufficient resources will be less threatened by scarcity of resources, so they are more able to carry out their work with the resources they have (Zhou et al., 2022). Accordingly, employees with greater psychological resources might handle job stress better to enhance creativity (Ghafoor & Haar, 2022). Moreover, creativity requires employees to choose novel approaches, take risks, and fight against stereotypes. Employees with self-efficacy and optimism may feel more confident in making these kinds of decisions (Kwon & Kim, 2020).

As personal resources, PsyCap helps maintain employee engagement and positive outcomes, mitigating the impairment effects of job demands and leading to less burnout (Loghman et al., 2023; Van Steenbergen et al., 2018). Meta-analysis and systematic review have found that PsyCap has a positive influence on employee performance (Avey et al., 2011; Newman et al., 2014). Positive relationships have also been found between PsyCap (including its four components) and employee creativity (Sweetman et al., 2011). For example, empirical studies have found that PsyCap significantly and positively mediates the relationship between authentic leadership and creativity among Chinese nurses and Portuguese commerce organisations' employees (Rego et al., 2012; Zhang et al., 2024). Karatepe et al. (2024) found that leader PsyCap boost followers' CP in Korean hotel employees. Kalyar et al. (2020) conducted an empirical study among Pakistani nurses and found that employee PsyCap moderates the relationship between leader-member exchange, ethical leadership and employee creativity.

However, there is a lack of understanding about the contexts and mechanisms behind the relationships between PsyCap and employee creativity (Huang et al., 2025; Loghman et al., 2023; Lupsa et al., 2020). Specifically, how and when PsyCap promotes employee creativity under contextual factors is not clear. So, another objective of this study is to explore the underlying function mechanism of PsyCap on the relationship between contextual factors and employee creativity.

Gender Differences in Creativity

Research on gender differences in creativity suggests that the relationship between gender and creativity is complex and context-dependent. Early reviews concluded that there is relative equality in creative ability between men and women, particularly when creativity is measured using divergent thinking or standardised tests (Baer & Kaufman, 2008). This conclusion has been supported by subsequent theoretical reviews and meta-analyses, which show that average gender differences in creativity are generally small or trivial, reinforcing the argument that innate creative ability is broadly comparable across genders (Abraham, 2016; Taylor, 2026; Taylor et al., 2024).

Despite this apparent equality in creativity, a consistent gender difference persists in CP and real-world achievements. A large-scale meta-analysis found a small but significant male advantage in CP, while also highlighting substantial variability across contexts (Hora et al., 2022). Recent theoretical work further emphasises that women continue to be underrepresented among eminent creators across various domains, despite minimal differences in creative ability (Taylor, 2026). Creative potential alone is insufficient to generate creative outcomes; instead,

it must be realised through psychological mechanisms such as creative self-efficacy, which may vary by gender (He & Wong, 2021a).

An important explanation for these mixed findings is the greater male variability hypothesis, which proposes that males show more variation in creativity-related traits. Empirical studies conducted in Chinese contexts support this view. For example, He et al. (2013) found that males are overrepresented at both the high and low extremes of creativity distributions, despite relatively small mean differences. Similarly, He and Wong (2021a) demonstrated that men exhibit greater variance in both divergent thinking and creative problem-solving, indicating that gender differences may be more evident in distributional variability rather than average performance.

However, more recent meta-analytic evidence challenges the explanatory power of this perspective. A comprehensive meta-analysis found that both mean and variability differences in creative ability are minimal and inconsistent across contexts, suggesting that the greater male variability hypothesis alone cannot adequately explain the gender gap in creative achievement (Taylor et al., 2024). These findings indicate that focusing solely on ability or variability may obscure more fundamental mechanisms underlying gender differences in creativity.

Beyond ability and distributional differences, a growing body of research highlights the role of psychological mechanisms, particularly creative self-efficacy, in explaining gender differences in creativity. Evidence shows that men tend to report higher creative self-efficacy than women, although the effect sizes are generally small (He & Wong, 2021a). This is important because creative self-efficacy influences individuals' willingness to engage in creative tasks, persist in the face of challenges, and ultimately produce creative outcomes. Extending this line of

research, Hora et al. (2021) found that gender differences in CP are mediated by creative self-efficacy, and that supportive contextual factors, such as psychological safety, can reduce or even eliminate these differences. These findings align with the aforementioned view that gender differences in creativity are not fixed but are shaped by interactions between individual beliefs and contextual conditions.

Creativity is often implicitly associated with agentic and masculine traits, such as independence, assertiveness, and risk-taking, leading both men and women to attribute higher creativity to men (Taylor, 2026). These biases influence not only how creativity is evaluated externally but also how individuals perceive their own creative abilities. For example, Luo et al. (2023) found that associating creativity with masculine characteristics enhances male students' creative self-efficacy while undermining that of female students. Similarly, Li et al. (2024) showed that masculinity is positively related to creative self-perceptions and behaviours, whereas femininity may be negatively associated with creativity under challenging conditions. At the same time, research on gender roles suggests that individuals with androgynous characteristics, combining both masculine and feminine traits, tend to exhibit higher levels of creativity, likely due to greater cognitive flexibility (Stoltzfus et al., 2011). These findings suggest that gender differences in creativity are less about inherent ability and more about socially constructed role expectations and identity processes that shape how creativity is expressed and recognised.

At the organisational and societal levels, research further indicates that structural and contextual factors contribute to gender disparities in creativity. Women's underrepresentation in high-level creative achievement has been linked to limited access to resources, biased evaluation standards, and historical exclusion from creative domains (Matud et al., 2007; Taylor, 2026). The structural barriers,

including gender bias and unequal recognition, continue to constrain women's creative expression and achievement.

In sum, the literature indicates that gender differences in creativity are shaped by a combination of psychological mechanisms (e.g., self-efficacy), social expectations (e.g., gender stereotypes and role congruity), and contextual conditions (e.g., organisational climate and cultural norms). In line with the actor–context interplay perspective (Zhou & Hoever, 2014, 2023), gender can therefore be understood as a conditioning factor that influences how individuals mobilise their psychological resources in response to contextual job stressors. This perspective provides a strong theoretical foundation for this thesis to examine how gender, as a socio-cultural role, interacts with PsyCap to shape CP in organisational settings.

Theoretical Integration, Conceptual Frameworks, and Hypotheses of the Thesis

Integration of Theoretical Frameworks

This thesis adopts the actor–context interplay for creativity (Zhou & Hoever, 2014, 2023) as the overarching framework and draws on COR theory (Hobfoll, 1989) as the core theoretical lens. It further integrates the challenge-hindrance stressors framework and gender theories to explain how job stressors, psychological resources, and gender jointly shape employee CP.

COR theory emphasises that resources determine how people deal with the stressors, and resources do not operate in isolation; rather, they interact dynamically, such that changes in one resource may influence the availability or utilisation of others (Hobfoll et al., 2018; Hobfoll & Shirom, 2000b). The dynamic view of resources aligns closely with the actor–context interplay perspective, which highlights that creativity emerges from the interaction between individual

characteristics and contextual conditions (Woodman et al., 1993; Zhou & Hoever, 2014, 2023). Together, these perspectives provide a coherent foundation for understanding creativity as a contextually embedded and resource-dependent process.

At the contextual level, drawing on the challenge–hindrance stressor framework (Cavanaugh et al., 2000), this thesis focuses on two types of job stressors: TP and LRs. TP is conceptualised as a hindrance-type job stressor in this thesis, reflecting the perceived need to work at an accelerated pace or under insufficient time conditions (Prem et al., 2018). It is widely recognised as a critical contextual factor influencing creativity, often exerting complex, non-linear effects (Aleksic et al., 2017; Kubicek et al., 2023). In contrast, LRs represent a challenge-type job stressor in this thesis, involving the need to acquire new knowledge and skills to meet work requirements (Glaser et al., 2015; Meyer & Hünefeld, 2018; Prem et al., 2018). Although LRs consume cognitive resources and energy (Burmeister et al., 2022). It also facilitates skill development, personal growth, and enhanced confidence, thereby potentially fostering creativity (Prem et al., 2018). Consistent with COR theory, these stressors may either deplete or generate resources, depending on how they are experienced and managed.

From the actor's perspective, according to COR theory, individuals with greater personal resources are better equipped to cope with stress, sustain effort, and pursue goal attainment, whereas the threat or loss of such resources generates strain (Hobfoll et al., 2018; Hobfoll & Shirom, 2000b). In this thesis, PsyCap is conceptualised as a core personal resource. Consistent with COR theory, employees with higher PsyCap are expected to be more capable of mobilising resources to cope with job stressors and maintain creative engagement under pressure. Prior research

has consistently demonstrated a positive relationship between PsyCap and creativity (Avey et al., 2011; Ghafoor & Haar, 2022; Yu et al., 2019), supporting its role as a key enabling resource in the creative process.

Building on this foundation, the thesis further incorporates social role theory (Eagly, 1987) and role congruity theory (Eagly & Karau, 2002) to account for gender differences in the resource–creativity relationship. These theories suggest that socio-cultural expectations shape how individuals perceive and enact their roles, influencing both their access to resources and how they utilise them. In the context of creativity, gendered expectations may affect individuals' confidence, risk-taking behaviour, and willingness to express novel ideas (Luo et al., 2023; Taylor, 2026). Research also suggests that PsyCap may be shaped by social structures and power dynamics, leading to unequal distribution across genders (Doci et al., 2023; Islam & Zyphur, 2015). Empirical evidence indicates that males tend to report higher levels of certain PsyCap dimensions, such as self-efficacy and resilience (Jin et al., 2020; Ngo et al., 2014), which may influence how psychological resources translate into CP.

Altogether, this integrative framework positions CP as the outcome of dynamic interactions between contextual job stressors (TP and LRs), personal resources (PsyCap), and socio-cultural conditions (gender). By combining COR theory with the actor–context interplay perspective and gender-based theories, this thesis advances a more comprehensive understanding of how creativity is shaped in China's automotive organisation settings. Specifically, it highlights that the effects of job stressors on creativity are not uniform but depend on individuals' psychological resources, and the effects of psychological resources on creativity are contingent on socio-cultural context. This integrative approach enables the thesis to move beyond single-theory explanations and provides a multi-dimensional understanding of

creativity that captures the interplay between individual, contextual, and socio-cultural factors.

Theoretical Framework of Study One

For Study One, this research is grounded in the actor–context interplay perspective for creativity and COR theory. It aims to explore R&D employees' lived experiences of contextual job stressors, specifically TP and LRs, and to understand the psychological resources they mobilise to navigate these stressors and the adversities encountered during the creative process.

To achieve this aim, an interpretative phenomenological analysis (IPA) (Smith, 2011) approach is adopted. IPA is particularly suitable as it focuses on individuals' lived experiences and their meaning-making processes, integrating phenomenology, hermeneutics, and idiography (Smith, 2011). This enables an in-depth exploration of how employees interpret and respond to creative demands under varying contextual conditions.

Given the exploratory nature of Study One, the integration of the actor–context interplay perspective and COR theory provides a guiding theoretical lens rather than a fixed conceptual model. This framework sensitises the analysis by highlighting the dynamic interaction between contextual conditions and individual psychological resources, while allowing themes and relationships to emerge inductively from the data.

Accordingly, to address the thesis research question a), adopts an exploratory qualitative orientation, the study is guided by a theoretical framework to inform data collection and interpretation:

- *Actor–context interplay for creativity: Provides a guiding lens to explore what the employees' lived experiences are in confronting job stressors (e.g., TP and LRs) in the creative process, emphasising the dynamic interplay between individual characteristics and contextual factors.*
- *Conservation of Resources theory: Explores psychological resources that employees draw upon to cope with adversities and sustain creative engagement under stress. Highlighting how resource availability and mobilisation shape responses to demanding work environments.*

Conceptual Framework of Study Two

Building on the aforementioned review, Study Two draws on the COR theory and actor-context interplay for creativity, facilitated by the challenge-hindrance stressors framework, to examine the different effects of the context of job stressors on CP. Specifically, TP is conceptualised as a hindrance stressor, whereas LRs are conceptualised as a challenge stressor. These contextual factors are expected to interact with employees' personal resources, particularly PsyCap, in shaping CP through distinct mechanisms.

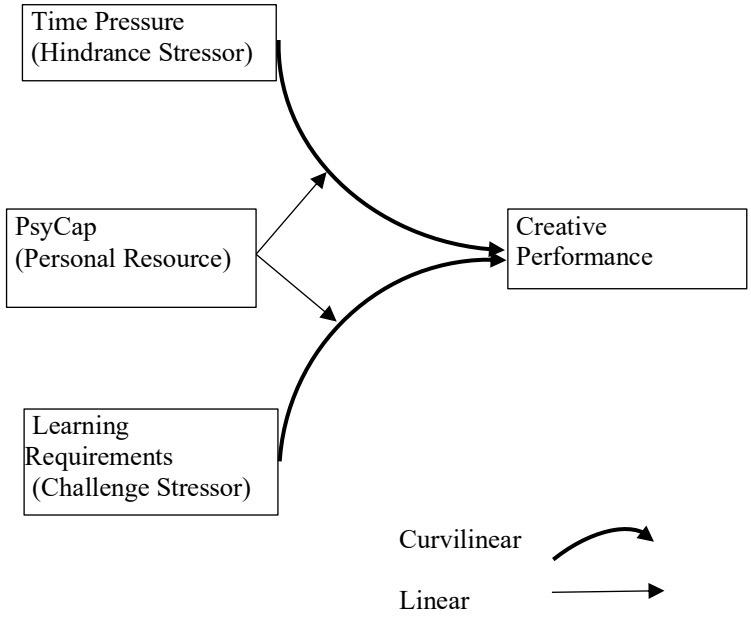
Consistent with Aleksic et al. (2017), this study proposed that TP exhibits a U-shaped relationship with CP. As hindrance stressors may constrain creativity by depleting cognitive and emotional resources (Song et al., 2024), whereby CP initially decreases at moderate levels of TP, but recovers at higher levels since it may stimulate adaptive responses and mobilise resources, in addition, the approaching of the deadline may trigger a heightened focus to engage in the creative task (Liu et al., 2017).

In contrast, LRs, as a challenge stressor, are expected to promote creativity by stimulating skill development and intrinsic motivation. However, excessive LRs may exceed individuals' capacity and lead to cognitive overload, thereby constraining CP. Thus, consistent with prior studies (Burmeister et al., 2022; Glaser et al., 2015; Mikkelsen & Olsen, 2019). LRs are proposed to demonstrate an inverted U-shaped relationship with CP.

Furthermore, COR theory suggests that personal resources enable individuals to cope with environmental demands, mitigate resource loss, and facilitate adaptive functioning (Halbesleben et al., 2014; Hobfoll et al., 2018). In this regard, PsyCap, as a key personal resource, is expected to play a moderating role by buffering the negative effects of job stressors and enhancing individuals' capacity to sustain creative engagement under pressure. Specifically, PsyCap is proposed to moderate both the U-shaped relationship between TP and CP and the inverted U-shaped relationship between LRs and CP. Accordingly, the conceptual framework of Study Two is constructed in Figure 1.

Figure 1

Conceptual Framework: The Moderating Role of PsyCap



Conceptual Framework of Study Three

In a similar vein, Study Three draws on the actor–context interplay for creativity and COR theory, facilitated by gender theories, to further examine the role of actor differences in shaping CP. Employees with higher levels of PsyCap, comprising hope, optimism, self-efficacy, and resilience, are expected to exhibit higher levels of CP, as these psychological resources facilitate adaptive responses, persistence, and goal-directed thinking in demanding work contexts (Grover et al., 2018; Jabeen et al., 2022; Schaufeli & Taris, 2014).

In addition, this study incorporates a gender perspective to examine boundary conditions of the PsyCap–CP relationship. Drawing on social role theory

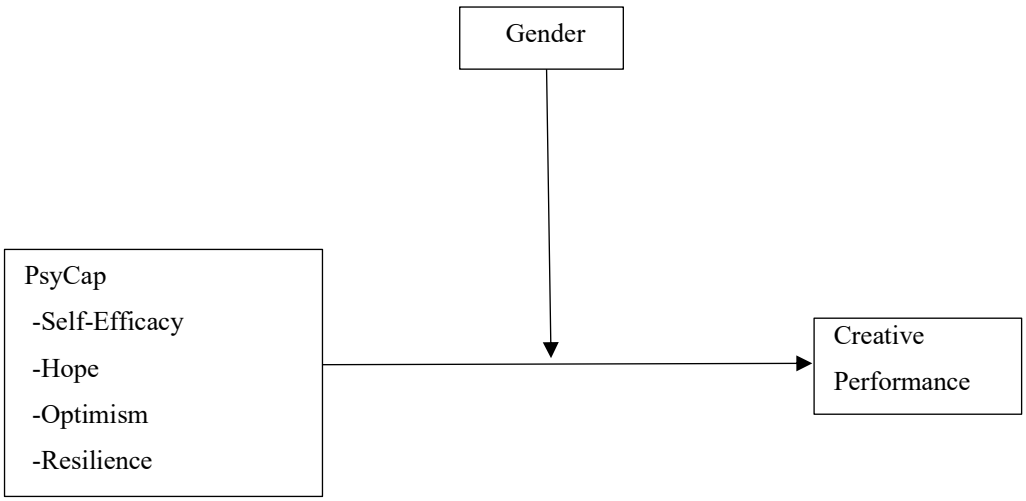
(Eagly, 1987) and role congruity theory (Eagly & Karau, 2002), gender is understood as a socio-cultural role that shapes behavioural expectations and evaluations. Creativity is often associated with agentic traits, which are more strongly aligned with traditional masculine roles.

As a result, individuals who engage in behaviours that deviate from gender role expectations, such as women displaying assertive or agentic forms of creativity, may experience social disapproval or reduced recognition (Hora et al., 2022; Kossek et al., 2017). This role incongruity may attenuate the extent to which psychological resources translate into observable CP.

Accordingly, it is proposed that gender moderates the relationship between PsyCap (and its four sub-dimensions) and CP, such that the positive effects of PsyCap on CP are stronger for males than for females (Doci et al., 2023), whose behaviours may align more closely with prevailing societal expectations associated with creativity. The conceptual framework of Study Three is presented in Figure 2.

Figure 2

Conceptual Framework: The Moderating Role of Gender



Overall Conceptual Framework of the Thesis

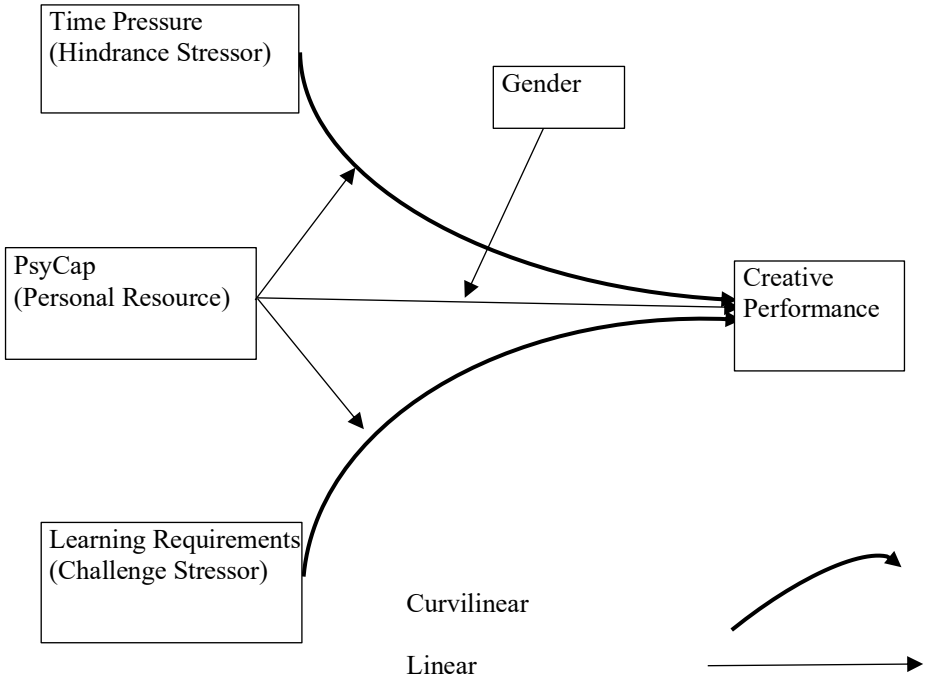
Drawing on the actor–context interplay perspective for creativity and COR theory, and further informed by the challenge–hindrance stressor framework and gender theories, this thesis develops an integrated conceptual framework to examine employee creativity. Specifically, the framework considers creativity as a product of the dynamic interaction between personal resources (i.e., PsyCap), job-related tasks (i.e., TP and LRs), and socio-cultural factors (i.e., gender).

In this framework, PsyCap is conceptualised as a core personal resource that shapes how employees respond to job stressors, while TP and LRs represent distinct types of task-related demands with differential effects on CP. Gender is incorporated as a socio-cultural boundary condition that may influence how the PsyCap–CP relationship unfolds. By integrating these perspectives, the thesis moves beyond single-factor explanations and highlights the interactive and context-dependent nature of creativity.

Overall, this integrated framework provides a comprehensive understanding of the antecedents of employee creativity and the underlying mechanisms through which personal, contextual, and socio-cultural factors jointly shape CP. Figure 3 illustrates the integrated conceptual framework of the thesis.

Figure 3

Integrated Conceptual Framework



Summary of the hypotheses

Building on the preceding literature review, theoretical framework, and conceptual framework, this thesis proposes a set of hypotheses to examine how job stressors, psychological capital, and gender jointly shape employee CP. The hypotheses are organised around the empirical studies conducted in this thesis. Specifically, Study Two examines the curvilinear effects of job stressors (TP and LRs) on CP and the moderating role of PsyCap, while Study Three examines the relationship between PsyCap, its four sub-dimensions, and CP, as well as the moderating role of gender.

Study Two:

H1: TP is expected to have a U-shaped curvilinear effect on CP, such that CP decreases at lower to medium levels of TP, but CP increases at medium to higher levels.

H2: LRs have an inverted U-shaped impact on CP, such that CP increases at lower to medium levels of LRs but decreases at medium to higher levels.

H3: PsyCap moderates the U-shaped TP-CP relationship

H4: PsyCap moderates the inverted U-shaped LRs-CP relationship

Study Three:

H1a: PsyCap is positively associated with employee CP

H1b: Hope is positively associated with employee CP

H1c: Resilience is positively associated with employee CP

H1d: Self-efficacy is positively associated with employee CP

H1e: Optimism is positively associated with employee CP

H2a: Gender moderates the relationship between PsycCap and employee CP, such that the relationships are stronger for males than females.

H2b: Gender moderates the relationship between hope and employee CP, such that the relationships are stronger for males than females.

H2c: Gender moderates the relationship between resilience and employee CP, such that the relationships are stronger for males than females.

H2d: Gender moderates the relationship between self-efficacy and employee CP, such that the relationships are stronger for males than females.

H2e: Gender moderates the relationship between optimism and employee CP, such that the relationships are stronger for males than females.

Together, these hypotheses provide the conceptual basis for quantitative empirical studies that examine the proposed relationships among job stressors (TP, LRs), PsyCap (including its four sub-dimensions), gender, and CP.

Chapter Summary

This chapter provided a comprehensive review of the literature relevant to the focus of this thesis and established the theoretical and conceptual foundations for the empirical studies. It began by introducing the actor–context interplay perspective for creativity as the overarching framework. Building on this, COR was introduced as the core theoretical lens. The integration of these perspectives provided a coherent foundation for understanding how contextual job stressors and personal resources jointly shape CP. The chapter then reviewed the thesis's core constructs. It first reviewed the development of creativity research and synthesised various definitions of creativity, followed by the introduction of CP. Subsequently, the concept of job stressors was discussed, with particular attention to TP and LRs. Drawing on the challenge–hindrance stressor framework, TP and LRs were conceptualised as distinct types of stressors with potentially different effects on creativity. The chapter further introduced PsyCap as a key personal resource. In addition, gender was introduced as an important boundary condition, shaping how psychological resources are translated into CP. Finally, the chapter integrated the theoretical perspectives and developed the study-specific theoretical and conceptual frameworks. It concluded by presenting the overall integrated theoretical framework of the thesis and the conceptual framework for each study, which guides the subsequent empirical investigations.

Chapter Three: Methods

Chapter Overview

This chapter outlines the methodological foundations and research design underpinning the thesis. It begins by presenting the underpinning philosophies and the integrative logic that connects the three empirical studies that form this thesis. Specifically, the chapter clarifies the philosophical positioning of the research, explains the rationale for adopting a mixed methods design, justifies the sequential structure of the studies, provides an overview of the empirical approaches, and outlines the shared ethical principles applied throughout the research. The study-specific methodological procedures, including sampling strategies, measures, data analytic approaches, and validity considerations, are then presented in the subsequent empirical chapters (4, 5, 6).

Philosophical Positioning: A Pragmatic Interactionist Orientation

This thesis adopts a pragmatic interactionist orientation to research, consistent with contemporary scholarship on workplace creativity. Creativity is conceptualised as a contextually embedded and processual phenomenon, emerging from the dynamic interaction between individuals' psychological resources and their work environments. This orientation acknowledges the significance of both psychological and social realities, including cultural, institutional, and subjective dimensions (Allemang et al., 2022).

Rather than committing to a single epistemological paradigm, the research is guided by a problem-centred logic to address the issues at hand, which require multipronged approaches (Allemang et al., 2022). Methods are selected based on

their suitability for addressing specific research questions rather than adherence to philosophical purity. This position aligns with the actor–context interplay perspective (Woodman et al., 1993; Zhou & Hoever, 2014, 2023), which views creativity as neither purely subjective nor purely objective, but as a phenomenon constituted through ongoing interaction between actors and contextual conditions.

Accordingly, where the research seeks to understand how employees experience and interpret creativity under constraint, an interpretative qualitative approach (IPA) (Smith, 2011) is employed. Where the research seeks to test relationships such as boundary conditions and explanatory mechanisms, quantitative approaches are adopted (Bryman, 2016; Creswell & Creswell, 2017). This positioning provides a coherent philosophical foundation for integrating qualitative and quantitative methods within a single research programme.

Research Design: A Mixed Methods Approach

The gaps identified in the literature indicate that a qualitative method may enrich the creative study by exploring insights into how employees interpret, respond to, and cope with challenges during the creative process. Quantitative methods may help to unravel the intricate effects of the interplay between the actor and context on creativity.

To achieve this goal, the thesis adopted a sequential mixed methods research design (Stoecker & Avila, 2021) in which studies are conducted in a theoretically intentional order. This sequencing enables the progressive development of theory and the empirical refinement. The mixed methods design is epistemically complementary: insights generated in the qualitative study inform model

development in the quantitative studies, which in turn provide generalisable evidence regarding the conditions under which creativity can be sustained.

Study One is exploratory and qualitative, designed to uncover employees' lived experiences during the creative process under job stressors, with the aim of uncovering the psychological mechanisms and processes underlying creative engagement. The insights generated from this exploratory investigation provided the empirical foundation for developing the theoretical models examined in the subsequent quantitative Study Two and Study Three.

Study Two builds on these insights by quantitatively testing relationships between job stressors and CP, incorporating PsyCap as a moderating resource and modelling curvilinear effects. Grounded in the framework of actor–context interplay for creativity, COR theory, and the challenge–hindrance stressors framework, study two links contextual job stressors with personal psychological strengths, particularly PsyCap, in shaping employee CP. This model provided a theoretical structure for examining how contextual demands and individual psychological resources jointly shape creativity.

Study Three extends this work by examining whether the PsyCap–creativity relationship is contingent on gender, which is conceptualised as a socio-cultural boundary condition rather than a demographic control. Drawing on the framework of actor-context interplay for creativity, COR theory, and gender theories, this study examined how gendered expectations and organisational contexts may shape the mobilisation of psychological resources in the creative process. In doing so, the study provided deeper insights into the boundary conditions under which personal resources of PsyCap and its sub-dimensions transform into employee creativity.

Overview of the Empirical Studies

Study One

Creativity research benefits from the integration of both qualitative and quantitative methodologies grounded in strong theoretical foundations (Glăveanu, 2020). However, most existing research that has investigated the relationship between actors and contexts in relation to creativity has relied predominantly on quantitative methods, and the empirical findings remain notably inconsistent (Adler & Koch, 2017; Glaser et al., 2015; Mikkelsen & Olsen, 2019; Zhang et al., 2023b; Zhou et al., 2024). This highlights the value of adopting a qualitative perspective, which may offer a complementary lens through which to explore the subjective experiences and contextual dynamics underlying this complex relationship. Accordingly, Study One adopted the qualitative research method.

While much of the creativity literature has traditionally relied on quantitative methods to test causal relationships (Katz-Buonincontro & Anderson, 2020; Long, 2014), qualitative approaches offer distinctive advantages for capturing the dynamic, processual, and socially embedded nature of creativity. It is good to use qualitative methods for the creative process since they include the intrinsic social interactions in the organisation, in which individuals interact with each other (Katz-Buonincontro & Anderson, 2020). With its exploratory nature, qualitative research is a good selection which helps researchers understand motivations, expectations, processes and rationale behind employees' behaviour (Trivedi & Chan, 2023).

Although quantification serves an important purpose, a comprehensive understanding of creativity necessitates qualitative inquiry into individuals' lived experiences, interpretations, and meaning-making processes during creative

engagement (Glaveanu et al., 2020). As creativity in organisations emerges through interactions among individuals, teams, and contextual factors, there is a call for more qualitative studies to discover more hidden actors and contextual factors on creativity (Zhou & Hoever, 2023), since qualitative methods are uniquely capable of capturing these subtle, context-dependent, and process-oriented dynamics (Katz-Buonincontro & Anderson, 2020).

Interpretative Phenomenological Analysis (IPA) (Eatough & Smith, 2017; Smith, 2011) was adopted in this study to gain deep and nuanced insights into the experiences of participants in the organisations (Tuffour, 2017). According to Smith and Fieldsend (2021, p. 37), "The researcher is trying to make sense of the participants, who are trying to make sense of their world". It can illustrate the diversity and variability of human experiences while also highlighting the shared experiences among participants (Eatough & Smith, 2017).

IPA offers a systematic approach to exploring and interpreting individuals' lived experiences of the phenomena of interest (Eatough & Smith, 2017). It emphasises how participants make sense of and assign meaning to their experiences (Pietkiewicz & Smith, 2014). As a qualitative methodology, IPA has gained prominence across various fields of psychology in recent years for its capacity for in-depth exploration (Pietkiewicz & Smith, 2014). It focuses on three interrelated theoretical foundations: phenomenology, which seeks to understand experiences as they are lived; hermeneutics, which emphasises the interpretative process; and idiography, which emphasises the detailed examination of individual cases (Smith, 2011). From this perspective, the present study aimed to shed light on the nuanced and complex realities of R&D employees' creative journeys.

Phenomenology provides a foundation for examining and understanding individual lived experiences and how people make sense of the world (Eatough & Smith, 2017). It aims to identify the essential components of phenomena or experiences that make them unique or distinguishable from others. Phenomenologists seek to determine the fundamental elements that make a given phenomenon unique (Husserl et al., 2013).

Hermeneutics is more about the theory of interpretation, aiming to uncover the intentions and meanings embedded within those experiences (Schleiermacher, 1998). To understand one's experience of the world, IPA researchers must stand in the shoes of their subjects as much as possible to comprehend their language and translate their message to understand their minds and make sense of their subjective experiences (Spiers & Smith, 2019).

Idiography is concerned with the particular and is committed to understanding how specific phenomena affect particular individuals within a specific context (Pietkiewicz & Smith, 2014). This approach involves a detailed analysis of individual cases, considering each participant's unique perspectives within their specific context. The core of the idiographic method is to thoroughly examine each case before making generalisations. This differs from the nomothetic principles in most empirical psychology research, which studies groups to estimate the likelihood of phenomena under certain conditions. IPA prioritises idiography, focusing on the particular, rather than the universal (Eatough & Smith, 2017). Consequently, researchers can derive precise conclusions about participants because the analysis is based on in-depth case studies (Pietkiewicz & Smith, 2014; Smith & Fieldsend, 2021; Smith et al., 2021).

Grounded in the theoretical framework of the actor–context interplay for creativity and COR theory, the IPA approach helped develop an in-depth understanding of how individuals experience and make sense of job stressors during the creative process. Specifically, it explored how employees interpret and respond to job stressors, and the individual resources they mobilised to cope with adversity in high-stress, demanding work environments. In doing so, the study sought to illuminate how creativity unfolds within real-world organisational settings through the interplay between actors and contexts.

Semi-structured interviews were conducted with 13 R&D employees from China's automotive industry to explore their authentic insights, unspoken reflections, and coping experiences throughout the creative process. By employing a qualitative lens, which remains comparatively underutilised in studies of R&D employees' creativity development, this research advanced a contextually grounded and psychologically rich understanding of how individuals perceive, experience, and respond to creative challenges.

IPA was chosen over other qualitative approaches because of its strong focus on individuals' lived experiences and meaning-making processes (Spiers & Smith, 2019). Unlike grounded theory, which seeks to generate generalisable theoretical models (Creswell & Creswell, 2017), IPA prioritises idiographic and in-depth exploration of participants' subjective experiences. Compared with thematic analysis (Attride-Stirling, 2001), IPA offers a more interpretative and theoretically informed approach. This is especially relevant in the context of the Chinese automotive industry, where employees' experiences of TP, LRs, and adversity are shaped by complex individual and socio-cultural dynamics.

Study Two

Study Two quantitatively examined curvilinear stressor–creativity relationships and the moderating role of PsyCap using multi-wave survey data. This structured approach enables the systematic collection of data from a large sample, ensuring the reliability and validity of the measurements. The quantitative data were subsequently analysed to examine the relationships and potential causal pathways among these constructs. Specifically, the analysis investigated how contextual constraint job stressors (TP and LRs) influence employees' creativity under varying levels of the personal factor of PsyCap. In doing so, this study provides robust empirical evidence that supports and extends the theoretical propositions developed in the conceptual framework.

Study Three

Study Three also adopted a quantitative design to further investigate whether gender conditions the PsyCap–creative performance relationship. Questionnaires were used to measure key constructs, including PsyCap and its four sub-dimensions, creative self-efficacy, gender, and creative performance. This approach enables the systematic collection of data suitable for advanced statistical analysis. The analysis focuses on the interaction effects between PsyCap and gender in predicting CP. Drawing on actor-contex interplay for creativity, COR theory, and gender theories, this study aims to clarify how gender conditions the relationship between psychological resources and creativity. In doing so, it identifies the boundary conditions under which PsyCap translates into CP within organisational settings. Table 2 summarises the three studies.

Table 2

Summary of Methodological Approaches

Study	Purpose	Methodology	Key Focus
Study 1	Explore lived experiences of creativity under constraint	Qualitative (IPA)	TP, LRs, psychological strengths, creativity
Study 2	Test curvilinear stressor–creativity relationships	Quantitative	TP & LRs → CP, moderated by PsyCap
Study 3	Examine gender as a boundary condition	Quantitative	PsyCap → CP, moderated by gender

Note. TP = time pressure; LRs = learning requirements; CP = creative performance, IPA = interpretative phenomenological analysis

Ethics Considerations

Ethical considerations were central to all stages of this research. Ethical approvals were obtained prior to data collection for both qualitative and quantitative studies in accordance with the requirements of the University of Nottingham Malaysia (FASS2024_0006/DOAP/HSG20598371; FASS2024_0011/IWOW/HSG20598371). Across all studies, the following principles were consistently upheld: informed consent, voluntary participation, confidentiality and anonymity, and participant well-being. Particular attention was paid to emotional sensitivity in the qualitative study, given discussions of stress, failure, and adversity. All participants were provided with an invitation letter and an accompanying informed consent form outlining the purpose of the research, the procedures involved, and their rights as participants. The letter explicitly stated how data would be collected, handled and stored. For example, participants of the qualitative phase were told that the interviews would be audio-recorded, transcribed verbatim, and anonymised to ensure confidentiality. Participants were given detailed assurances regarding data

privacy and confidentiality, and the procedures the researcher will undertake for secure data storage and protection. Interviewees were provided with a written hard copy of the consent form, and all participants signed it. Survey participants were asked to give consent electronically.

Chapter Summary

This chapter has outlined the methodological architecture of the thesis, including its philosophical orientation, rationale for the mixed method approach, the overview of the sequential research design, and ethical foundations. These elements collectively established a rigorous methodological foundation for the empirical investigations presented in later chapters

Chapter Four: Study One – Thriving or Struggling? R&D Employees' Experiences with Time Pressure, Learning Requirements, and Adversities in the Creative Process

Chapter Overview

This chapter presents Study One, the first empirical study of the thesis. It begins by outlining the research background and the key challenges faced by R&D employees, before articulating the study's central focus. The chapter then reviews the literature on creativity, with particular attention to the actor-context and resource-based perspective. This is followed by a review of the job stressor literature, focusing on TP and LRs. Building on these discussions, the chapter provides the rationale for exploring R&D employees' lived experiences of TP, LRs and adversity during the creative process. It subsequently describes the research design, data collection, and data analysis procedures. The findings section presents the superordinate themes and sub-themes identified from the analysis, together with additional observations emerging from the study. Finally, the chapter concludes with a discussion of the findings.

Introduction

China's dual-carbon policy has accelerated the nationwide sustainability-focused industrial transformation. The automotive market in China is rapidly transitioning from internal combustion engine vehicles (ICEVs) to new energy vehicles (NEVs) (Zhu, 2025). In 2013, China sold merely 18 K NEVs. By 2023, it had skyrocketed to 9495 K units, achieving an average annual growth rate of over 50% (Zeng et al.,

2025). The government's policy shift towards sustainability has redefined the competitive landscape of the automotive industry.

At the centre of this transformation are research and development (R&D) employees, who are key enablers of creativity and technological renewal (Khedhaouria et al., 2017). They operate in environments marked by rapid technological advancement, compressed development cycles, and frequent product iterations (Hu & Yuan, 2018), all of which demand constant learning and adaptation. Consequently, R&D professionals face intensified job stressors and heightened performance expectations as organisations race to maintain their competitive edge in the evolving NEV market (Khedhaouria et al., 2017; Quan et al., 2018). The pace and magnitude of change place tremendous cognitive and emotional demands on these employees, making their psychological resources and adaptive capacities critical determinants of both individual and organisational success.

As organisations often pursue creativity under time constraints, R&D employees must not only master emerging technologies but also continuously generate and implement novel ideas (Khedhaouria et al., 2017). Moreover, they frequently face setbacks and failures during the creative process (Amabile & Pratt, 2016). The requirements place them in conditions that may exhaust their mental and emotional resources. Understanding their real experiences and reflections on the job stressors and how they cope with adversities may provide organisations with better guidance to build an environment that mitigates the negative influence and enhances creativity. Such knowledge can help leaders cultivate work environments that not only buffer the negative effects of high demands but also foster sustained creativity and innovation.

It is essential to explore employees' creative journeys across diverse contexts and populations to capture the full complexity of workplace creativity (Walia, 2019). However, most existing studies have primarily focused on identifying individual or contextual factors that stimulate or hinder creativity and on explaining the mechanisms linking them. These investigations often adopt an observer-centric perspective, analysing employees' behaviours or cognitions from an external viewpoint rather than from the employees' own lived experiences. Consequently, limited attention has been given to understanding how employees themselves perceive, interpret, and emotionally navigate the pressures and demands embedded in the creative process (Elisondo, 2016; Glăveanu, 2020), particularly under demanding conditions.

The actor–context interplay perspective integrates both actor (e.g., employees) and context (e.g., demanding conditions) to study creativity (Woodman et al., 1993; Zhou & Hoever, 2014, 2023). In this framework, "actor" refers to the person or team engaging in creativity, including characteristics such as knowledge, skills, abilities, personality, affective states, and motivation, whereas "context" refers to the external task and social environment, including job characteristics, leadership, coworker relationships, organisational culture, policies, and structure (Zhou & Hoever, 2023). This perspective is particularly useful because it explains why the same demanding condition may facilitate creativity for some employees but suppress it for others, depending on their internal resources. The COR theory (Hobfoll, 1989) complements the actor–context interplay approach by providing a resource-based explanation of how employees sustain creativity under demanding conditions. COR theory proposes that individuals strive to obtain, protect, and build valued resources (Hobfoll, 1989), and that stress emerges when these resources are

threatened, lost, or insufficient to meet situational demands (Hobfoll et al., 2018; Hobfoll & Shirom, 2000b). Applied to creativity, this perspective suggests that employees are more likely to sustain creative effort when they possess resources that support flexibility (Parker et al., 2006), confidence (Snyder & Lopez, 2001; Sweetman et al., 2011), and recovery from setbacks (Masten & Reed, 2002), In this sense, creativity can be viewed as a resource-dependent process under uncertain and adverse conditions.

Despite the richness of the creativity literature, an important gap remains regarding qualitative inquiry. Much of the field has developed through quantitative studies. Zhou and Hoever (2014) explicitly noted that narrative reviews have been important for integration. They argued that the field needs a more nuanced understanding of how actor and context jointly shape creativity (Zhou & Hoever, 2014). Later, they reiterated this point by calling for the discovery of "hidden" actor and contextual factors and for broader, deeper theorising about the nature of creativity-supportive and creativity-inhibiting conditions (Zhou & Hoever, 2023).

Research on employees' genuine insights and unspoken reflections during the creative process remains scarce, leaving the employees' true insights and unspoken reflections unaddressed (De Rooij, 2023; Glaveanu et al., 2020). A gap remains in understanding the genuine insights and unspoken reflections of R&D employees when facing adversities. This gap is theoretically and methodologically important. This is precisely where qualitative research can make an important contribution. If creativity is dynamic, context-dependent, and shaped by how employees interpret their environments, then qualitative inquiry is particularly well suited to examining the lived experiences and meaning-making processes (Smith, 2011) underlying creative engagement.

The automotive industry operates in a highly competitive and rapidly evolving environment characterised by continuous technological advancement, cost pressures, and shortened product development cycles (Liu et al., 2023b; Zhang, 2015). Such an environment often intensifies work processes, increases performance monitoring, and imposes tighter deadlines on employees (Zhang, 2015). At the same time, the growing integration of advanced technologies, including digitalisation and artificial intelligence, has further accelerated the pace of change, requiring employees to continuously adapt to new tools, processes, and knowledge domains (Khushk et al., 2026).

Within such environments, job stressors emerge as key features of the workplace. Job stressors are typically defined as aspects of the work environment that place demands on employees and may lead to strain reactions (Cavanaugh et al., 2000; Sonnentag & Fritz, 2015). Empirical evidence from the automotive sector shows that employees are frequently exposed to multiple stressors, including high workload, tight pace, job insecurity, and limited job control (Bahrami Azar et al., 2023; Ryou et al., 2009). These stressors have been linked to adverse outcomes such as increased anxiety, depression, reduced job satisfaction, and impaired well-being (Eftekhari et al., 2025).

R&D employees represent a distinctive group within the automotive industry, as their work is inherently knowledge-intensive, innovation-driven, and characterised by high levels of uncertainty. R&D activities require employees to engage in complex cognitive processes, including problem identification, information search, and idea generation, all of which are essential for innovation (Chang et al., 2023). However, these processes often take place under significant job stressors. Among these, TP is particularly salient. TP arises when employees must

complete tasks within constrained timeframes and has been shown to influence creativity by limiting the time available for deep cognitive processing (Hsu & Fan, 2008). In addition, R&D employees frequently experience pressures stemming from tight deadlines, continuous technological updates, and expectations for novelty (Hsu & Fan, 2008; Zhang et al., 2023b). The rapid pace of technological change in the automotive industry, particularly with the adoption of AI and digital technologies, requires employees to continuously update their knowledge and acquire new skills (Khushk et al., 2026). As a result, R&D employees often face simultaneous TP to deliver creative outcomes while continuously adapting to new knowledge domains (Chang et al., 2023; Lee & Walsh, 2016).

Furthermore, the creative process in R&D work is inherently uncertain and iterative, often involving repeated setbacks and failures (Amabile & Pratt, 2016; Shalley et al., 2004). Evidence from studies suggests that employees frequently encounter demanding situations that require the mobilisation of cognitive, emotional, and behavioural coping strategies (Modranský et al., 2020).

However, little is known about how R&D employees make sense of these experiences internally, how they draw upon psychological resources to cope with setbacks and failures, and how these experiences influence their sense of meaning and motivation throughout the creative journey. Guided by the research gaps and corresponding to the thesis *research question a): How do employees experience creativity in the Chinese automotive industry under job stressors of time pressure and learning requirements, and what psychological resources enable them to sustain creative engagement?* The following research questions are proposed for Study One:

RQ1: How do R&D employees experience and interpret the impact of time pressure and learning requirements during the idea generation process?

RQ2: What are R&D employees' experiences and feelings when they encounter a series of setbacks or failures during the idea implementation process?

To address the research questions, a qualitative approach is adopted. Qualitative inquiry is particularly suited to exploring and interpreting the meanings that individuals or groups ascribe to their experiences of social and organisational phenomena. It involves the systematic development of interview protocols, the collection and interpretation of textual data, and the construction of rich, contextualised insights (Creswell & Creswell, 2017). Guided by the process flow of the dynamic componential model of creativity and innovation (Amabile & Pratt, 2016), this study focuses on the stages of idea generation and idea implementation at the individual level.

Given its exploratory nature, qualitative research is especially valuable for uncovering the motivations, expectations, and sense-making processes underlying employees' creative behaviour (Katz-Buonincontro & Anderson, 2020; Trivedi & Chan, 2023). Within this framework, semi-structured interviews serve as a powerful tool for eliciting in-depth and often latent insights that may not surface through structured surveys. Interviews allow for clarification, elaboration, and reflection, enabling researchers to understand not only what employees do in creative processes but also why they do it, the experiences, interpretations, and emotions that accompany their actions (Robinson, 2023). Furthermore, qualitative inquiry aligns closely with process-oriented research questions and interpretivist ontological assumptions, providing an avenue to capture the fluid, evolving, and relational aspects of organisational life (Langley et al., 2013).

This study not only broadens the predominantly quantitative tradition in creativity research (Long, 2014) but also contributes novel theoretical insights by revealing the dynamic interplay between personal psychological resources and contextual demands in high-pressure innovation environments. The findings illuminate how employees make sense of TP, LRs, and how they cope with adversities during the creative process, thus offering practical implications for managers and organisations seeking to design environments that support creativity. In doing so, this work bridges the gap between theory and practice, enhancing both scholarly understanding and organisational application in the context of industrial transformation. Such insights can guide organisations in formulating strategies that not only foster creativity but also ensure that employees are well-positioned to thrive in increasingly competitive environments (Song et al., 2023; Zhang et al., 2023b).

Literature Review

Creativity

Creativity has long been regarded as a vital capability in organisations because it generates the novel and useful ideas that underpin innovation, adaptation, and long-term competitiveness (Shalley et al., 2004; Woodman et al., 1993; Zhou & Hoever, 2014). In the workplace, creativity is the production of new and useful ideas, products, processes, or other outcomes by an individual or small group within a work environment (Amabile & Pratt, 2016; Harvey & Berry, 2023; Klijn & Tomic, 2010). This emphasis on novelty and usefulness has become the dominant conceptualisation in organisational research, where creativity is often treated as the first and crucial stage of innovation, even though innovation additionally involves

the implementation of ideas (Acar et al., 2019; Shalley et al., 2004; Zhou & Hoever, 2014).

A number of influential reviews have shaped the modern understanding of workplace creativity. A foundational contribution is the interactionist perspective for creativity (Woodman et al., 1993; Woodman & Schoenfeldt, 1990), which conceptualises creativity as the generation of novel and useful ideas, products, or processes by individuals operating within a complex social system. This work shifted the focus away from purely individual explanations towards an integrated perspective where creativity emerges through the interaction of person, process, product, and context (Woodman et al., 1993; Woodman & Schoenfeldt, 1990). Building on this foundation, Shalley et al. (2004) reviewed empirical research on the personal and contextual antecedents of employee creativity, highlighting its importance for organisational innovation, effectiveness, and survival, while identifying key gaps in understanding the conditions that facilitate or constrain creativity. Extending this line of work, Zhou and Hoever (2014, 2023) argued that prior research relying on either actor-centred or context-centred approaches offers limited explanatory power. Instead, they emphasised the value of an interactionist perspective that focuses on actor–context interplay as a more comprehensive framework for understanding workplace creativity.

Amabile and Pratt (2016) updated the dynamic componential model of creativity and innovation in organisations by highlighting the dynamic psychological processes involved in creativity, as well as the work environment influences that shape them. Their revised model highlights meaningfulness, emotion, progress in developing creative ideas, and motivation as key aspects of creative engagement, demonstrating that creativity develops over time through an ongoing interaction

between individuals and their work environments (Amabile & Pratt, 2016). In a different but complementary way, Acar et al. (2019) showed that constraints such as deadlines, rules, regulations, and limited resources may either hinder or promote creativity depending on the motivational, cognitive, and social mechanisms they evoke. Together, these reviews show that creativity research has evolved into a rich yet increasingly complex field, characterised by conceptual diversification and a growing recognition of contextual and dynamic influences (Acar et al., 2019; Amabile & Pratt, 2016).

A major contribution of Zhou and Hoever (2014) was the development of a typology of actor–context interactions. They proposed that the joint effects of actor and context are not uniform but may take multiple forms, including synergistic, antagonistic, inhibitory, remedial, configurational, diminishing gains, and diminishing losses (Zhou & Hoever, 2014). This typology was later revisited and extended by Zhou and Hoever (2023), who argued that the field had progressed substantially but still required deeper conceptual development and broader exploration of hidden actor and contextual factors. The value of this typology lies in its ability to explain why prior findings are often heterogeneous: creativity-supportive actor characteristics may be strengthened by supportive contexts, weakened by unsupportive ones, or even compensated for by favourable contextual conditions. In other words, creativity is best understood not as a linear outcome of isolated variables but as the result of dynamic, non-additive interplay between actors and contexts (Zhou & Hoever, 2014, 2023).

This interactionist lens is particularly relevant when creativity is examined under demanding work conditions. Acar et al. (2019) demonstrated that constraints are not merely barriers to creativity; rather, their effects depend on the mechanisms

through which they influence motivation, cognition, and social interaction. This insight is highly relevant to job stressors such as TP and LRs, because it suggests that demanding contextual conditions may either undermine or stimulate creativity depending on how individuals interpret and respond to them. Likewise, Amabile and Pratt (2016) indicates that work environments shape creativity not only through structural conditions but also through their effects on affect, meaning, and the experience of progress. These arguments suggest that workplace creativity should be understood as a dynamic process unfolding within real organisational settings, where employees continuously interpret and respond to contextual demands.

This resource-based interpretation aligns with the study of Sweetman et al. (2011); Yu et al. (2019), which showed that PsyCap (comprising hope, efficacy, optimism, and resilience) predicts CP. Their findings suggest that creativity requires perseverance, adaptive coping, and confidence in one's capacity to continue despite obstacles (Sweetman et al., 2011; Yu et al., 2019). Such a view is also compatible with Amabile and Pratt (2016), who argues the importance of affect, meaningfulness, and progress, as well as with actor–context interplay perspective, suggesting that supportive contexts may enable those with weaker personal resources, whereas unsupportive contexts may suppress even those with strong creative potential (Amabile & Pratt, 2016; Zhou & Hoever, 2014, 2023). From a COR perspective (Hobfoll & Shirom, 2000b), creativity depends not only on whether employees face favourable or unfavourable conditions, but also on whether they have sufficient psychological resources to cope with and respond to those conditions productively.

Taken together, the actor–context interplay for creativity and the COR theory lens provide a strong basis for examining creativity in demanding work

environments. The actor–context interplay for creativity clarifies that creativity emerges through the interplay between employees and the situations in which they work, whereas COR theory helps explain why some employees are better able than others to remain creatively engaged under pressure, uncertainty, and adversity. It also helps explain why previous empirical findings on the antecedents of creativity are often inconsistent (Acar et al., 2019; Woodman et al., 1993; Zhou & Hoever, 2014, 2023): the same contextual condition may operate differently depending on employees' available resources, and the same personal strengths may yield different outcomes across contexts.

Job Stressors in the Automotive Industry

The contemporary automotive industry increasingly relies on flexible operations, lean production systems, and continuous improvement to meet market demands, resulting in intensified work pace and tighter production schedules (Solke et al., 2022; Zhang, 2015). At the same time, the transition from ICEVs to NEVs and the integration of advanced technologies such as artificial intelligence (AI) and digital systems have transformed work processes, requiring employees to continuously update their skills and adapt to evolving job requirements (Khushk et al., 2026; Zhang & Qin, 2018; Zhu, 2025). Within this context, job stressors have become a salient feature of the automotive workplace (Hu & Yuan, 2018; Liu et al., 2023b; Quan et al., 2018).

Job stressors in the automotive industry are multifaceted, encompassing physical, psychological, and organisational demands (Bahrami Azar et al., 2023; Chenarboo et al., 2022). Empirical evidence shows that workers in automotive production environments are frequently exposed to high workloads, demanding

schedules, and physically demanding tasks. For instance, working conditions such as workload, job timing, and physical demands significantly influence stress levels and worker performance in automotive manufacturing systems (Omair et al., 2019). Organisational factors such as safety culture also play a significant role in shaping stress experiences. A strong safety culture is associated with reduced stress and improved job satisfaction (Bahrami Azar et al., 2023). Zhu (2025) highlighted the importance of technological innovation stress in the NEV industry in driving product performance improvement and cost optimisation. Ryou et al. (2009) revealed the importance of reducing job insecurity, psychological job demand in mitigating depression and anxiety of R&D employees. An empirical study of automotive workers shows high prevalence rates of burnout, anxiety, and depression, often linked to production pressure, shift work, and job insecurity (García et al., 2026). The evidence suggests that job stressors in the automotive industry are embedded not only in task demands but also in broader organisational systems.

The automotive industry represents a highly demanding context in which job stressors are intensified due to rapid technological change, global competition, and compressed product development cycles. Employees are required to continuously adapt to evolving technologies while maintaining high levels of productivity and innovation.

Overall, the literature suggests that job stressors in the automotive industry are complex and interrelated. These stressors not only affect employee health and safety but also influence performance, innovation, and engagement. Despite prominent evidence on the prevalence and consequences of these stressors, limited research has examined how employees, particularly those in knowledge-intensive

roles such as R&D, subjectively experience and interpret these stressors during the creative process. As aforementioned (see Chapter One), TP and LRs are two common stressors in China's automotive industry (Liu et al., 2023b; Zhang, 2015). This study specifically investigates how TP and LRs affect employee creativity during the rapid transition from ICEVs to NEVs.

Time Pressure and Creativity in the Chinese Context

Emerging research emphasises that the effects of TP are contingent upon both individual and contextual factors. For instance, personal characteristics and the temporal dynamics of TP can shape whether it enhances or constrains creativity (Bormann, 2020). Similarly, psychological resources such as self-efficacy may buffer the negative effects of TP, enabling individuals to sustain performance under demanding conditions (Cifuentes-Férez et al., 2024). These findings suggest that TP does not exert a uniform effect on creativity; rather, its influence depends on how individuals interpret and respond to it within specific contexts.

Within the Chinese organisational context, TP has become an increasingly salient feature of employees' work experiences, particularly in knowledge-intensive and innovation-driven environments. Rapid economic development, intensified competition, and compressed innovation cycles have heightened time constraints, requiring employees to deliver creative outcomes under strict deadlines (Zhang et al., 2023b). At the same time, organisational practices such as extended working hours and the prevalence of overtime culture (e.g., the "996" work pattern) further reinforce persistent exposure to TP (Yang et al., 2023a). These contextual conditions make TP a critical factor influencing employee creativity in China.

Empirical research in China reflects the complex and paradoxical nature of the TP–creativity relationship. On the one hand, TP may constrain creativity by limiting cognitive resources and reducing opportunities for deep information processing. Under high time constraints, employees are more likely to rely on habitual solutions and reduce exploratory behaviours, thereby hindering radical creativity (Zhang et al., 2023b). In addition, TP may induce burnout and negative emotional states, which further undermine CP (Yu & Wang, 2022). On the other hand, TP may also stimulate creativity when it is appraised as a challenge rather than a threat. Studies suggest that TP can activate proactive coping behaviours, such as job crafting and increased effort, thereby enhancing creative outcomes (Yu & Wang, 2022). Moreover, employees' stress mindsets play a critical role in shaping these effects. Individuals who perceive stress as enhancing are more likely to transform TP into motivation and engagement, leading to higher levels of innovative behaviour (Zhou et al., 2024).

Recent studies in the Chinese context further highlight nonlinear patterns in the TP–creativity relationship. Evidence suggests that TP may exhibit J-shaped or inverted U-shaped relationships with innovation performance, indicating that moderate or even high levels of pressure can enhance creativity under certain conditions (Song et al., 2023; Zhang et al., 2023b). Additionally, TP may differentially influence types of creativity, inhibiting radical creativity while supporting incremental improvements (Zhang et al., 2023b).

Overall, the literature reinforces the view that TP influences creativity through complex cognitive, motivational, and contextual mechanisms. However, existing research remains predominantly quantitative and outcome-oriented, offering limited insight into how employees subjectively experience and interpret TP during

the creative process. This gap underscores the need for qualitative inquiry to explore employees' lived experiences under TP in the creative process. Such an approach directly supports the research questions of this study.

Learning Requirements and Creativity in the Chinese Context

Research on LRs and creativity has increasingly recognised the importance of continuous skill acquisition and knowledge development in dynamic work environments. LRs refer to the acquisition of the necessary theoretical, social, and technical knowledge and skills to fulfil work tasks effectively in the workplace (Glaser et al., 2015; Meyer & Hünefeld, 2018; Prem et al., 2018). These requirements are particularly salient in knowledge-intensive industries, where creative problem-solving relies heavily on employees' ability to learn and adapt (Bormann, 2020; Burmeister et al., 2022).

Existing studies suggest that LRs can function as a form of challenge stressor. On the one hand, they promote learning, personal growth, and intrinsic motivation, thereby facilitating creative performance (Prem et al., 2018). Empirical evidence shows that LRs are positively associated with CP through enhanced motivation and engagement (Glaser et al., 2015). On the other hand, they may also impose cognitive strain and require substantial effort, which could constrain creativity when resources are insufficient.

From a learning organisation (LO) perspective, continuous learning processes facilitate the creation, acquisition, and transfer of knowledge, which are essential for innovation and creativity (Hael et al., 2024). Empirical research further demonstrates that organisations that promote learning-oriented environments tend to exhibit higher levels of innovation, often through mechanisms such as employee

engagement and resilience (Mohammad et al., 2024). It also supports the organisation in reacting to and adopting changes (Tapak et al., 2024). At the individual level, learning embedded in everyday work activities also contributes significantly to innovation, as employees generate ideas through accumulated experience and knowledge (Lee & Walsh, 2016). In addition, exposure to new knowledge sources, such as international markets, can enhance innovation when organisations are able to effectively internalise and apply learning (Juergensen et al., 2024).

In the Chinese and broader Asian context, research on LRs and CP remains scarce. One recent study in Vietnam found that learning-oriented organisational environments positively influence employee performance, including CP as a component (Cao et al., 2024). Research conducted in Taiwan demonstrates that employee learning orientation positively predicts employee creativity, primarily through the mediating role of creative self-efficacy (Gong et al., 2009). Notably, this study also suggests that the motivation for self-improvement may be particularly strong in East Asian contexts, thereby strengthening the link between learning and creativity compared to Western settings. Similarly, research in China provides more direct evidence on learning-related behaviours and creativity. A study of R&D employees in Chinese high-tech firms shows that informal field-based learning plays a critical role in enhancing employee creativity (Zhang et al., 2021b). This finding highlights that learning in practice is essential for generating novel and useful ideas in innovation-driven environments.

Despite these insights, the existing literature remains fragmented. Most studies have examined learning in terms of organisational learning climates or knowledge processes rather than explicitly conceptualising LRs as a job stressor

influencing creativity. Moreover, empirical evidence is predominantly derived from Western or non-Chinese contexts, with limited attention to how employees experience and respond to LRs during the creative process in Chinese automotive industrial settings.

Exploring Employees' Experiences of Time Pressure During the Creative Process

Empirical studies have consistently shown that TP is one of the most prominent stressors in manufacturing and automotive settings, often associated with tight deadlines, production targets, and project-based work structures (Omair et al., 2019; Zhang, 2015). At the same time, contemporary workplaces are characterised by heightened demands and intense TP. Employees are frequently expected to generate novel solutions and develop innovative products, services, and processes under severe constraints (Zhang et al., 2023b). This expectation is particularly pronounced in industries where shorter product life cycles place constant pressure on employees to solve complex and non-routine problems (Bormann, 2020). R&D employees are especially exposed to such pressures, as their work often involves high uncertainty, experimentation, and inevitable setbacks (Khedhaouria et al., 2017).

The impact of TP on creativity remains a subject of considerable debate. Some evidence suggests that moderate TP may sharpen focus, stimulate concentration, and lead to more efficient cognitive processing, provided that individuals remain self-monitoring and committed to quality outcomes (Tsai et al., 2018). Conversely, excessive TP can undermine creativity by limiting opportunities for knowledge exploration, encouraging reliance on habitual routines, and elevating anxiety as deadlines approach (Khedhaouria et al., 2017). In addition, too little TP may lead to complacency and inactivity, equally diminishing creative output. As

such, the relationship between TP and creativity appears non-linear and context-sensitive (Song et al., 2023; Zhang et al., 2023b).

This tension has sparked growing interest in the dual role of TP as both a hindrance and a challenge stressor. On the one hand, it can deplete psychological resources and stifle innovative behaviour; on the other hand, it may motivate employees to mobilise their capabilities and approach problem-solving with heightened determination (Yu & Wang, 2022; Zhou et al., 2024). Given the uncertain and iterative nature of creative work, and the literature gap in how R&D employees in this sector experience, interpret, and respond to TP during the creative process. Drawing on the actor-context interplay for creativity, this study adopts a qualitative method to explore how R&D employees experience and interpret the effects of TP during the idea-generation process.

Exploring Employees' Experiences of Learning Requirements During the Creative Process

Learning lies at the very heart of what it means to be human, providing individuals and organisations with the essential capacity to adapt, grow, and flourish in an ever-changing world. As Senge (1990) famously argued, organisations that embed learning into their culture transcend mere performance improvement; they cultivate environments where people continuously expand their capabilities and realise their fullest potential. In this sense, learning is not only a means of acquiring knowledge or skills but also a process of personal and collective transformation.

In contemporary workplaces characterised by rapid technological change and increasing job demands, employee learning has evolved beyond a conventional developmental activity to become a strategic psychological resource (Bakker &

Demerouti, 2007; Noe et al., 2014). It enables employees to remain adaptive, resilient, and engaged even under conditions of uncertainty (Prem et al., 2018). Continuous learning fosters not only task proficiency but also self-efficacy, autonomy, and meaning at work, key ingredients for sustaining creativity and long-term organisational vitality (Garvin et al., 2008; Marsick & Watkins, 2015).

The world of work is constantly evolving, presenting new challenges for both organisations and individuals. These changes generate opportunities and difficulties, urging organisations and individuals to continually adjust their responses (Tapak et al., 2024). One important consequence of this turbulence is the increased demand for learning, where employees are expected to acquire new knowledge, skills, and competencies at an unprecedented speed (Meyer & Hünefeld, 2018).

Learning, in this sense, becomes an indispensable mechanism for moving beyond past practices, breaking through established routines, and preparing for future uncertainties (Tapak et al., 2024). Hence, organisations must be able to quickly adapt and respond to changes by continuously improving their procedures, offerings, and products through the collection and use of knowledge. Managers and employees must foster a culture of learning that enhances and sustains their overall performance in the long term by being adaptable (Tapak et al., 2024).

The Chinese automotive industry is currently undergoing a profound transformation, transitioning from ICEVs to NEVs (Zeng et al., 2025; Zhu, 2025). Under these circumstances, R&D staff must not only keep pace with shorter product life cycles but also acquire new knowledge and skills to master rapidly emerging technologies (Zhu, 2025).

In such a context, exploring the lived experiences of R&D employees is of particular importance. However, as outlined before, there remains a notable gap in understanding how employees experience and interpret LRs during the creative process. In particular, limited attention has been paid to employees' lived experiences of LRs as a form of job stressor and how they respond to such demands in real work contexts. Addressing this gap within the actor-context interplay for creativity, this study seeks to explore how R&D employees in the Chinese automotive industry experience, interpret, and cope with LRs during the creative process.

How Employees Navigate Failures and Setbacks during the Creative Process

Setbacks and failures are among the most salient and emotionally charged experiences shaping the daily reality (Amabile & Pratt, 2016) of R&D employees. The process of translating novel ideas into tangible products or technological solutions is inherently lengthy, iterative, and uncertain, often characterised by risk, ambiguity, and unforeseen obstacles (Mustafa & Ramos, 2018; Wang et al., 2020). Failures in this context may manifest in multiple forms, ranging from unsuccessful idea generation and resource constraints to inadequate managerial support or organisational resistance to change. Empirical evidence suggests that while many creative ideas are proposed within organisations, the majority never reach implementation, and paradoxically, radical or highly novel ideas are even less likely to be realised than incremental improvements due to their perceived higher risks of failure and disruption (Van Knippenberg, 2017).

Accordingly, examining how R&D employees navigate and make sense of setbacks and failures, particularly through the mobilisation of personal resources and

job resources, is critical to understanding how creativity is sustained under pressure (Bakker & De Vries, 2021). Such an investigation provides not only theoretical insight into the micro-dynamics of creative resilience but also practical guidance for designing supportive organisational environments that enable employees to recover from failure, persist in idea development, idea implementation, and transform adversity into creative opportunity (Chang et al., 2023).

At the same time, organisational climates can either heighten or lessen these challenges. For example, when systems foster a climate of fear or implement punitive responses to failure, contextual barriers become more significant, potentially deterring employees from taking risks and limiting their ability to pursue innovative ideas (Wang et al., 2021b; Zadow et al., 2023). Such conditions may disrupt the actor–context balance, suppressing creative engagement even among employees who have strong psychological resources.

Furthermore, the outcomes of creative efforts, whether successful, unsuccessful, or only partially realised, play a crucial role in shaping how employees perceive, interpret, and engage with the creative process over time. As Amabile (1983) observed, repeated failures without visible progress can erode intrinsic motivation and foster feelings of frustration or disengagement, whereas even small, incremental successes can reinforce persistence, enhance self-efficacy, and strengthen an individual's creative identity (Amabile & Kramer, 2011). This cyclical relationship between creative outcomes and motivational states underscores the importance of how creativity is framed and understood within organisations. Conceptualising creativity as an ongoing process rather than a fixed end product allows employees to view setbacks as an inherent part of exploration and learning rather than as personal shortcomings (Amabile & Pratt, 2016). Such narratives are

essential in sustaining creative engagement and in buffering the detrimental emotional effects of failure and uncertainty.

Taken together, failures and setbacks reveal the complex ways in which contextual barriers, such as time constraints, limited resources, and organisational resistance, interact with employees' psychological and job resources to shape their creative engagement. Guided by the actor–context interplay for creativity and COR theory, the present study seeks to explore how R&D employees experience, interpret, and respond to these challenges in their daily work. In particular, it aims to uncover the psychological resources that help them navigate uncertainty, overcome adversities, and sustain engagement in creativity within demanding organisational environments.

Methodology

The study uses interpretative phenomenological analysis (IPA) (Smith, 2011), a method well-suited to capturing and interpreting participants' lived experiences. IPA emphasises the double hermeneutic, where participants make sense of their experiences, and researchers, in turn, interpret that sense-making to identify emergent patterns and overarching themes (Spiers & Smith, 2019). By employing IPA, this study aims to give voice to employees on the frontline, illuminating how they perceive, feel, and respond to constraint job stressors related challenges and adversities in their creative work. This approach enables the research to explore the individual's experience and interpretation of job stressors during the creative process, especially within high-pressure and fast product-evolving organisational environments.

Sampling and Data Collection Procedures

A purposive sampling strategy was employed to identify participants who possessed relevant professional experience and could provide rich, information-dense accounts aligned with the study's objectives. Purposive sampling enhances transferability, as it allows readers to assess the applicability of findings by comparing the study sample with their own contexts (Tisdell et al., 2025). To achieve a degree of homogeneity, specific inclusion criteria were applied (Robinson, 2014). Participants were required to have a minimum of five years of total work experience and at least three years of R&D experience within the automotive industry. No gender-based restrictions were imposed, as the study aims to reflect the naturally occurring demographic composition of the participating organisations. Employees in R&D departments were deliberately targeted, as they are frequently exposed to high levels of creative challenge, TP, and LRs, making them suitable informants for this research focus.

The fieldwork was conducted in two automotive companies located in Suzhou, Jiangsu Province, China. Both companies specialise in automotive parts, tooling, and equipment manufacturing, representative subsectors within China's rapidly evolving automotive industry. A total of thirteen participants (excluding the two pilot interviewees) were recruited for the formal interviews. Their positions ranged from engineer and team leader to manager and R&D director, providing a diverse yet coherent representation of creative work within R&D functions.

A Semi-Structured Interview was designed to explore the explicit and implicit influence of TP and LRs on employees' creativity, employees' experiences and feelings in the face of setbacks and failures during the creative process and how they navigate it. The use of interviews in the research is core to eliciting detailed,

rich, hidden verbal information from the interviewees. Researchers may use it to clarify, elaborate, illustrate, or interpret the underlying reasons for employees' behaviours during a process (Robinson, 2023). It can correspond well to process questions and an ontology, rather than a primary focus on things; it can also capture the nuances of processes within an organisation (Langley et al., 2013). Engaging directly with participants in the interview enables researchers to explore the participants' lived experiences (Eatough & Smith, 2017). The interviews were performed in Chinese, as it is the native language of all the participants.

Prior to conducting the main study, a pilot trial involving two participants was carried out to evaluate the feasibility of the interview protocol and the clarity of the semi-structured interview guide. The pilot sought to detect potential ambiguities in question wording, assess the logical flow of the interview, and evaluate whether the prompts effectively elicited reflective and detailed responses. Analysis of the pilot interviews and researcher field notes revealed that the construct of LRs was not well understood by participants, and some questions generated brief or minimally elaborated responses, thereby limiting data richness. In response, the interview guide was refined to include (a) a clearer conceptual explanation of LRs and (b) additional probing questions (e.g., "Could you please elaborate on that in more detail?" or "What do you mean by saying that?") to encourage deeper reflection. These adjustments improved the instrument's content validity and alignment with the research objectives before implementation in the full study.

The face-to-face interviews were conducted in the quiet meeting rooms at the participants' companies and lasted between 51 and 87 minutes. Throughout the sessions, the researcher employed a series of probing and follow-up questions to elicit deeper insights and clarify the intended meanings of participants' responses,

considering both their verbal expressions and the contextual cues, as emphasised by Heidegger, individuals are intrinsically linked to their cultural and contextual surroundings (Heidegger et al., 1962). Following the interviews, transcripts were shared with each participant for member checking, allowing them to review, clarify, and suggest modifications before returning the documents to the researcher. During the coding process, the researcher interpreted R&D employees' experiences by centring their own perceptions and meaning-making, consistent with the principle that "the participant's meaning-making is first order, while the researcher's sense-making is second order" (Smith & Fieldsend, 2021, p. 30). This approach aimed to more accurately reflect and emphasise participants' interpretations of their experiences, rather than those of the researcher.

According to the first research question, to connect with employees' true insights and unspoken reflections regarding TP, the researcher asked the interview question: What are your experiences related to TP from your job during the idea generation process? To explore employees' perceptions of LRs, the researcher posed the following interview question: What are your experiences and feelings about LRs from your job during the idea generation process?

To address the second research question, which aimed to understand participants' interpretations of setbacks and failures encountered during the creative process and how they navigate them, the researcher posed the following interview question: What are your experiences in handling setbacks and failures during the idea implementation process?

During the interviews, the researcher occasionally employed elaboration probes (Robinson, 2023) to deepen understanding and clarify participants' intended meanings. These probes included prompts such as "What do you mean by that?",

"What does that mean to you?", or "Could you please explain it in more detail?" The use of such probing questions aimed to encourage participants to articulate their thoughts more fully and to ensure that the researcher accurately captured the authentic meanings and subjective interpretations embedded in their responses. This iterative dialogue helped uncover the sense-making processes through which participants made sense of their work experiences and creative challenges.

Through this approach, the study collected first-hand, in-depth accounts from R&D employees using open-ended and exploratory questioning, enabling participants' narratives to unfold naturally and reflectively. This approach allowed the data to illuminate the "texture and qualities" of lived experience (Eatough & Smith, 2017, p. 3), providing a rich and contextually grounded understanding of how creativity is experienced and constructed within demanding organisational settings. Table 3 presents the demographic and professional profiles of the interview participants.

Table 3

Profile of Interview Participants

Name	Company	Gender	Age	Tenure (Overall)	Tenure (Current Position)	Position	Education
C01	A	Male	44	25	14	Manager	Bachelor
C02	A	Male	37	14	7	Senior Engineer	Bachelor
C03	A	Male	45	23	12	Manager	Bachelor
C04	B	Male	48	27	12	Director	College
C05	B	Male	47	26	1	Director	College
C06	A	Male	44	22	18	Senior Engineer	College
C07	A	Male	37	15	6	Manager	Bachelor
C08	A	Male	34	11	8	Team Leader	Bachelor
C09	A	Male	38	13	8	Team Leader	Bachelor
C10	A	Male	29	6	1	Electric Engineer	Bachelor
C11	A	Male	42	19	7	Senior Engineer	Bachelor
C12	A	Male	42	24	12	Senior Engineer	College
C13	A	Female	42	20	15	Director	Bachelor

Measures

The interview guide (see Appendix 5) was developed to ensure alignment with the research objective of exploring employees' lived experiences of creativity under TP and LRs. The protocol consists of open-ended questions designed to elicit rich and detailed accounts of participants' experiences, including their perceptions of job stressors and the psychological resources they mobilise when facing adversities. Follow-up probes (e.g., "Can you elaborate on this experience?") were used to deepen understanding and clarify meanings. While a core set of guiding questions was maintained to ensure consistency across interviews, the protocol is applied flexibly, allowing the researcher to adapt the sequence, wording, and depth of questions in response to participants' narratives.

Procedure and Data Analysis

The IPA approach was adopted and sought to understand the lived experiences of R&D employees. Its focus on exploring particular experiences in depth within a specific context is consistent with the study's aim to capture the meaning employees ascribe to their creative processes. IPA was well-suited to investigating complex and subjective phenomena because it allowed researchers to delve deeply into participants' perspectives while maintaining sensitivity to the situational and cultural context in which those experiences occurred (Smith & Fieldsend, 2021; Tuffour, 2017).

An inductive approach was adopted to allow themes and patterns to emerge naturally from participants' narratives, rather than imposing pre-existing theoretical constructs (Husserl et al., 2013; Pietkiewicz & Smith, 2014). IPA's inductive orientation supports researchers in engaging reflexively with the data, navigating between theory and lived experience, and between preconceptions and openness, when seeking to answer questions of what, why, and how (Smith & Fieldsend, 2021; Tomkins & Eatough, 2014). Through this iterative interpretative process, the researcher aimed to illuminate how R&D employees make sense of their challenges, motivations, and coping mechanisms in the creative process.

The interviews were conduced by Chinese, the first step in the analysis involved verbatim transcription of each interview recording into written Chinese text. This process required the researcher to listen repeatedly and attentively to the audio files, carefully capturing participants' exact words while omitting non-meaningful fillers, prolonged pauses, and redundant speech. Such rigorous transcription procedures ensured that the textual data faithfully reflected the

participants' lived experiences, producing a clear and analysable corpus for subsequent interpretation.

All Chinese transcripts were subsequently imported into NVivo 15 for systematic data management and analysis. Following the guidelines of IPA (Spiers & Smith, 2019), the researcher engaged in multiple readings of each transcript to achieve deep familiarisation with the data. During these early stages, initial notes and analytic memos were created in English to capture emergent observations, preliminary interpretations, and areas of conceptual interest. Preliminary codes in English were then developed inductively, guided by the study's research questions but grounded in the participants' own expressions and meanings. Although the interviews were conducted in Chinese, all the memos, analytic notes, and codes were written in English to align with the language of the thesis reporting. This facilitated transparency in analysis and helped maintain consistency between data interpretation and presentation.

After completing the analysis for one participant, the same procedure was applied iteratively to each subsequent transcript. Once all cases were coded, the researcher examined the dataset for patterns of convergence and divergence across participants. Recurring codes were clustered and refined into broader categories, which were then organised into sub-themes and, ultimately, superordinate themes that encapsulated the core dimensions of participants' experiences.

Throughout the coding process, the researcher adhered to the idiographic and phenomenological principles of IPA (Spiers & Smith, 2019), giving primacy to participants' sense-making while maintaining the researcher's interpretative stance as secondary. Nonetheless, reflexive engagement with the data was integral: the researcher drew on professional experience, contextual knowledge, and interpretive

sensitivity to develop a holistic and empathetic understanding of the participants' lived worlds, thereby understanding the speaker even more deeply than they might understand themselves (Smith & Fieldsend, 2021). Table 4 outlines the step-by-step process of data analysis employed in this study.

Table 4

Data Analysis Process

Step	Content
Step 1	Transcription by repeat listening
Step 2	Reading and rereading
Step 3	Make memos while and after reading
Step 4	Generate codes that may linked to research questions
Step 5	Move to the next case
Step 6	Searching for connections across cases and merge the codes
Step 7	Developing sub-themes according to the codes
Step 8	Developing themes and patterns

To illustrate this process, the following example demonstrates how raw data were progressively transformed into codes, sub-themes, and superordinate themes. For example, in one case (C07), the participant described how "*time, cost, and quality create an impossible triangle: when time is prioritised, the other two dimensions inevitably suffer. Even when I have great ideas, I feel unable to fully bring them to life, I'm compelled to deliver only a simplified version*", expressing frustration that time pressure forced them to deliver simplified solutions despite having more creative ideas. This excerpt was highlighted as it directly related to the research focus on time pressure and creativity. A memo was subsequently recorded to reflect a negative perception of time pressure and its constraining effects on creative expression.

In the next step, initial codes were generated based on data segments relevant to the research questions. The above excerpt was coded as "negative influence,

applying normal solution," reflecting how time pressure led to reduced creativity and reliance on routine approaches. The analysis then proceeded case by case to preserve the idiographic nature of IPA.

Subsequently, patterns and connections across cases were examined. Similar expressions from other participants (e.g., C04, who noted "*without such space for contemplation, one ends up solving problems merely for the sake of solving them rather than generating meaningful or creative solutions*") were identified and compared. These were grouped under related codes and merged into broader conceptual categories, such as "negative influence, applying normal solution, and bringing emotional stress".

Building on these patterns, related codes were translated into sub-themes. For instance, the merged code was developed into the sub-theme "compromised creativity under time pressure". Finally, sub-themes were synthesised into higher-order themes, resulting in the development of the superordinate theme "Time Pressure as a double-edged sword," which captures both the constraining and motivating aspects of time pressure in the creative process.

Results

Superordinate Themes

Analysis of the interview data using the IPA approach addressed the first research question of the study and revealed that TP emerged as a superordinate theme characterised by a double-edged sword. Participants described a bittersweet feeling, experiencing both pain and joy. While TP was perceived as a source of strain that could hinder creativity, it was also reported to enhance creative output under certain conditions by serving as a motivational stimulant. Centred on participants' accounts,

the reported experiences generally reflected a preference for reduced TP, thereby supporting prior findings on its negative association with creativity (Song et al., 2024). However, the findings also suggest that the impact of TP is contingent upon individual and contextual factors, offering partial and conditional support for the proposed U-shaped relationship between TP and CP (Aleksic et al., 2017)

In relation to the LR of the first research question of the study, the analysis identified a superordinate theme indicating that LRs function as a driver of both capability and creativity. By fostering competence and supporting personal growth, LRs were perceived to enhance CP through the acquisition and application of new knowledge. The finding supports the positive link between LRs and CP (Glaser et al., 2015). However, it does not align with prior research indicating that LRs may have detrimental effects on work goal attainment (Burmeister et al., 2022; Mikkelsen & Olsen, 2019).

In addressing the second research question of the study, the analysis revealed a superordinate theme of psychological strengths, which emerged as a key resource enabling R&D employees to navigate adversities encountered during the implementation of creative ideas. Two sub-themes emerged from the data: resilience, characterised by personal perseverance in the face of setbacks and failures, and self-efficacy, identified as a source of confidence and action. These findings offer novel insights into R&D employees' perceptions of psychological strength and adversity, highlighting their potential role in enabling employees to manage challenges encountered during the creative process. See Table 5 for the summary of findings.

Table 5

Summary of Findings

Item	Superordinate themes	Sub-themes
1	Time pressure as a double edged sword	• Compromised Creativity under time pressure • The catalyst of creative success
2	Learning requirement as a driver of capability and creativity	
3	Psychological strength in facing adversity	• Resilience as personal perseverance in adversity • Self-efficacy as the source of confidence and action

Theme 1: Time Pressure as a Double-Edged Sword

Our participants showed conflicting feelings toward TP in the creative process. It activates a bittersweet experience. The bitterness stemmed from the uncertainty of not knowing whether a viable solution would emerge, coupled with the anxiety and stress induced by looming deadlines. The sweetness, however, arises when success is achieved despite the uncertainty. This form of sweetness carries an element of surprise, making it significantly more exhilarating than the predictable satisfaction derived from anticipated success.

> *Illustrative Participant Quote: I have to bite the bullet and push through my work, even though I feel deeply unhappy. Still, the moment I accomplish it is incredibly rewarding–I never imagined I could overcome such a challenge.*

In the case we presented here, that of C08, a team leader in the R&D department, TP brought him mixed feelings regarding the psychological cycle of pain and joy. On the one hand, he acknowledged that it was unavoidable, as it was an inherent part of his work. It evoked strong emotional reactions:

C08: TP may compel me to come up with a solution before a certain point, and at this time, my nerves will be particularly tense, and the status may not be what I wanted.

On the other hand, he acknowledged that TP not only evoked unpleasant feelings after he tasted bitterness, but that it could also open another pathway, one that led to a sense of extreme joy, as it demanded persistent effort. There was a sweet reward after he endured the TP:

C08: I believe the influences are bidirectional. Some new ideas may jump to my mind under high TP. If the deadline is there, I have to bite the bullet and push through my work, even though I feel deeply unhappy. Still, the moment I accomplish it is incredibly rewarding–I never imagined I could overcome such a challenge.

His experience of "bidirectional" brought him a hard time, as he mentioned nervous tension. However, if he persisted in it, he gained "extremely gratifying" feelings with success. He continues:

C08: …… but under time constraints, I can't predict the outcome, which might lead to a greater surprise. Even though I can't foresee it, I can still complete the task. The moment it's done, my motivation and happiness are amplified because it exceeds my expectations.

He posited that in the context of uncertainty and unpredictability, upon successfully overcoming the challenge, both happiness and motivation could attain a heightened level, further solidifying the source of the "incredibly rewarding" feelings.

C11 is an R&D engineer, indicating that, based on his experience, evaluating the advantages and disadvantages of TP was a complex task:

C11: This issue is hard to define. I have experienced moments where I delivered better performance under TP. However, I can also achieve good performance at times without TP. It's difficult to assess this accurately. …… I've had experiences where prolonged overthinking led nowhere. Yet, when told I must deliver something new within two days, my potential ignites instantly, enabling me to yield outcomes across multiple scenarios. However, if two days are reduced to just two hours, I feel as if I'm simply waiting for death.

He elucidated that the absence of TP was undoubtedly detrimental to creativity. A moderate level of TP had the potential to stimulate focus, but extremely high TP needed to be avoided. Depending on the extent of TP, it brought him pain (waiting for death) and joy (my potential ignites), echoing C08's bidirectional experiences.

To elicit participants' lived experiences and how they interpret them. The researcher probed further into C11's interpretation of TP:

C11: Based on my personal experience, in the past, when I engaged in idea generation, if there was typically no specific TP, I would think and imagine freely, without the pressure of a deadline. If I couldn't come up with an idea, it didn't feel problematic. I could simply shift to a different perspective or approach.

C11 believed the sense of urgency kept him more engaged; the absence of TP could cause inefficiency, but when there was TP, the situation could be changed:

C11: However, when there is a milestone or a set timeframe by which an idea is expected, I find myself compelled to think much more intensively. I would not allow myself to spend half a day just contemplating or taking

breaks when encountering difficulties. Instead, I tend to engage in continuous thinking.

He reflected that TP made him persistently work on the task with intensified cognitive efforts. Even though he didn't provide the boundary conditions, he used an analogy of picking the largest ear of corn to describe his inner psychological activities to illustrate the difference between the absence and presence of TP:

C11: ……If there is no TP, I tend to keep searching for a better opportunity, much like walking through a cornfield in search of the largest ear of corn. Without a strong sense of time, one might keep walking forward endlessly, always hoping to find something better. However, when a time limit is imposed, it's like reaching a point where, as time runs out, I must settle on a particular ear of corn. I make my choice based on what is available at that moment.

The researcher interpreted his analogy as TP facilitates task focus and decision-making. Under such conditions, he tended to focus on the task at hand and make decisions more efficiently, which, in turn, may have contributed to his success in achieving goals. The researcher further examined his preferences regarding the varieties of TP. He articulated a distinct inclination towards experiencing a moderate level of TP, though not excessive:

C11: I still prefer working under a moderate sense of TP. However, if the pressure becomes too intense, it can become paralysing, leaving me in a state of waiting for death.

Existing literature supports his experience, suggesting that employee performance may be negatively affected by either excessive challenges, which induce strain, or an absence of challenges, which results in boredom (Harter et al.,

2003). Combining C08 and C11's experiences, the researcher identified a latent pattern where, on one hand, people need a certain level of stress to drive them to pursue their goals (e.g., My potential ignites instantly... I couldn't imagine that I could...). On the other hand, excessively high stress resulted in psychological overload and disengagement (e.g., paralysing …waiting for death). The researcher interpreted their experiences of TP as a double-edged sword, capable of enhancing creativity under moderate levels, yet detrimental when it becomes overwhelming.

Sub-Theme 1: Compromised Creativity under Time Pressure. This sub-theme addresses the negative consequences of TP on creativity, including emotional strains. Many participants experienced that high levels of TP are often detrimental to creativity, as individuals may resort to regular solutions rather than reveal novel and useful creative ideas.

> *Illustrative Participant Quote: Even when I have great ideas, I feel unable to fully bring them to life–I'm compelled to deliver only a simplified version.*

Most of the interviewees expressed the view that TP was unfavourable to the idea generation process, as it induced stress, anxiety, and potentially depression. C07 is a manager in the R&D department. He perceived that TP led to "simplified version" creativity:

> *C07: Overall, TP negatively impacts creativity and seldom produces positive outcomes.*
>
> *Researcher: What makes you say that?*
>
> *C07: ..... We often remark that good design takes time to mature. …… yet we encounter significant TP in this process. Under these constraints, while the equipment may be functional, it is rarely optimal. TP stifles inspiration.*

C07 continually expressed his concern about the negative influence brought by TP by using an analogy of painting. TP destroyed his ambition of delivering a great painting:

> *C07: For example, when I attempt to fully dedicate myself to painting, if the background noise persistently whispers, "Hurry up, hurry up…" the final artwork is bound to become distorted. Time, cost, and quality create an impossible triangle: when time is prioritised, the other two dimensions inevitably suffer. Even when I have great ideas, I feel unable to fully bring them to life, I'm compelled to deliver only a simplified version.*

C04, the director of the R&D departments, expressed his unfavourable attitude about the impact of TP on creativity in a straightforward manner:

> *C04: If someone can't calm down, there's no way to deal with creative or thoughtful things. If you are just busy every day, it's impossible to come up with new solutions. If you are in a rush every day, how could there be new solutions? It would be good enough if he could solve the immediate problems.*
>
> *The creativity produced by cutting-edge technology companies is not born out of the kind of urgency that forces you to deliver under TP. Rather, they result from a systematic, step-by-step process that allows ample time for researchers to think deeply. Without much time, true creativity would be impossible.*

C04 employed his childhood story about the conflict between childhood learning and farm work to convey that TP resulted in problem-solving simply for the sake of it, rather than fostering creative solutions:

C04: It's much like when we were children, helping out at home during the busy farming seasons. I would carry heavy loads back and forth all day, and by the time evening came, the idea of sitting down to read a book was almost out of the question, unless someone had exceptional stamina. After a full day's labour, the moment I sat down, I'd inevitably fall asleep. Human energy is limited, after all.

Creativity demands sufficient time, allowing an individual to step back and truly engage in reflective thinking. Without such space for contemplation, one ends up solving problems merely for the sake of solving them rather than generating meaningful or creative solutions.

C04 believed that a relaxed environment with a stress-free state was a precondition to spark high-quality creativity:

C04: Ideas generated during periods of active, spontaneous thinking are often far superior to those produced under pressure. The thoughts that emerge in a relaxed environment are fundamentally different from those that arise in a constrained or oppressive one. Sometimes, individuals may have unconsciously absorbed fragments of information or fleeting impressions. Yet, it is only in a relatively unburdened, stress-free state that the mind can tap into these latent insights and transform them into truly original ideas. A creative spark will most likely ignite when the environment encourages ease and openness.

Other participants believed that TP led to stress, anxiety, and even depression, which provided a thicker description of the negative impacts of TP on creativity:

C02: My overall state may be somewhat depressing, or maybe just a little. No matter what I do, I can't stop thinking about this issue. Even when I go home from work, it fills my mind. What if it can't be resolved? I will keep dwelling on this matter.

C10: I believe TP is more harmful than beneficial to creativity, with the negatives outweighing any positives. It encourages individuals to follow a strict process. Thus, TP turns creativity from flowing water into stagnant water.

Most of them experienced negative feelings toward TP, which stifled inspiration, compelled them to deliver a simplified version of their work, and kept them dwelling on the problem. When individuals perceived TP as overwhelming, it often engendered emotional reactions such as anxiety and frustration. These negative emotions could deplete their psychological resources for coping, thereby inhibiting CP (Acar et al., 2019). In summary, the researcher interpreted the R&D employees' meaning-making of TP as underscoring its detrimental impact, often resulting in "compromised creativity".

Sub-Theme 2: Time Pressure as a Catalyst of Creative Success. Conversely, this sub-theme illustrates how TP can ignite latent potential, pushing individuals to achieve creative breakthroughs that surpass their expectations. TP can act as a catalyst for certain individuals, leading to heightened CP.

Illustrative Participant Quote: The TP exists here, as does the goal. This kind of pressure can spark creativity and sometimes even stimulate inspiration.

Although most participants believed that TP inhibited creativity, some participants had voiced differing opinions.

C06: …… Will there be more ideas under TP? Because I have TP, I will feel nervous and stressed. It may make me keep thinking about this problem, including when eating, sleeping, and all the time. This is likely to generate ideas.

C13: I think, 'How can I complete this quickly?' I may come up with creative ideas, not necessarily related to product design, but rather creative ways to solve problems or communicate more effectively. This enhances my efficiency. The TP exists here, as does the goal. This kind of pressure can spark creativity and sometimes even stimulate inspiration.

When TP was harnessed strategically, it did not necessarily result in negative impacts on creativity. Instead, it prompted employees to exert greater cognitive effort, sparked creativity, stimulated inspiration, encouraged continuous information gathering, and fostered higher levels of dedication, thereby boosting employee creativity. Several participants voiced that TP could, under certain conditions, have positive effects. Supporting this view, existing literature suggests that negative mood states may stimulate persistence and promote creative ideas and solutions through sustained effort (Amabile & Pratt, 2016; Nijstad et al., 2010). This occurs because systematic search processes are activated and greater executive control is employed, directing full attention to the task and ultimately improving CP (Nijstad et al., 2010).

Therefore, TP served a catalytic function by intensifying individuals' focus and prompting the allocation of greater cognitive and personal resources. This, in

turn, accelerated the creative process and subsequently enhanced CP. Accordingly, the researcher interpreted this dynamic as “TP as a catalyst for creative success”.

Theme 2: Learning Requirements as a Driver of Capability and Creativity

LRs systematically cultivate cognitive capital through two synergistic mechanisms that enhance creative potential: (1) expanding individuals’ knowledge repositories through intentional acquisition and promoting personal growth and competence, and (2) bridging competence gaps through targeted skill scaffolding, thereby enabling higher levels of creativity.

> *Illustrative Participant Quote: To cultivate creativity, one must first develop a deep understanding of the product in question, ……, It is essential for individuals to consistently invest effort in order to enhance skills and capabilities.*

C01, a manager in the R&D department, endorsed the value of LRs, noting that they contributed to closing knowledge and skill gaps while also promoting personal growth.

> *C01: I engage in the learning process with great enthusiasm, like a sponge absorbing water. Recognising a deficiency in this area, I am motivated to acquire new knowledge and skills. I do not shy away from seeking the knowledge I currently lack. From the perspective of personal growth, this endeavour is both an inevitable and necessary journey.*

Based on what he shared, he enjoyed learning not only through his work but also throughout his life.

C01: I derive great satisfaction from the endeavour of continuous learning and personal development, which is applicable not only to my professional pursuits but also to my daily life.

C09 is the team leader of the R&D department. He provided his insights on LRs from a team leader's perspective:

C09: Creativity is intrinsically linked to the specific category of the product. To cultivate creativity, one must first develop a deep understanding of the product in question. The work process is a perpetual cycle of learning; it is essential to dedicate time to learning whenever feasible.

As an illustrative example, each member of my team is tasked with specific product categories. When challenges arise, I may not possess specialised knowledge in their respective domains. Therefore, it is imperative to familiarise myself with their products and focus on the critical technical elements.

By doing so, I am better equipped to provide informed guidance when issues occur. For me, the essence of work is rooted in continuous learning. It is essential for individuals to consistently invest effort to enhance their skills and capabilities.

In response to a subsequent inquiry, C09 articulated that his principal motivation stemmed from his psychological fulfilment as a team leader.

Researcher: What do these kinds of LRs in the workplace mean to you?

C09: It means that when I can offer advice to others, I experience a sense of psychological fulfilment. It brings a form of spiritual satisfaction.

C06 is an engineer whom a few other participants mentioned during the interview, treating him as a "resourceful person". When asked about his experiences and feelings regarding LRs and idea generation, he explained:

> *C06: …… without sufficient knowledge, my creative thinking is limited to what I already know. Conversely, if I aim to create something new without the necessary knowledge, I must first find a way to acquire it. Even when I already have a creative idea, any knowledge gap must be bridged in order to move forward.*

All the participants associated LRs with personal growth, development, knowledge acquisition, and enhanced capabilities that supported creativity. These experiences were accompanied by positive emotions and a sense of intrinsic motivation, reflecting a desire to embrace rather than avoid such demands. Accordingly, the researcher interpreted their perception and experience as "LRs as a driver of capability and creativity". In contrast to their perceptions of TP, all participants consistently made sense of LRs as a constructive force that promoted knowledge expansion and enhanced creativity. The finding aligns with prior research that highlights a positive relationship between LRs and creativity (Glaser et al., 2015), while contrasting with studies that have reported contradictory results (Burmeister et al., 2022; Mikkelsen & Olsen, 2019). It demonstrates that participants placed a high value on knowledge acquisition, prioritised personal growth, and believed that knowledge contributes to enhanced performance.

Theme 3: Psychological Strength in Facing Adversities

Setbacks and failures are among the most prominent work events on days when employees experience their most negative subjective feelings (Amabile & Pratt,

2016). These experiences are particularly common among creative employees, for whom generating novel and useful ideas is one of their major tasks. However, engaging in creative work depletes personal resources, including cognitive resources such as attention, working memory, and executive control (Nijstad et al., 2010). Therefore, understanding how employees experience and respond to setbacks and failures is critical for supporting sustained creative engagement.

During the interviews, participants presented various psychological strengths when facing setbacks and failures. From their narratives, the superordinate theme "Psychological strengths in facing adversities" emerged. Two key sub-themes were identified: (1) resilience as personal perseverance in adversity and (2) self-efficacy as a source of confidence and action. Resilience reflected participants' capacity to recover and bounce back from difficulties, while self-efficacy denoted their belief in their ability to overcome obstacles. These psychological strengths served as personal anchors, enabling participants to persevere, adapt, and remain engaged in the creative process despite experiencing adversities.

Theme 3.1: Resilience as Personal Perseverance in Adversity. *Illustrative Participant Quote: never give up……, creativity often entails more failures than successes.*

C01, a manager in the R&D department, demonstrated perseverance and mental strength when confronting setbacks and failures. He interprets failures as stemming from his being ahead of others and the market. He also maintained the belief that setbacks and failures are common and expected along the creative journey:

C01:…… never give up. When I encounter difficulties, I must overcome them,…… Maybe we were two steps ahead of others. Yet, the ideal situation is when our discovery is just half a step ahead of the market.

Creativity often entails more failures than successes. Throughout our journey, we've encountered numerous challenges, which have become routine occurrences. Although the challenges we currently face may not match the scale or complexity of those confronted by Elon Musk, we've still experienced many unexpected situations along the way. Setbacks and failures are commonplace and occur frequently.

Failure is a common occurrence among R&D employees, as creativity cannot always be successful. Such a statement resonates with Amabile and Pratt's assertion that setbacks and failures constitute the most significant work events experienced by employees (Amabile & Pratt, 2016).

C02 further asserted the need for alternative approaches when confronted with challenges in finding a resolution:

C02: I will find a way to resolve the issue or adopt an alternative approach. Tasks must be addressed, but sometimes this requires changing methods or rethinking solutions.

When I am eager to implement a project but encounter resistance, I experience feelings of frustration and anxiety. In such situations, I take time to reflect and strategise, focusing on finding a way out.

In C06's account, failure merely meant that this solution did not work, prompting the need to move on to the next possible approach:

C06: It's definitely not good. After spending so much time and ending up with failure, it feels like all the effort was for nothing. Other than that, I just move on to think about alternative solutions.

Researcher: What does failure mean to you?

C06: Failure simply means that this solution is not feasible.

C12 believed that failure did not truly exist since he could revisit the problem later and still have a chance of success.

C12: If we are unable to spark certain innovations at present, we can revisit the project in the second or third year, as success remains a possibility. As long as there is an unmet need or unresolved pain point, it remains an area waiting for a breakthrough.

Based on their experiences and interpretations of setbacks and failures, maintaining a clear understanding that "creativity often entails more failures than successes" and embracing a "never give up" mindset enables individuals to confront challenges persistently. This perspective helped normalise setbacks and failures as common occurrences rather than personal deficiencies, preventing individuals from internalising them as indicators of inadequacy. As a result, participants were more likely to sustain their efforts without engaging in self-doubt or expending additional energy on self-justification, which could otherwise be psychologically depleting. Interpreting failure as "simply means that this solution is not feasible" allowed them to recover more quickly by reducing rumination on negative emotions. This approach also lowered the cognitive load required to overcome psychological barriers induced by real-world adversities, thereby facilitating a more adaptive shift toward exploring alternative solutions. Through continuous effort, persistence served as the bridge between problems and eventual success.

This perspective is bolstered by the understanding that persistence constitutes a cognitive function essential not only for generating creative ideas but also for advancing through subsequent stages of the creative process (Sidelkivska & Bilbao-Calabuig, 2023). Additionally, the ability to bounce back from failure is the defining characteristic of resilience (Luthans, 2002). Hence, the researcher interpreted participants' experiences facing setbacks and failures during the creative process as "resilience as personal perseverance in adversity".

Theme 3.2: Self-efficacy as a Source of Confidence and Action.

Illustrative Participant Quote: I believe that any technical problem can ultimately be resolved, ……I can definitely find a way.

C02 admitted that when he encountered problems, he might feel tremendous pressure; however, his experiences taught him that he could undoubtedly find solutions to these issues. In front of the problem, what he needed to do was take the first step forward:

> *C02: When issues first arose, I felt the situation was extremely serious, perhaps I'm exaggerating, but it felt like the sky was falling. But in reality, that wasn't the case. I believe that any technical problem can ultimately be resolved. So far, no project has ever stalled due to an unsolvable issue or other reasons.*
>
> *Therefore, with years of experience, I have developed a certain confidence. I understand that no matter how serious the problem is, I will surely find a way. Through numerous experiences, I have gained this assurance. My past experiences have taught me that I can definitely find a way.*
>
> *Through extensive experience, I've realised that unexpected situations inevitably arise during practice. When you have an idea, it's important to*

attempt it first; initiating action is already half the success. Taking the first step is more crucial than remaining in superficial contemplation.

In C03's eyes, all the projects they had handled so far were successful, with no failures to date:

C03: ……None of the projects we have developed so far has failed.

C05 expressed it differently with the same belief. He believed all problems could be solved if he looked forward, or at least a compromise could be reached, and if he kept working on it, he would find a solution:

C05: What is currently a problem, will it still be a problem six months from now? Even if it's not perfectly resolved, at least a temporary solution can be found. By focusing on the issue, a method will emerge.

Those participants consistently expressed a shared sense of confidence in addressing their challenges, whether this confidence stemmed from prior successes or a strong belief in future outcomes. Although some of their statements, such as "any technical problem can ultimately be resolved", "I can definitely find a way", or "none of the projects we have developed so far has failed", may appear exaggerated to the general public, they reflect deeply rooted psychological strengths. The researcher interpreted these psychological strengths as an expression of self-efficacy (Bandura & Wessels, 1997), defined as the belief in one's capability to organise and execute the actions required to achieve specific goals. This interpretation aligns with prior literature, which suggests that individuals with high self-efficacy possess strong confidence in their ability to perform tasks effectively (Luthans, 2002). Such individuals perceive themselves as capable of achieving success and are more motivated to act when anticipating favourable outcomes (Haase et al., 2018).

Collectively integrating the sub-theme of “Resilience as personal perseverance in adversity” and “Self-efficacy as a source of confidence and action”, the researcher conceptualised the superordinate theme as “Psychological strengths in facing adversity”

Findings on Gender Imbalance

In addition to addressing the original research objectives, this study revealed an interesting demographic pattern: among the 13 participants, only one was female. This indicates a heavily skewed sex ratio, which emerged naturally as the researcher did not intentionally manipulate gender representation in the sampling process. This imbalance highlights a potentially important consideration: gender may play a significant role in shaping experiences and outcomes in jobs that are closely linked to creativity. Although this was not a primary focus of the present study, it suggests an avenue for research to further explore how gender dynamics intersect with creativity in organisational contexts.

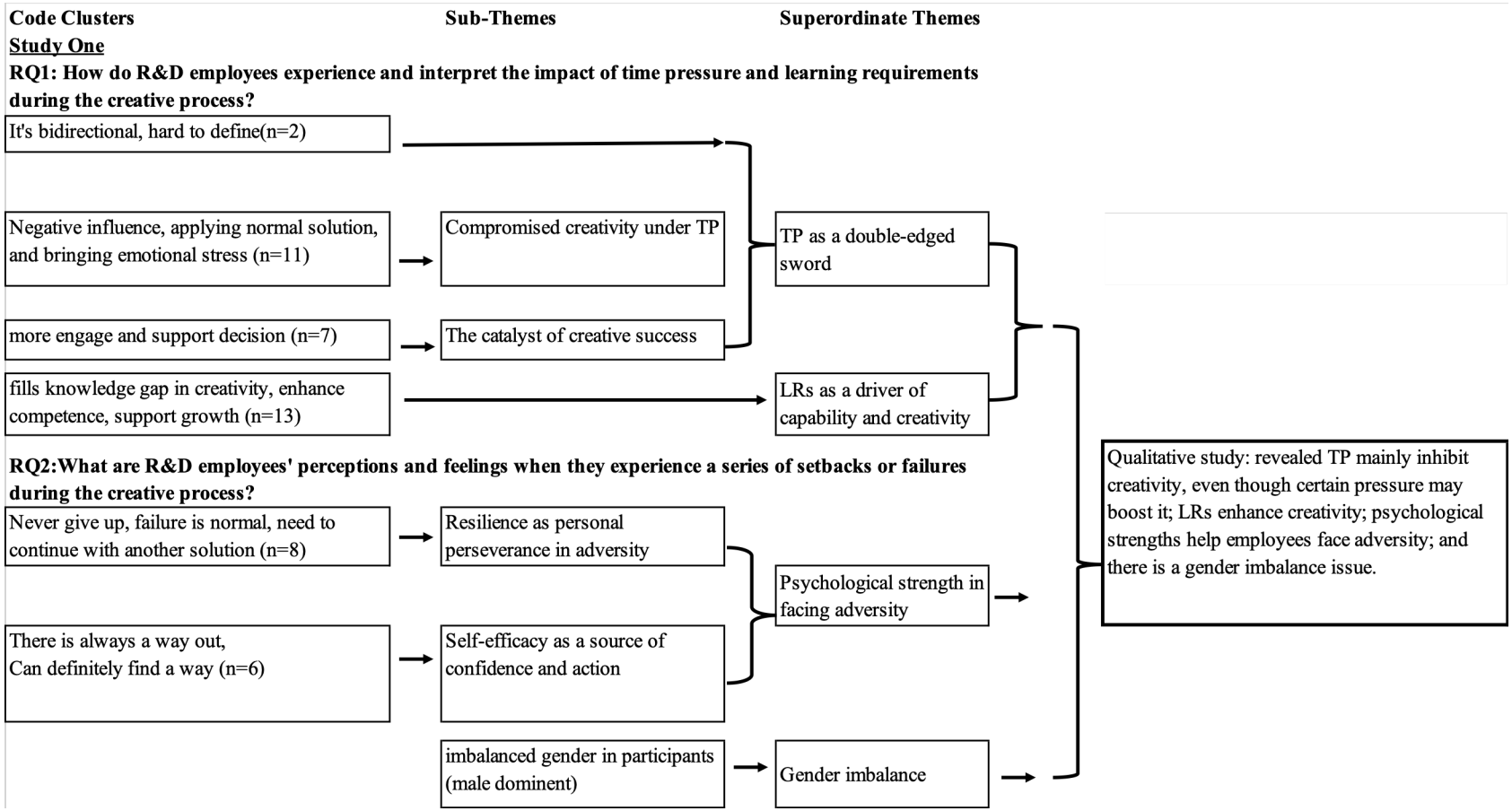
In the Chinese industrial context, attitudes towards gender remain, in many ways, closely tied to social and family traditions (Attané, 2012). Gendered expectations are deeply embedded, shaped by Confucian values and entrenched patriarchal norms (Ji et al., 2017; Ji & Yeung, 2014; Xu et al., 2023). Traditionally, Chinese culture has emphasised that women should prioritise family responsibilities over personal or career aspirations. Moreover, a prevailing social norm persists whereby a wife’s career is expected not to surpass that of her husband (Lee Cooke and Xiao 2014; Wang et al. 2024).

Although societal attitudes towards women’s participation in paid employment have gradually evolved, women are increasingly expected to engage in

the labour market without corresponding improvements in job security or reductions in domestic responsibilities (Wang et al., 2024a). Such persistent structural and cultural biases within both society and industry may contribute to the gender imbalance observed in the present study. Table 6 illustrates the qualitative data analysis outcomes during the process and the overall findings with the IPA approach.

Table 6

Overview of IPA Analysis Results



Discussion

The study identified three superordinate themes corresponding to the research questions. For the first superordinate theme of TP as a double-edged sword, in the study, most employees exhibited an avoidance-oriented attitude towards TP. Consequently, the onset of TP is likely to trigger negative attitudes and affective responses. In the Chinese context, under a highly demanding work environment, it is possible that for most employees, TP plays as a hindrance job stressor like a burden rather than a motivator (Chang & Chen, 2013; Song et al., 2024), which exerts stress on employees, depleting cognitive resources, leading to impairing CP. While this is not always the case, under the same circumstances, for some employees, they feel stress too, but they perceive it as a kind of challenge, they may focus more on the goal, collect related knowledge, concentrate their efforts, and leverage resources towards creative problem-solving tasks (Zhou et al., 2024), thereby leading to enhanced CP. It is also simply because, as TP intensifies and deadlines draw closer, the heightened sense of urgency may function as an alert mechanism that refocuses employees' attention on task completion and shifts their attention to tasks that are not urgent, thus benefiting from providing ideas for creative practices (Zhang et al., 2023b). Former studies from Yu and Wang (2022); Zhou et al. (2024) indicated that TP acts as both an enabler and inhibitor of CP under different conditions, which supports this finding.

With regard to the superordinate theme of LRs as a driver of capability and creativity, LRs enrich employees' knowledge and skill repertoires, thereby helping to fill gaps in domain-relevant knowledge that are essential for creative work (Ceptureanu et al., 2024). By expanding employees' cognitive resources, LRs

facilitate the exploration of alternative perspectives and support the identification of novel approaches during the creative process (Ceptureanu et al., 2024; Zhou et al., 2024). In addition, LRs may enhance employees' sense of competence and mastery, reinforcing perceptions of professional growth and career development. From a COR perspective, such demands are more likely to be appraised as growth-facilitating challenges rather than threats to existing resources (Hobfoll et al., 2018). Although some studies suggest that knowledge-seeking behaviour can increase cognitive load and lead to resource depletion (Burmeister et al., 2022), this effect may be less evident in the context of the present study. In Chinese cultural contexts, individuals often exhibit a strong motivation for self-improvement, which may buffer or offset the potential resource-draining effects of LRs (Zhang et al., 2021b). Consequently, LRs are expected to promote higher levels of CP (Glaser et al., 2015; Mohammad et al., 2024).

The superordinate theme of psychological strengths in facing adversity refers to the personal resources that employees draw upon to cope with challenges encountered during the creative process. The findings align well with the actor-context interplay for creativity, demonstrating how actors (personal strengths) interact with context (job stressors) to jointly shape creative outcomes. From the COR perspective, such resources play a central role in shaping how individuals respond to stressful events (Hobfoll et al., 2018; Hobfoll & Shirom, 2000b). Prior research consistently indicates that self-efficacy is a critical resource for accomplishing tasks that involve uncertainty and challenge (Lua et al., 2023). Because creative work is inherently characterised by setbacks and frequent failure (Amabile & Pratt, 2016), employees with higher self-efficacy are more willing to engage in difficult and ambiguous tasks, including creative endeavours. Their

confidence in their capabilities influences activity choices, sustains effort over time, and promotes persistence in the face of obstacles. Moreover, individuals with strong self-efficacy are more likely to appraise demanding situations as opportunities for growth rather than as threats (Sweetman et al., 2011).

In addition, resilience provides the psychological endurance necessary to persist under pressure and to adapt to setbacks inherent in the creative process. Resilient employees are better able to recover from failures, regulate negative emotions, and maintain engagement with creative tasks, which may ultimately enhance CP (Sweetman et al., 2011). From the COR perspective, PsyCap represents a key personal resource that individuals can draw upon to cope with stressful events (Grover et al., 2018; Jabeen et al., 2022; Schaufeli & Taris, 2014). Among its components, resilience is particularly critical, as it serves as a protective mechanism that enables individuals to cope with stressors and mitigate the impact of risk factors (Luthans et al., 2014). Employees high in resilience are better able to cope with and bounce back from setbacks and failures, which are inherent in the creative process (Masten & Reed, 2002). Empirical evidence further suggests that resilience positively enhances creativity by helping employees overcome challenges, recover from stressful experiences, and maintain a positive orientation, thereby facilitating the generation of novel and radical ideas for organisational improvement (Mohammad et al., 2024). Taken together, these findings support the present study's results, which indicate that employees actively utilise resilience as a key psychological resource when confronting adversities during the creative process.

The existing literature provides strong support for the role of both self-efficacy and resilience as personal psychological strengths that have the potential to facilitate employees dealing with setbacks and failures. In line with this, the present

findings demonstrate that self-efficacy and resilience represent key psychological resources that enable employees to cope effectively with adversity and to sustain creative engagement under challenging conditions.

Chapter Summary

This chapter presented the findings of Study One, which is grounded in the theoretical framework of actor–context interplay for creativity and COR theory, addressed conflicting findings in the literature concerning the effects of TP and LRs on creativity, and the unresolved question of how R&D employees experience adversities. Using a qualitative methodology, the study designed semi-structured interviews, which enabled the exploration of employees' authentic insights and unspoken reflections during the creative process. The IPA approach supported the data collection and the data analysis process. The findings were organised into three superordinate themes. Accordingly, a discussion integrating these findings with the relevant literature and supporting empirical evidence was presented at the end of the chapter.

Chapter Five: Study Two – Positivity at Work: How Psychological Capital and Job Stressors Shape Employee Creativity

Chapter Overview

This chapter presents Study Two of the thesis. It begins with a background introduction, including the research gaps and research questions aligned with the thesis's goal. Followed by research rationale and hypotheses. The research methodology is presented prior to the findings. The findings section reports descriptive statistics, data analyses, measurement validation, measurement model validation, preliminary checks, and results of hypothesis testing. Finally, the chapter concludes with a discussion of the findings.

Introduction

China, as the world's largest manufacturing hub, contributes more than 28% of global manufacturing output (Jahanger et al., 2023). Since 2009, the Chinese automotive sector has become the largest car producer in the world (Yu et al., 2022). In this highly competitive and rapidly changing industry, creativity has become a vital factor for organisational survival and long-term growth (Xu & Shi, 2023). Increasing competition from international peers has forced automotive manufacturers to consistently boost their creativity (Liu et al., 2023b). Creativity is widely recognised as the main driver enabling companies to achieve technological upgrades, cost efficiency, and sustained competitive advantage in this fast-evolving sector (Xu & Chen, 2020). Leading firms such as BYD show how ongoing technological and organisational innovation supports strategic success and market leadership in the NEV industry (Indiran et al., 2023; Ying, 2023). In light of

growing global competition and technological disruptions, maintaining CP at the employee level becomes crucial for firms to turn innovation demands into actual results. CP includes the production of novel and useful ideas (Amabile, 1988) and thus encapsulates an individual's willingness to take risks by challenging the status quo in order to develop solutions that are qualitatively different from previous ones (Shalley & Gilson, 2004).

Increasing competition has also led to more demanding job stressors within the industry. Employees in the manufacturing sector often face long working hours, heightened performance expectations, and continuous competitive pressure (Hong et al., 2022; Nguyen et al., 2024). These issues are especially prominent in the automotive industry, which is experiencing a rapid shift from ICEVs to NEVs (Hu & Yuan, 2018; Tian et al., 2024). This transformation further amplifies work demands, contributing to elevated levels of stress, fatigue, and even depressive symptoms among employees (Pang et al., 2025). All of which may hinder employee CP (Amabile & Pratt, 2016; Hobfoll et al., 2018). In this context, understanding how CP can be maintained under such challenging conditions becomes both academically important and practically necessary.

Workplace stress has become increasingly prevalent, with some scholars describing it as reaching an epidemic level over the past decades (Cavanaugh et al., 2000; Podsakoff et al., 2023). As noted by Lu et al. (2021), China represents a critical context for job stressor research due to ongoing industrial restructuring, rapid social modernisation, and intensifying market competition. Job stressors refer to work characteristics and events that individuals perceive as demanding, triggering physiological and psychological strain responses that may adversely affect health and well-being (Sonnentag, 2018). Traditionally, job stressors have been associated

with negative outcomes such as strain, exhaustion, and reduced performance (Bakker & Demerouti, 2007; Hobfoll, 1989). However, this view provides only a partial understanding. Emerging evidence suggests that certain types of stressors may also have motivational and performance-enhancing effects under specific conditions (Podsakoff et al., 2023; Schilbach et al., 2023). For example, empirical evidence suggests that teachers' cognitive demands function as challenge stressors and positively influence work engagement (Breevaart & Bakker, 2018). Similarly, TP and LRs have been conceptualised as challenge stressors, both of which are positively associated with thriving at work (Prem et al., 2018).

To explain this dual nature of workplace stress, Cavanaugh et al. (2000) proposed the challenge–hindrance stressors framework. Challenge stressors (e.g., workload, responsibility, and complexity) are generally associated with personal growth and positive outcomes, whereas hindrance stressors (e.g., organisational constraints and job insecurity) tend to obstruct goal attainment and lead to negative outcomes. Central to this framework is the notion that the impact of stressors depends on individuals' cognitive appraisal and the resources available to cope with them. One of the most widely examined job stressors in organisational research is TP (Baer & Oldham, 2006; Hsiao et al., 2017; Podsakoff et al., 2023; Song et al., 2023; Zhou et al., 2024). At the same time, in an increasingly dynamic and fast-evolving environment, learning has emerged as a cornerstone in organisational literature, as it enables individuals and organisations to adapt to the changing circumstances (Rad & Boco, 2024; Springmier et al., 2024).

Given that TP and LRs are two prominent job stressors in modern organisations, especially in dynamic, knowledge-intensive sectors, their significance has garnered increasing scholarly interest (Prem et al., 2018; Schilbach et al., 2023).

TP refers to the perceived stress associated with the need to work at a faster pace than usual or with insufficient time (Prem et al., 2018; Zhou et al., 2024). Employees are increasingly expected to deliver creative outcomes under stringent TP (Yu & Wang, 2022; Zhang et al., 2023b). TP is widely recognised as a critical situational contingency influencing creativity (Aleksic et al., 2017) and a significant determinant of stress and well-being (Kubicek et al., 2023). While TP may also act as a motivator, it can generate cognitive overload and emotional strain, producing both enhancing and inhibiting effects depending on employees' self-regulatory capacities and cognitive appraisals (Lazarus, 1974; Schilbach et al., 2023).

As a key job stressor, the extant literature reveals a complex and heterogeneous relationship between TP and creativity, e.g., a J-shaped relationship (Song et al., 2023), a U-shaped relationship (Aleksic et al., 2017), an inverted U-shaped relationship (Zhang et al., 2023b), a negative relationship (Song et al., 2024), a positive relationship (Hsiao et al., 2017), and a positive relationship in the condition of individuals perceive the job as a challenge or under a weak organisational innovation climate (Hsu & Fan, 2008, 2010; Ohly & Fritz, 2010). These mixed results indicate a lack of consensus regarding the functional form of the TP–creativity relationship. Consequently, there remains a notable gap in the literature in understanding how TP influences creativity, highlighting the need for further empirical investigation to clarify these relationships.

LRs are defined as obtaining the necessary theoretical, social, and technical knowledge and skills to fulfil work tasks effectively in the workplace (Glaser et al., 2015; Meyer & Hünefeld, 2018; Prem et al., 2018). With rapid technological and business developments, organisations must continually update and adapt their knowledge to stay competitive and adapt to the dynamic changing environment, and

employees need to seek and learn new knowledge to perform well (Burmeister et al., 2022; Hael et al., 2024). Moreover, the expectation of career development and maintaining employability also requires employees to acquire new knowledge and skills constantly (Glaser et al., 2015; Meyer & Hünefeld, 2018). The business development requires organisations to promote learning to enable the potential of new technologies or ideas (Indiran et al., 2023). LRs are the key to creativity (Hael et al., 2024) and help organisations to maximise their creativity (Alyammahi et al., 2024).

Existing studies present conflicting results regarding the impact of LRs on CP as well. Among the limited empirical studies, Glaser et al. (2015) have presented a positive link between LRs and CP, since acquiring new knowledge and skills can support employee career development and help them effectively perform their roles (Burmeister et al., 2022; Glaser et al., 2015). Conversely, a negative association has been found between LRs and work performance (Mikkelsen & Olsen, 2019), as knowledge-seeking may lead to intrinsic cognitive load and resource depletion (Burmeister et al., 2022). The degree to which LRs act as either challenge or hindrance stressors remains uncertain, as do the contextual boundary conditions influencing their effects. Existing research reveals a lack of empirical investigation into the role of LRs within organisational contexts (Meyer & Hünefeld, 2018).

These stressors are deeply embedded in employees' daily work experiences and play a crucial role in shaping their performance and creativity. Drawing on the challenge–hindrance stressor framework (Cavanaugh et al., 2000; Podsakoff et al., 2023), this study conceptualises TP as a hindrance stressor, as it mainly constrains employees' available time resources, limits cognitive processing, and may impede creative exploration. In contrast, LRs are conceptualised as a challenge stressor, as

they mainly encourage skill development, knowledge acquisition, and adaptive learning, which may foster creativity.

While job stressors represent the context, employees' responses to these demands are shaped by their personal resources (Hobfoll & Shirom, 2000a). One of the most important psychological resources in the workplace is PsyCap (Grover et al., 2018; Jabeen et al., 2022; Schaufeli & Taris, 2014), as it directly affects perceptions of job demands, job resources, work engagement, well-being and work outcomes. PsyCap comprises self-efficacy, hope, optimism, and resilience (Luthans & Youssef, 2004). It has been consistently linked to positive employee outcomes, including performance, satisfaction, and commitment (Luthans et al., 2008b).

Individuals with high PsyCap possess the psychological resources to buffer job-related stressors, leading to greater creativity (Ghafoor & Haar, 2022). Prior research has consistently demonstrated a positive relationship between PsyCap and CP (Avey et al., 2011; Ghafoor & Haar, 2022; Yu et al., 2019). It is plausible that PsyCap plays a moderating role, exerting leverage effects on both hindrance job stressors of TP and challenge job stressors of LRs in shaping employees' CP. However, insufficient attention has been paid to how PsyCap leverages the effects of different types of stressors (hindrance vs. challenge) on creativity.

According to the conservation of resources (COR) theory, resources play a key role in determining how individuals respond to and cope with stressful events (Hobfoll et al., 2018; Hobfoll & Shirom, 2000a). Individuals strive to obtain, retain, and protect valuable resources (Hobfoll, 1989). PsyCap represents a key personal resource that enables employees to cope with demanding situations and sustain performance under stress (Hobfoll et al., 2018; Xanthopoulou et al., 2007). Work conditions, including job stressors, can either facilitate or hinder processes of

resource gain and loss. At the same time, the actor–context interplay framework for creativity (Zhou & Hoever, 2014, 2023) suggests that creativity emerges from the dynamic interaction between individual characteristics (actor) and situational factors (context). Integrating this perspective with COR theory, this study conceptualises CP as an outcome of the interplay between contextual demands (TP and LRs) and personal resources (PsyCap). In this study, CP is not regarded as a mental process. It is conceptualised as a work-related outcome reflecting employees' generation of novel and useful ideas (Amabile, 1988), and as a work-related secondary resource that may contribute to further resource accumulation (Hobfoll, 2001; Wright & Bonett, 2007).

Building on the above discussion and in line with the overall thesis objective, this study seeks to examine how contextual stressors and personal resources jointly shape employee CP. Accordingly, the following research questions are proposed:

RQ1: What is the curvilinear impact of TP on employee CP?

RQ2: What is the curvilinear impact of LRs on employee CP?

RQ3: Does PsyCap moderate the curvilinear relationship of TP on CP?

RQ4: Does PsyCap moderate the curvilinear relationship of LRs on CP?

To address these research questions, a two-wave survey design was used to examine the relationships among key constructs and their underlying mechanisms. This research design provides robust empirical evidence not only to determine whether TP and LRs inhibit or enhance employee CP, but also to uncover how PsyCap buffers these effects.

By focusing on TP and LRs, this study captures two distinct yet complementary forms of job stressors that are highly salient in the Chinese automotive industry, particularly under conditions of rapid technological

transformation and intensified competition (Zhang & Qin, 2018). In doing so, it moves beyond treating job stressors as having linear effects on CP, instead conceptualising TP and LR as exhibiting curvilinear relationships. The study also conceptualises both stressors as either hindrance and/or challenge stressors, thus further acknowledging the possible dual nature of their impact on CP.

This study responds to recent calls for deeper conceptual development and a broader exploration of the interplay between actor and contextual factors in creativity research (Zhou & Hoever, 2023; Zhu, 2025). Specifically, it advances understanding by examining interactive effects between job stressors and personal psychological resources within a unified framework. Empirically, drawing on both the actor–context interplay perspective and COR theory, this study addresses an important gap by providing further empirical evidence on the joint influence of job stressors and personal resources on CP.

Overall, this study contributes to the literature by unpacking the dynamic and conditional effects of job stressors, offering a more fine-grained understanding of how and when contextual job stressors facilitate or constrain creativity. This is particularly important in emerging industrial contexts such as China's automotive sector, where employees are required to continuously adapt to rapid innovation cycles, technological shifts, and evolving market demands (Hu & Yuan, 2018).

Conceptual Framework

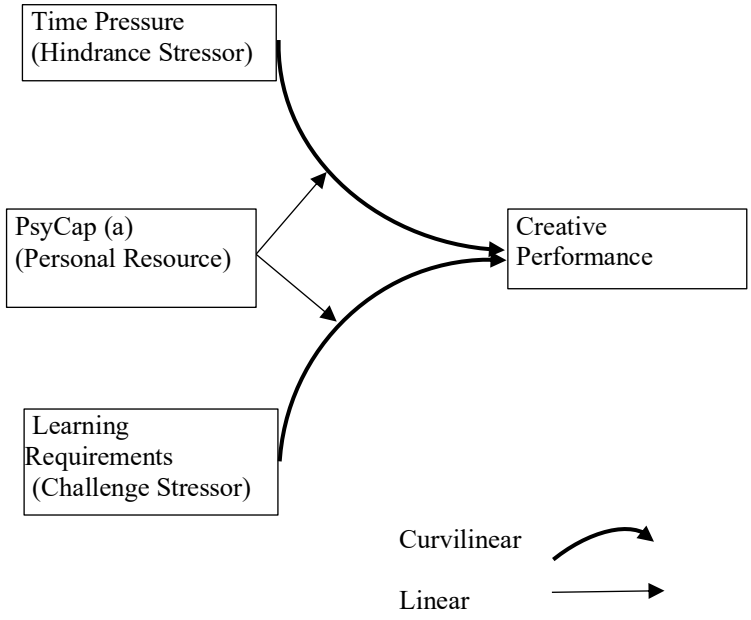
From the actor-context interplay perspective (Woodman et al., 1993; Zhou & Hoever, 2014, 2023), creativity is understood as an outcome shaped by the dynamic interplay between personal and contextual factors rather than relying solely on a single-actor explanation. In this study, PsyCap represents a key personal resource,

while TP and LRs capture salient contextual demands. This perspective aligns closely with the core tenet of COR theory, which emphasises the interaction between individual resources and job stressors. Specifically, COR theory posits that personal resources such as PsyCap enable individuals to cope with and respond effectively to job stressors (e.g., TP and LRs), thereby facilitating adaptive functioning, including CP (Halbesleben et al., 2014; Hobfoll et al., 2018). Furthermore, drawing on the challenge-hindrance stressors framework, TP is conceptualised as a hindrance stressor, whereas LRs are treated as challenge stressors in this study. As such, both stressors may exert dual effects, either facilitating or constraining CP, depending on how individuals perceive the stressors and mobilise their psychological resources to respond to these demands.

Taken together, this study advances an integrated theoretical framework that combines actor-context interplay for creativity, COR theory, and the challenge-hindrance stressors framework to examine the joint effects of TP, LRs, and PsyCap on CP. Consistent with Aleksic et al. (2017), this study proposes that TP exhibits a U-shaped relationship with CP. In contrast, drawing on prior studies (Burmeister et al., 2022; Glaser et al., 2015; Mikkelsen & Olsen, 2019), LRs may facilitate or constrain CP. In this study, LRs are expected to demonstrate an inverted U-shaped relationship with CP. Furthermore, PsyCap, as a key personal resource, is proposed to moderate both the U-shaped relationship between TP and CP and the inverted U-shaped relationship between LRs and CP. See the conceptual framework of Study Two as Figure 4.

Figure 4

Conceptual Framework: the Moderating Role of PsyCap



Hypotheses

The Effects of Time Pressure and Learning Requirements on Creative Performance

Time Pressure and Creative Performance. Within the Chinese automotive context, Study One indicates that most employees perceive TP as detrimental to creativity, although a minority report enhanced creativity under higher TP. Drawing on both prior literature review and Study One, the present study hypothesises that TP primarily acts as a hindrance stressor that depletes cognitive and emotional resources, constrains incubation and exploratory processes, and consequently undermines CP (Amabile & Pratt, 2016). However, under high TP, employees may increasingly mobilise personal psychological resources, giving rise to a rebound in

CP. As a result, TP has a U-shaped effect on CP. The rationale is that at low to moderate levels, TP is likely to induce cognitive rigidity and resource exhaustion (Baer & Oldham, 2006). Such strain depletes employees' resilience and attentional capacity, limits their ability to engage in sustained creative processing, and negatively influences CP (Song et al., 2024). However, from the perspective of COR theory, high levels of TP may signal an imminent threat of resource loss, given that time constitutes a critical and finite workplace resource. In response to this threat, individuals may reallocate attention towards intensified goal focus and actively mobilise remaining psychological resources, including self-efficacy, resilience, and cognitive persistence. This resource mobilisation facilitates deep concentration on problem-solving and enables inventive responses under constrained conditions. In such circumstances, employees may shift their coping strategy (Wu et al., 2022), characterised by rapid problem reframing, improvisation, heuristic reasoning, and the exploitation of existing knowledge rather than broad exploratory search. Consequently, CP may partially rebound under high TP, forming a U-shaped curve.

Complementing this rationale, prior research suggests that for some individuals, particularly those prone to active procrastination, high TP may be appraised as a challenge stressor and a motivating force. Delayed task engagement may function as an incubation period during which ideas develop subconsciously, while the approaching deadline triggers heightened focus and effort, ultimately facilitating creative outcomes (Liu et al., 2017). Overall, TP is expected to exert a predominantly negative effect on CP at lower to moderate levels. However, at high TP levels, CP may rebound as the intensified pressure signals an imminent threat of resource loss. In response, employees may shift their coping strategies, with the approaching deadline triggering heightened focus, effort, and goal-directed

behaviour. As a result, cognitive resources and attention are remobilised, leading to a recovery in CP. These arguments suggest that TP exerts a U-shaped effect on CP, such that creativity declines at moderate levels of TP but recovers when pressure becomes high. Accordingly, the study proposes the following hypothesis:

H1: TP is expected to have a U-shaped curvilinear effect on CP, such that CP decreases at lower to medium levels of TP, but CP increases at medium to higher levels.

Learning Requirements and Creative Performance. LRs may enrich employees' knowledge and skills, which may support them in handling creative challenges to generate novel and useful ideas, products, or services. Such a notion aligns with Ceptureanu et al. (2024), who argued that individual learning is positively correlated with CP, as learning can initiate positive and systematic changes in employees' knowledge and skills. This often leads to employees developing new ways to complete their tasks and discovering creative solutions for their work (Ceptureanu et al., 2024; Zhou et al., 2024). In this study, LRs are operationalised as a challenge stressor.

The acquisition of knowledge and enhancement of skills may also foster employees' self-esteem and sense of competence, aligning with their aspirations for personal and career development. Thus, high LRs are likely to be perceived as valuable by employees, as they offer essential psychological resources that enable individuals to view LRs as opportunities for growth rather than as threats (Hobfoll et al., 2018). Specifically, the heightened requirements for continuous learning may amplify the positive impacts on CP, as employees with enhanced knowledge and skills are better positioned to engage in creative problem-solving and turning problems into opportunities (Huang & Luthans, 2015; Sweetman et al., 2011).

When LRs increase from low to moderate levels, we expect it activate the motivational and adaptive actions, leading to heightened CP. However, even beneficial factors, when present in excess, may be harmful; similarly, excessively high LRs can deplete resources, leading to cognitive and emotional strain (Meyer & Hünefeld, 2018). Thus, high levels of LRs may limit the positive effects on CP, resulting in an inverted U-shaped curve.

Overall, these arguments indicate that LRs predominantly show positive influences on CP. At low to medium levels, LRs are likely to have positive effects on CP. However, at high levels of LRs, the cognitive and emotional strain under such high demands may induce demotivation and fatigue, and CP get negatively influenced. As a result, forming an inverted U-shaped relationship with CP. Based on the above argumentation, the study proposes the following hypothesis:

H2: LRs have an inverted U-shaped impact on CP, such that CP increases at lower to medium levels of LRs but decreases at medium to higher levels.

The Moderating Role of PsyCap in the Relationship between Time Pressure, Learning Requirements and Creative Performance

Prior research has shown that employees with higher levels of personal resources are more likely to cope with demanding contexts better in the workplace (Bakker & Demerouti, 2018; Hobfoll et al., 2018). PsyCap, as a critical personal resource, has been found to support employees in coping with job demands and mitigating negative outcomes (Youssef-Morgan & Luthans, 2015). PsyCap may assist employees in psychologically managing their course of action when faced with challenges and in searching for novel ideas (Sweetman et al., 2011). From a COR theory perspective (Hobfoll, 2001), resources refer to anything that enables

individuals to attain valued goals, and individuals with greater resource reserves are less vulnerable to resource loss and more capable of acquiring additional resources.

Importantly, CP is not only resource-intensive but also inherently uncertain and effortful, involving risks of failure and cognitive strain that may threaten existing resources (Nijstad et al., 2010; Shalley & Gilson, 2004). Within this context, TP and LRs represent salient contextual demands that require continuous resource investment. Specifically, TP can be a situational pressure that intensifies the threat of resource loss, potentially impairing functioning when individuals lack sufficient internal resources to cope (Hobfoll et al., 2018). Similarly, LRs necessitate sustained cognitive engagement and ongoing adaptation, thereby placing demands on individuals' resource reservoirs.

Drawing on the actor–context interplay for creativity, the extent to which these demands facilitate or constrain CP depends on the personal resources that individuals can mobilise. In this regard, PsyCap represents a critical personal resource that enables individuals to respond more effectively to demanding job stressors. Employees with higher levels of PsyCap possess the self-efficacy to generate and implement novel ideas, the hope to redirect effort towards alternative pathways when encountering obstacles, the resilience to recover from setbacks, and the optimism to maintain positive expectations regarding creative outcomes (Huang & Luthans, 2015; Sweetman et al., 2011; Yu et al., 2019). Empirical evidence further supports a positive association between PsyCap and CP (Ghafoor & Haar, 2022; Sweetman et al., 2011; Yu et al., 2019).

These psychological resources not only buffer against the adverse effects of TP and LRs but also facilitate the replenishment and reinvestment of resources, thereby supporting sustained engagement in the creative process. As such, PsyCap is

likely to shape how individuals respond to varying levels of TP and LRs, particularly in the context of their curvilinear effects on CP.

Overall, given that both TP and LRs require substantial cognitive engagement and resource investment, individuals with differing levels of PsyCap are likely to vary in their capacity to cope with these demands and sustain CP. Accordingly, the following hypotheses are proposed:

H3: PsyCap moderates the U-shaped TP-CP relationship

H4: PsyCap moderates the inverted U-shaped LRs-CP relationship

Methodology

Sampling and Data Collection Procedures

Study Two employed a convenience sampling strategy. The research targets employees at five automotive manufacturing companies (Companies A–E) in China. Convenience sampling is deemed appropriate because it allows access to a specific and relevant occupational group while ensuring the feasibility of data collection across geographically dispersed sites (Bornstein et al., 2013; Teddlie & Yu, 2007).

Among the participating organisations, Companies A–D are subsidiaries of a foreign-funded enterprise, while Company E is a local private firm. The five companies are located in diverse regions of China, providing broad coverage of the country's manufacturing landscape: Company A, located in Kunshan City, Jiangsu Province, has 494 employees and serves as the headquarters for the companies in Asia. Company B, located in Changchun City, Jilin Province, has 151 employees; Company C, situated in Shenyang City, Liaoning Province, has 247 employees; Company D, based in Huainan City, Anhui Province, has 89 employees; Company E, located in Suzhou City, Jiangsu Province, has 130 employees. Collectively, these

organisations provide a sampling frame of 1,111 potential participants across multiple functions in the companies, including production, quality, logistics, HR, R&D, and sales.

To minimise common method bias (CMB), data collection followed a two-wave survey design (Podsakoff et al., 2012). Measures of the independent variables (TP and LRs) and moderators (PsyCap and its sub-dimensions) were measured in wave one, while measures for the dependent variable (CP) were collected in wave two. Following recommendations from Lee et al. (2024) and Dormann and Griffin (2015), a one-week time lag was adopted between the two waves, as short-interval designs were considered more effective for reducing transient bias and improving internal validity.

To further reduce the impact of careless responses, the study used identified online questionnaires containing attention check questions to identify inattentive or careless responses (Meade & Craig, 2012). Respondents were asked to select "never" for the designated control item in wave one and "strongly agree" for a different control item in wave two. Participants who failed to follow these instructions were excluded from the final dataset.

Prior to survey administration, project launch meetings were organised in collaboration with HR departments and senior management to explain the research purpose, procedures, and ethical safeguards, ensuring participant understanding and organisational support. Data were collected via Sojump, a secure Chinese online survey platform. Respondents accessed the questionnaires by scanning unique QR codes distributed through internal communication channels.

A total of 983 valid responses were obtained in wave one. One week later, the same participants were re-contacted, resulting in 901 matched responses for

wave two. After excluding cases with extremely short completion times and incorrect answers to the attention check questions, 639 paired responses were retained for final statistical analysis. This two-wave dataset served as the empirical basis for Study Two, enabling the testing of both direct and moderated effects proposed in the conceptual framework.

Among the valid respondents, 72% were male, a proportion that aligns closely with the gender distribution reported in the global automotive industry, where approximately 76.4% of the workforce was male in 2019 (Coffin & Lawrence, 2020). This demographic consistency suggests that the sample reflects the typical gender composition of the industry, which remains predominantly male due to the historical and technical nature of many R&D and production roles. In terms of age distribution, the majority of participants (84%) were between 25 and 44 years old, representing the prime working-age group commonly associated with peak professional engagement and creative productivity.

Regarding work experience, 66% of respondents had accumulated between 5 and 19 years of professional experience, indicating a mature and experienced workforce capable of offering nuanced reflections on creative challenges in their organisations. Additionally, 24% of participants held managerial or supervisory positions, providing a balanced mix of perspectives across hierarchical levels within the automotive manufacturing context. This demographic composition enhances the representativeness and credibility of the findings by capturing both individual contributors and managerial viewpoints on creativity. Table 7 presents the detailed demographic profile of the respondents.

Table 7

Profile of Respondents

Category	Type / Group	No. of Respondents	Percentage (%)
Gender	Male	460	72%
	Female	179	28%
Age (Years)	<25	44	7%
	25-34	228	36%
	35-44	308	48%
	45-54	57	9%
	≥ 55	2	0%
Position	Normal employee	486	76%
	Shift Management	51	8%
	Supervisor	61	10%
	Manager	31	5%
	Director or above	10	2%
	<1	31	5%
Tenure (Years)	1-4	128	20%
	5-9	148	23%
	10-19	272	43%
	≥ 20	60	9%
Education	Middle school or below	81	13%
	High/secondary school	228	36%
	Diploma	145	23%
	Bachlor	169	26%
	Masters or above	16	3%

Note. N = 639

Measures

This study used scales that have previously been published as highly valid measures. Because the measures in this study are initially in English, a translation-back-translation procedure was used for the Chinese measures to avoid losing the original meaning (Klotz et al., 2023). Two bilingual PhD students performed the translation-back-translation process. The researcher compared the English and Chinese versions and corrected them for consistency in the original meaning. A Likert 5-point scale was used for all the scales (1 = never/strongly disagree, 5 = very frequently/strongly agree).

TP: was assessed by the "time pressure scale" from Steffgen et al. (2020), which includes two items. Sample item included "How often are you under time pressure or rushed in your work?" The Cronbach's alpha was 0.86.

LRs: was assessed by the "learning requirements scale" from Glaser et al. (2015), which includes three items. Sample item included "In my work, I have to acquire new theoretical knowledge regularly". The Cronbach's alpha was 0.81

PsyCap was assessed using the "compound psychological capital scale" from Dudasova et al. (2021). This scale was chosen because it demonstrates a psychometrically sound, accessible, and good fit to the theoretical model of PsyCap (four first-order factors and PsyCap as an aggregate second-order factor). Sample item included "I am looking forward to the life ahead of me" (hope); "I can think of many ways to reach my current goals" (optimism); "I am confident that I could deal efficiently with unexpected events" (self-efficacy); and "I consider myself a person who can withstand a lot" (resilience). The Cronbach's alpha for PsyCap was 0.93, with hope at 0.91, optimism at 0.72, self-efficacy at 0.84, and resilience at 0.86.

CP was assessed using the "creative performance scale" from Oldham and Cummings (1996). Employees self-rate their CP. An example item included "I am original and practical in my work". The Cronbach's alpha was 0.90.

Control variables

In line with prior literature, the study controlled for the following factors that may influence CP. First, building upon the findings from the meta analysis (Hora et al., 2022), there is a male advantage in CP, thus, gender was incorporated as a control variable in the current study to account for potential gender-based variations in creative engagement. Second, creative self-efficacy (CSE), defined as "the belief one has the ability to produce creative outcomes" (Tierney & Farmer, 2002, p.

1138), has been identified as a critical determinant of CP in meta-analytic findings (Haase et al., 2018). Therefore, the study controlled for participants' CSE using three items from Karwowski (2011). An example item includes "I would describe myself as a talented person". The Cronbach's alpha for CSE was 0.82. Third, prior research has reported that individuals with longer tenure are more likely to engage in innovative and creative behaviours (Ma et al., 2023; Ng & Feldman, 2013). Thus, the study controlled for tenure. Finally, the study also controlled employee's position (1 = common staff, 2 = shift management, 3 = supervisor,4 = manager, 5 = director and above), as prior research has shown individuals with managerial responsibilities may be better placed to perform creatively due to their structural positioning which allows to them to recognise opportunities, better synthesis information and marshal resources (Abukhait et al., 2023).

Controlling for these variables serves multiple methodological purposes. It isolates the unique contribution of independent variables to the dependent variables, mitigates the risk of spurious associations caused by confounding influences, and enhances the precision and interpretability of the estimated effects (Becker, 2005; Bernerth & Aguinis, 2016). By accounting for these established predictors of creativity, this study strengthens the internal validity of its analytical model and bolsters the robustness and credibility of its empirical conclusions.

Data Analysis

IBM SPSS Statistics version 29 was used to perform preliminary diagnostic analyses, including data screening, descriptive statistics, normality and multicollinearity checks, internal consistency assessments, and common method bias (CMB) checks. Subsequently, IBM SPSS AMOS version 29 (Arbuckle, 2022)

was used to conduct confirmatory factor analysis (CFA). The CFA procedure involved evaluating factor loadings and examining model fit indices such as the comparative fit index (CFI), Tucker–Lewis index (TLI), root mean square error of approximation (RMSEA), and root mean square residual (RMR) (Brown, 2015). These indicators were used to assess the adequacy of the measurement model, while convergent and discriminant validity were evaluated based on factor loadings and additional validity criteria.

PROCESS (Hayes, 2017) v5.0 Model 0 was used to examine direct linear and curvilinear effects by including both linear and quadratic terms in the regression equation. This approach enables the estimation of nonlinear relationships within a regression framework and is commonly used to test curvilinear effects in behavioural research (Hayes & Preacher, 2010), and Model 1 was used to test the hypothesised moderation effects.

A priori power analysis was conducted using G*Power 3.1(Faul et al., 2009) to determine the minimum required sample size and to provide statistical justification that the study had sufficient power to detect the hypothesised effects. The analysis was performed using F tests for multiple linear regression. To be conservative, a medium effect size ($f^2 = 0.15$) was used, and the significance level was set at $\alpha = 0.05$, consistent with conventional practice in behavioural research (Cohen, 2013). Statistical power was set at power = 0.95 to ensure a conservative test and minimise Type II error. This higher power level is particularly appropriate given that moderated and nonlinear effects in organisational research are typically small (Aguinis et al., 2005). The calculated minimum required sample size for the moderated curvilinear model was 166. The present study included 639 valid

responses, exceeding the minimum requirement and indicating adequate statistical power.

Findings

Descriptive Analysis

The descriptive statistics and correlation results provided preliminary insights into the hypothesised relationships. Specifically, TP was found to be negatively correlated with CP, suggesting that higher levels of TP are associated with weakened creative engagement. Conversely, LRs demonstrated significant positive correlations with CP, underscoring its conducive role in the creative process and employee outcomes. Taken together, these correlation patterns lend preliminary support to the hypothesised model by aligning with the proposed directions of the relationships, while also setting the foundation for more rigorous hypothesis testing through subsequent PROCESS analysis. Table 8 displays the descriptive statistics, including scale range, means, standard deviations, and correlations among the studied variables.

Table 8

Descriptive Statistics and Intercorrelations for the Studied Variables

Variable	Range	M	SD	1	2	3	4	5	6	7	8	9
1. Gender	0-1	0.28	0.45	1								
2. Age	1-5	2.60	0.76	0.05	1							
3.Position	1-5	1.48	0.96	-0.06	0.36**	1						
4. Education	1-5	2.70	1.07	0.05	0.04	0.41**	1					
5.Tenure	1-5	3.32	1.05	-0.09*	0.48**	0.42**	0.31**	1				
6.CSE	1-5	2.97	0.77	-0.14**	0.15**	0.24**	0.29**	0.19**	1			
7.PsyCcap	1-5	3.98	0.52	-0.13**	0.12**	.078*	-0.02	0.00	0.25**	1		
8.TP	1-5	3.27	0.90	-0.01	0.13**	0.23**	0.26**	0.22**	0.23**	-0.17**	1	
9. LRs	1-5	3.68	0.64	-0.10*	0.06	0.14**	0.08*	0.03	0.36**	0.35**	-0.01	1
10. CP	1-5	3.67	0.68	-0.20**	0.06	0.14**	0.04	0.11**	0.31**	0.62**	-0.13**	0.35**

Note. N=639, *$p < .05$, **$p < .01$.

Measurement Quality Validation

To assess the measures and measurement model, structural equation modelling (SEM) was subsequently conducted in IBM SPSS AMOS version 29 (Arbuckle, 2022; Hair et al., 2011). Specifically, CFA was employed to validate the factor structure and establish the convergent validity of the measurement scales.

SEM is a comprehensive statistical approach used to test measurement, functional, predictive, and causal hypotheses (Bagozzi & Yi, 2012). It is particularly suited for examining complex research models that involve multiple variables and constructs, both observed (measured) and unobserved (latent) (Ghaleb & Yaslioglu, 2024). SEM combines a set of statistical techniques that facilitate the analysis of relationships between one or more independent variables (IVs) and one or more dependent variables (DVs). These relationships may include direct, indirect, or mediated effects, allowing researchers to assess not only correlations but also causal pathways. Because of this versatility, SEM is often referred to by various names such as causal modelling, causal analysis, simultaneous equation modelling, covariance structure analysis, path analysis, and CFA (Ullman & Bentler, 2012).

CFA is a type of structural equation modelling that focuses on measurement models, that is, the relationships between observed measures (such as test items, test scores, or behavioural observations) and underlying latent variables or factors. The goal of latent variable measurement models (also known as factor analysis) is to identify the number and nature of factors that account for the variation and correlation among a set of indicators (Brown & Moore, 2012). By using CFA, the study can assess the construct validity of attitudes and personality, and it also provides valuable insights into the relative stability of individual differences over

the lifespan. Results from CFA can provide strong evidence of the convergent and discriminant validity of the theoretical constructs (Brown, 2015).

When carrying out a CFA, the researcher sets the number of latent factors, specifies which indicators can load on each factor, decides whether correlations between factors are allowed, and determines whether there are any correlations among the residuals of the indicators. These decisions are based on empirical evidence from previous studies, often derived from EFA, as well as on theoretical considerations. As previous findings may support different models or contradict theoretical implications, it is necessary to compare multiple candidate models. Consequently, CFA users must decide which models best fit their data (Goretzko et al., 2024).

A factor is an unobservable variable that influences more than one observed measure and accounts for the correlations among these observed measures. In other words, the observed measures are intercorrelated because they share a common cause (i.e., they are influenced by the same underlying construct); if the latent construct were partialled out, the intercorrelations among the observed measures would be zero. CFA simplifies how people understand the relationships among many questionnaire items. Instead of treating each item separately, it shows that a smaller set of underlying factors explains the patterns of correlation among those items. This makes the explanation more efficient and theoretically meaningful (Brown & Moore, 2012). A fundamental strength of CFA approaches to construct validation is that the resulting estimates of convergent and discriminant validity are adjusted for measurement error. Thus, CFA provides a stronger analytic framework than traditional methods that do not account for measurement error (Brown, 2015).

This study evaluates CP and CSE using three observed items. Since the three-item factor was just-identified (df = 0), global fit indices such as χ^2, RMR, TLI, CFI, and RMSEA are unavailable. Following best practices, the study analysed factor loadings and reliability while reporting global fit for the overall measurement model (the full CFA including all latent variables), which is the standard level for assessing model fit. This method is common in the literature when dealing with 3-item factors (Czerwiński & Atroszko, 2023; Petersen et al., 2024).

This thesis uses factor loading, composite reliability (CR, also construct reliability), average variance extracted (AVE), and discriminant reliability to qualify the measurement quality. The standardised factor loading can be interpreted as the correlation between the indicator and the latent factor. In this thesis, standardised factor loadings greater than 0.50 were regarded as acceptable indicators of construct validity (Brown, 2015).

Even though Cronbach's alpha already provided a good internal consistency reliability for all the scales applied. According to Cheung et al. (2024), CR is a more appropriate measure for SEM-based studies since it can test the reliability at the latent construct level, it accounts for actual factor loadings, and is thus more accurate for SEM. CR demonstrates how well the latent variable (factor, construct) corresponds with its related observed variables in the measurement, showing the internal consistency model (Ghaleb & Yaslioglu, 2024). To conclude that a measurement is reliable, CR should be 0.70 or above (Cheung et al., 2024; Ghaleb & Yaslioglu, 2024). This means that the total error variance should make up less than 30% of the variance in the latent variable. People often assume that unreliable scales aren't a big issue in SEM because measurement errors are taken into account when estimating relationships among variable constructs (Cheung et al., 2024).

Convergent validity assesses the extent to which observed variables are strongly related to their underlying latent construct. High factor loadings from observed variables to their respective factor indicate the presence of convergent validity (Ghaleb & Yaslioglu, 2024). A common method for establishing convergent validity is the calculation of the average variance extracted (AVE), which reflects the proportion of variance in the indicators explained by the latent construct. AVE values range from 0 to 1, with values of 0.50 or higher indicating that the construct explains at least 50% of the variance in its indicators, thus providing evidence of convergent validity (Fornell & Larcker, 1981). In addition, it is advisable that the CR should be higher than AVE to demonstrate internal consistency and adequate reliability (Cheung et al., 2024; Ghaleb & Yaslioglu, 2024).

Discriminant validity indicates how well different latent factors in a research model are separate, which is demonstrated by having little or no correlation between them. This also means that the observed variables of each latent factor should be distinguishable from those of other unrelated factors (Ghaleb & Yaslioglu, 2024). Discriminant validity confirms that a construct measure is empirically distinct and captures phenomena of interest that other measures in a structural equation model do not detect (Henseler et al., 2015). This evaluation has become a broadly recognised prerequisite for analysing relationships between latent variables (Henseler et al., 2015).

Discriminant validity is established when two conceptually distinct constructs also demonstrate statistical separation. According to Fornell and Larcker (1981), this criterion involves comparing a construct's AVE with the squared correlations concerning other constructs within the model. The Fornell-Larcker criterion stipulates that the AVE of a construct should surpass all of its squared

correlations. Establishing discriminant validity also requires that each indicator loads exclusively on one construct. If an indicator measures two constructs, it becomes hard to argue that the constructs are distinct (Cheung et al., 2024). Taken together, high factor loadings, acceptable AVE values, good CR scores, and suitable discriminant validity provide robust evidence for the measurements' quality.

The CFA results demonstrated that all standardised factor loadings exceeded the recommended threshold of 0.50 and were statistically significant at the 0.001 level, confirming the strength of the indicator–construct relationships. In addition, CR values for all constructs were above 0.70, indicating strong internal consistency and satisfactory construct reliability. The AVE values for all constructs surpassed the 0.50 benchmark, thereby supporting convergent validity by confirming that more than half of the variance in the observed indicators was explained by their underlying latent construct. See Table 9.

TP and LRs were tested in separate models in line with the study's hypotheses. As each variable served as a focal predictor in its respective model, the other was not included as a control variable. This decision was made to avoid over-adjustment and to allow clearer interpretation of each stressor's relationship with CP and its interaction with PsyCap. Discriminant validity was assessed using the Fornell–Larcker criterion, which requires that the AVE for each construct be greater than the squared correlations it shares with other constructs (Cheung et al., 2024).

Table 9

Validity Findings for all Instruments

Construct	Item	Factor Loading	CR	AVE
TP	TP1	0.882	0.864	0.760
	TP2	0.862		
LRs	LR1	0.797	0.810	0.587
	LR2	0.740		
	LR3	0.761		
PsyCap	Hope	0.686	0.923	0.752
	Optimism	0.917		
	Resilience	0.885		
	Self-efficacy	0.955		
CP	CPSR1	0.858	0.895	0.740
	CPSR2	0.851		
	CPSR3	0.871		

Both models tested in this study met the criterion. Specifically, for each model, the square root of the AVE of each construct was greater than its correlations with other constructs, confirming that the constructs were empirically distinct. See Table 10 and Table 11.

Taken together, the evidence from factor loadings, CRs, AVEs, and the Fornell–Larcker discriminant validity assessment demonstrates that the measurement model employed in this study possesses satisfactory psychometric properties. These results provide strong support for the reliability and validity of the constructs adopted for subsequent structural model testing.

Table 10

Discriminant Validity – Time Pressure

Factor	1	2	3	Discriminant validity
PsyCap	**0.867**			OK
TP	0.168	**0.872**		OK
CP	0.616	-0.132	**0.860**	OK

Note. square root of AVE is shown in the bold diagonal in the table
the rest of the numbers show the correlations between factors

Table 11

Discriminant Validity – Learning Requirements

Factor	1	2	3	Discriminant validity
PsyCap	**0.867**			OK
LRs	0.351	**0.766**		OK
CP	0.616	0.351	**0.860**	OK

Note. square root of AVE is shown in the bold diagonal in the table
the rest of the numbers show the correlations between factors

Measurement Model Validation

IBM SPSS AMOS 29 with maximum likelihood estimation was applied for SEM procedures. SEM represents a comprehensive family of multivariate statistical techniques designed to examine hypothesised relationships between independent and dependent variables, which may be either continuous or categorical. It is also referred to as covariance structure analysis, simultaneous equation modelling, path analysis, or causal modelling. Within this broader framework, CFA constitutes a specialised application that focuses on the measurement model, allowing researchers to evaluate the extent to which the observed data support the proposed latent factor structure (Ullman & Bentler, 2012).

CFA seeks to determine whether the observed data correspond with the hypothesised factor structure, thereby assessing how well the empirical evidence supports the theoretical model underpinning the study (Ghaleb & Yaslioglu, 2024). Based on established guidelines for SEM (Cheung et al., 2024; Dash & Paul, 2021; Hair Jr et al., 2021), this thesis employed multiple fit indices to evaluate the adequacy of the measurement and structural models.

In particular, model fit was assessed using several widely recommended indices. Including CMIN/DF (Chi-Square Mean / Degree of Freedom), since chi-square is sensitive to sample size and the number of variables, dividing it by the degrees of freedom is suggested to lessen this sensitivity. A CMIN/DF value between 0 and 3 indicates a good model fit; between 3 and 5 is acceptable (Ghaleb & Yaslioglu, 2024).

The RMSEA is a widely used absolute fit index that evaluates how well a hypothesised measurement model reproduces the observed variance–covariance matrix. RMSEA values range from 0 to 1, with 0 indicating a perfect fit and values closer to 1 reflecting a poorer fit. Conventionally, an RMSEA value below 0.08 suggests an acceptable model fit, values between 0.05 and 0.08 are considered reasonable, and values below 0.05 indicate a close or good fit to the data (Ghaleb & Yaslioglu, 2024). It is considered the best informative fit index (Dash & Paul, 2021).

RMR indicate the average difference between observed and predicted covariances (Brown, 2015). It is calculated by taking the square root of the average residuals between the sample covariance matrix and the proposed covariance model. A smaller residual indicates a better fit for the model. An RMR value below 0.05 suggests an acceptable model fit. (Dash & Paul, 2021).

Tucker-Lewis index (TLI) referred to as the non-normed fit index, has features that compensate for the effect of model complexity; that is, the TLI includes a penalty function for adding freely estimated parameters that do not markedly improve the fit of the model (Brown, 2015). It encourages simpler models and discourages complex ones. It remains unaffected by small sample sizes. A threshold value of 0.90 or higher indicates a good model fit (Bagozzi & Yi, 2012; Dash & Paul, 2021).

The CFI is an indicator of relative noncentrality between a hypothesised model and the null model of modified independence (Bagozzi & Yi, 2012). It denotes the proportion of variance explained within a covariance matrix. It varies on a scale from 0 to 1. A higher CFI value reflects a superior model fit. Moreover, CFI is less susceptible to sample size influences compared to the chi-squared test (Fan et al., 2016). A threshold value of 0.90 and above suggests a good model fit. It is one of the most popular indices used in SEM (Brown, 2015; Dash & Paul, 2021).

The combined use of these indices reflects a comprehensive approach to model evaluation, balancing absolute, incremental, and parsimonious fit criteria. Table 12 provides a consolidated overview of the criteria adopted for assessing the model fit indices employed in this thesis.

Table 12

Level of Acceptance of the Model Fit Indices

Category	Name of index	Level of acceptance	Remarks
Absolute	Factor loading	>0.50	
	RMSEA	<0.08	RMSEA <0.05 is a good fit
	RMR	<0.05	RMR <0.03 is a good fit
Incremental	TLI	>0.90	TLI >0.095 is a good fit
	CFI	>0.90	CFI >0.095 is a good fit
Parsimonious	χ2/DF	<5.0	χ2/DF <3 is a good fit

Note. RMR = Root Mean Square Residual, TLI = Tucker-Lewis Index, CFI = Comparative Fit Index, RMSEA = Root Mean Square Error of Approximation. χ2/DF = Chi-squire divided by degree of freedom

Model I. Moderating Role of PsyCap in the Time Pressure–Creative Performance Relationship. When PsyCap was introduced as a moderator, the TP model based on the five-factor baseline structure demonstrated a satisfactory fit to the data (χ^2 = 414, df = 159, χ^2/df = 2.604, RMR = 0.025, TLI = 0.962, CFI = 0.968, RMSEA = 0.050). Importantly, this specification significantly outperformed all competing alternatives, including the unidimensional PsyCap model and the reduced four-, three-, and two-factor models. These findings indicate that the higher-order PsyCap construct provides the most accurate and parsimonious representation of the data, thereby justifying its use in this study. See Table 13. Figure 5 illustrates the CFA diagram.

Table 13

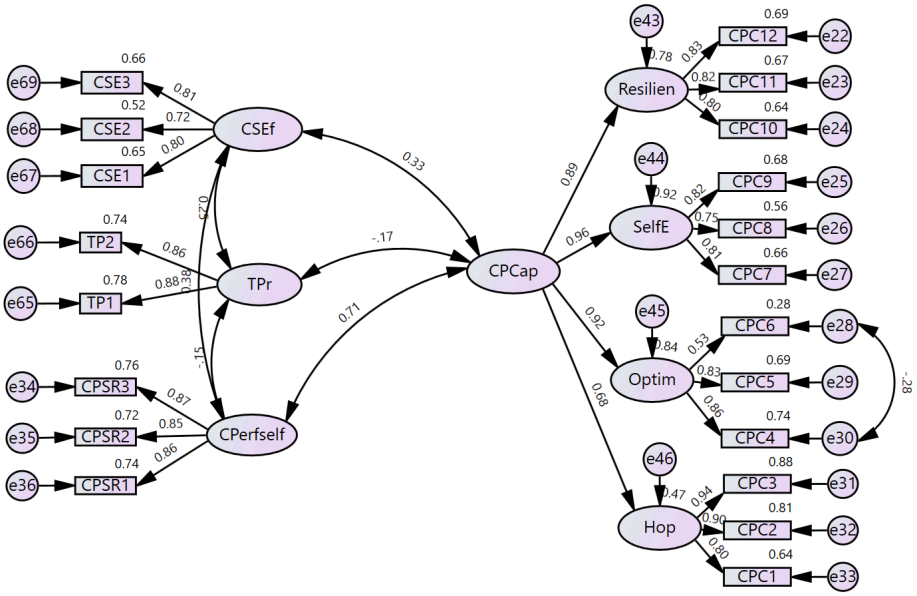
Measurement Models CFA Comparison & ULMC Test – Model I

Model	$\chi 2$	DF	$\chi 2$/DF	RMR	TLI	CFI	RMSEA	AIC	$\Delta\chi 2$	ΔDF
4 Factor Baseline Model (PsyCap with higher Order)	414	159	2.604	0.025	0.962	0.968	0.050	516		
4 Factor Model (PsyCap with Unidimensional)	1920	164	11.711	0.077	0.747	0.782	0.130	2012	1506	5
3 Factor Model (CSE and CP Combined)	1045	162	6.456	0.062	0.871	0.890	0.092	1141	631	3
3 Factor Model (PsyCap and CSE Combined)	1087	162	6.716	0.065	0.865	0.885	0.095	1183	673	3
2 Factor Model (PsyCap, CP, and CSE Combined)	1560	164	9.510	0.069	0.799	0.826	0.115	1652	1146	5
1 Factor Model (All factors Combined)	2100	165	12.729	0.083	0.723	0.759	0.136	2190	1686	6
ULMC Model	396	158	2.516	0.029	0.964	0.970	0.049	502	-18	-1
Δ(Baseline-ULMC)					-0.002	-0.002	0.001			

Note. N = 639, RMR = Root Mean Square Residual, TLI = Tucker-Lewis Index, CFI = Comparative Fit Index, RMSEA = Root Mean Square Error of Approximation, AIC = Akaike Information Criterion, CSE = Creative Self-Efficacy, CP = Creative Performance, ULMC = Unmeasured Latent Method Construct

Figure 5

Confirmatory Factor Analysis Measurement Model I (Time Pressure and PsyCap)



Note. CSEf = Creative Self-Efficacy; TPr = Time Pressure; CPerfself = Creative Performance; CPCap = Psychological Capital; Values represent standardised factor loadings.

Model II. Moderating Role of PsyCap in the Learning Requirements–Creative Performance Relationship. Similarly, for the LRs model, the five-factor baseline solution also exhibited a strong model fit ($\chi 2$ = 466, df = 178, $\chi 2$/df = 2.619, RMR = 0.023, TLI = 0.959, CFI = 0.965, RMSEA = 0.050). Once again, this structure provided a significantly better fit than the unidimensional PsyCap model and the remaining alternative factor solutions. These findings further reinforce the conclusion that the higher-order PsyCap model is the most appropriate representation of the construct, thereby supporting its use in the subsequent analyses. See Table 14 and Figure 6.

Table 14

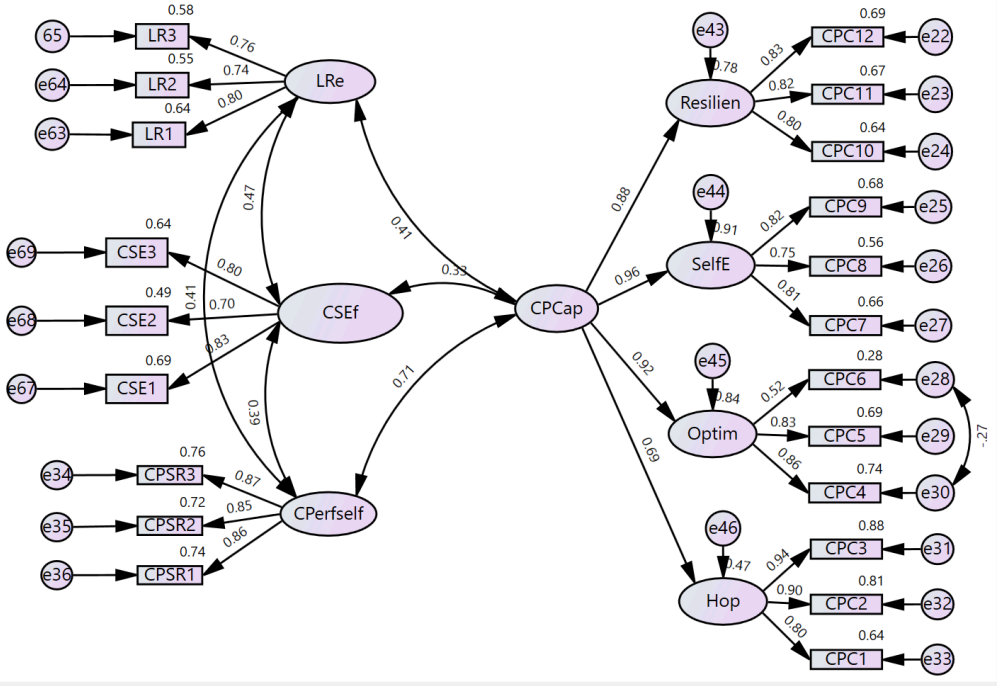
Measurement Models CFA Comparison & ULMC Test – Model II

Model	χ2	DF	χ2/DF	RMR	TLI	CFI	RMSEA	AIC	$\Delta\chi$2	ΔDF
4 Factor Baseline Model (PsyCap with higher Order)	466	178	2.619	0.023	0.959	0.965	0.050	572		
4 Factor Model (PsyCap with Unidimensional)	1448	182	7.958	0.033	0.823	0.846	0.104	1546	982	4
3 Factor Model (CSE and CP Combined)	1087	181	6.008	0.053	0.872	0.890	0.089	1187	621	3
3 Factor Model (PsyCap and CSE Combined)	1131	181	6.246	0.057	0.866	0.885	0.091	1231	665	3
2 Factor Model (PsyCap, CP, and CSE Combined)	1596	183	8.721	0.060	0.803	0.829	0.110	1692	1130	5
1 Factor Model (All factors Combined)	2065	184	11.223	0.066	0.740	0.772	0.127	2159	1599	6
ULMC Model	457	177	2.581	0.025	0.960	0.966	0.050	565	-9	-1
Δ(Baseline-ULMC)					-0.001	-0.001	0.000			

Note. N = 639, RMR = Root Mean Square Residual, TLI = Tucker-Lewis Index, CFI = Comparative Fit Index, RMSEA = Root Mean Square Error of Approximation, AIC = Akaike Information Criterion, CSE = Creative Self-Efficacy, CP = Creative Performance, ULMC = Unmeasured Latent Method Construct

Figure 6

Measurement Models CFA Comparison & ULMC Test -Model II



Synthesis of Models I and II. For Model I, the five-factor baseline structure demonstrated satisfactory model fit and outperformed reduced and unidimensional alternatives. These findings confirm the discriminant validity of the constructs and indicate that PsyCap, TP, and CP are empirically distinct, thereby providing a sound basis for examining the hypothesised moderating effects.

For Model II, the five-factor baseline structure likewise exhibited satisfactory model fit and outperformed alternative models. This further supports the robustness of the measurement model and confirms the distinctiveness of LRs, PsyCap, and CP within the proposed framework.

Taken together, these results provide strong evidence for the validity and reliability of the measurement models. They establish a solid foundation for subsequent analyses by ensuring that the relationships among the variables in the

models can be examined with confidence, particularly in testing the moderating role of PsyCap in the TP–CP and LRs–CP relationships.

Preliminary Checks

Normality Testing. The distributional properties of all measured variables were examined before regression and SEM analyses. The skewness and kurtosis statistics fell comfortably within the acceptable thresholds (|skewness| < 2; |kurtosis| < 7) (Kline, 2023), indicating no evidence of serious violations of normality. Minor deviations were observed, which are expected when outliers are present and whose influence diminishes as the sample size increases (Ghaleb & Yaslioglu, 2024). The Kolmogorov–Smirnov and Shapiro–Wilk tests again yielded statistically significant results (ps < .001). However, such significance is likely attributable to the large sample size rather than substantive non-normality (Ghasemi & Zahediasl, 2012). Given the skewness and kurtosis results, the overall distributions were deemed to approximate normality, supporting the application of parametric techniques, including regression and SEM using maximum likelihood estimation.

Multicollinearity Testing. The study used a collinearity test to check variance inflation factors (VIF). A VIF greater than 3.3 is considered an indicator of pathological collinearity and may also suggest that a model is affected by common method bias. Therefore, if all VIFs from a full collinearity test are equal to or below 3.3, the model can be regarded as free of common method bias (Kock, 2015).

VIF values were examined to assess multicollinearity. The VIF for PsyCap was 1.0, which is well below the common threshold of 3.3 (Kock, 2015). This indicates that multicollinearity was not a concern in the regression analysis.

Common Method Bias. Although CMB may be reduced to some extent due to the two-wave design applied in this research, this temporal separation is expected to alleviate, at least to some extent, the risk of inflated relationships caused by common method variance (CMV). Evaluating CMB remained necessary since the mediator and dependent variable were collected in the same wave, and all the data came from the same source and it remains a methodological concern (Fuller et al., 2016). Harman's single-factor test (Podsakoff et al., 2003) was applied with the principal axis factoring extraction method. The result showed that the first factor explained 35.09% of the variance for the TP model, and 39.75% of the variance for the LRs model, which are lower than the threshold of 50%, indicating that the CMB was not a significant concern (Hair Junior et al., 1998).

To sophisticate the test on CMB, the ULMC technique was adopted (Podsakoff et al., 2003; Podsakoff et al., 2012). The ULMC is a widely applied technique for diagnosing and controlling CMV. Unlike simpler approaches such as Harman's single-factor test, ULMC enables researchers to explicitly model both random error and item-level method effects, thereby offering a more rigorous assessment of potential method bias (Podsakoff et al., 2003; Podsakoff et al., 2012).

The results showed that introducing a common latent factor into the measurement models did not yield significant improvements in model fit. Specifically, for the models with TP, changes were minimal (ΔTLI $\leq$ -0.002, ΔCFI $\leq$ -0.002, ΔRMSEA $\leq$ 0.001). Similarly, for the models with LRs, the improvements were negligible (ΔTLI $\leq$ -0.001, ΔCFI $\leq$ -0.001, ΔRMSEA = 0.000). These results indicate that CMB is not a significant concern in any of the measurement models employed in this study (Podsakoff et al., 2003). Table 13 and Table 14 (see the tables in the section

on measurement model validation) exemplify the CFA and ULMC analysis status of the TP and LRs measurement models.

U-shaped Relationship Between Time Pressure and Creative Performance – Baseline Model

A U-shaped model was estimated to examine whether TP (mean-centred; linear and quadratic terms) has a curvilinear impact on CP, controlling for gender, position, tenure, and CSE. The model predicting the linear term of TP on CP was negative ($b = -0.159$, $p < .001$), whereas the quadratic term was positive ($b = 0.112$, $p < .001$). TP demonstrated a U-shaped association with CP (Hayes & Preacher, 2010; Meyer, 2009), with a turning point occurring at 0.711 SD of TP. It means that at low to moderate TP, CP decreases, but at high TP, CP rebounds. This outcome provides evidence of a U-shaped relationship between TP and CP. The hypothesis H1 was supported. See Table 15. Figure 7 illustrates the U-shaped TP-CP relationship.

Table 15

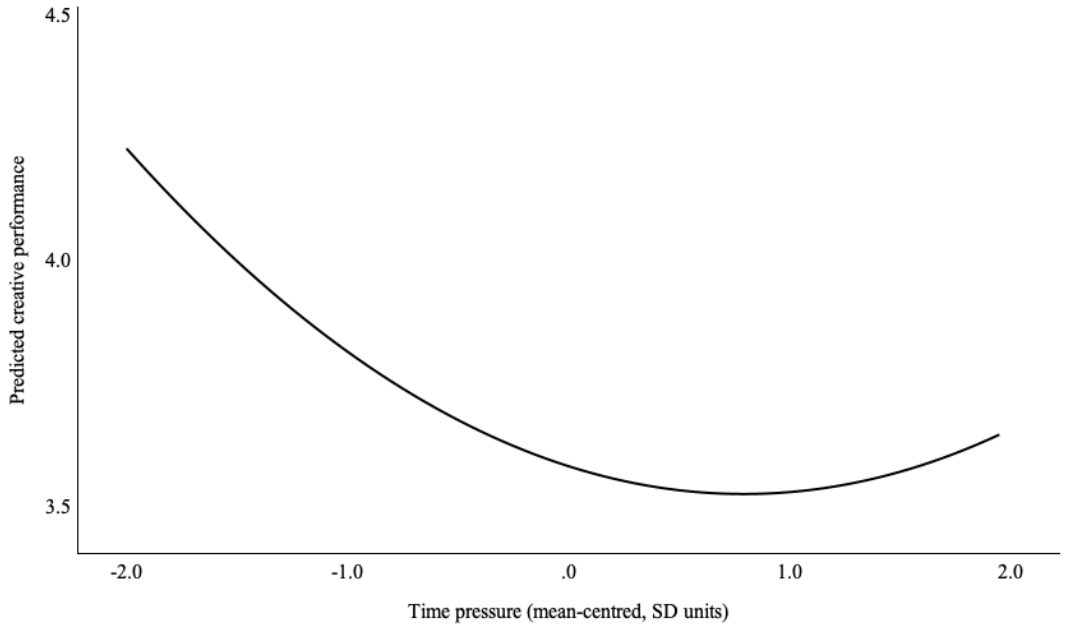
PROCESS Regression Results of TP on CP

Predictor	**Creative Performance**			
	b	SE	t	p
Gender	-0.221	0.055	-4.043	<.001
Position	0.054	0.029	1.896	.058
Tenure	0.044	0.026	1.672	.095
CSE	0.289	0.033	8.664	<.001
TP (mean-centred)	-0.159	0.029	-5.530	<.001
TP^2	0.112	0.024	4.750	<.001

Note.TP = time pressure; CSE = creative self-efficacy; TP^2 = quadratic term of mean-centred time pressure. Continuous predictors were mean-centred prior to analysis

Figure 7

U-shaped TP-CP Relationship



Remark: turning point: TP_turn = 0.711

PsyCap in the Moderated U-shaped Relationship – Model I

Results revealed a significant linear effect and marginally significant quadratic effect of time pressure on creative performance (b = -0.054, p = .031; b = 0.037, p = .089). The results provided weak evidence in the predicted direction, but the effect did not reach statistical significance, suggesting a weak U-shaped relationship in this model. Importantly, PsyCap significantly moderated the quadratic component of TP (TP^2 × PsyCap: b = 0.104, p = .003), whereas the moderation of the linear TP effect was marginal (TP × PsyCap: b = -0.079, p = .058). This pattern indicates that PsyCap primarily alters the shape of the TP–creativity relationship rather than uniformly attenuating or amplifying the linear slope. Conditional effects showed that

the negative association between TP and CP was negligible at low PsyCap, modest at mean PsyCap, and strongest at high PsyCap, suggesting that higher PsyCap is associated with a steeper initial decline but a stronger curvilinear recovery in CP as TP intensifies, indicating that the impact of TP on CP varies depending on employees' psychological resources. H3 was supported as the significant quadratic interaction indicates that PsyCap moderates the U-shaped relationship between TP and CP. Although the overall quadratic effect of TP on CP was only marginally significant, the significant $TP^2 \times$ PsyCap interaction indicates that the U-shaped relationship between TP and CP depends on PsyCap. This suggests that curvature emerges only at certain levels of PsyCap. See Table 16.

Figure 8 illustrates the moderated U-shaped relationship between TP and CP at low (−1 SD), mean, and high (+1 SD) levels of PsyCap. TP demonstrates a U-shaped relationship with CP at mean and higher levels of PsyCap. Specifically, when PsyCap is high, CP initially decreases as TP increases and then rises beyond a certain level of TP, indicating a pronounced U-shaped pattern. At the mean level of PsyCap, a weaker U-shaped relationship is observed. In contrast, when PsyCap is low, the relationship between TP and CP appears relatively flat and slightly negative, suggesting the absence of a U-shaped pattern. These results indicate that the curvature of the TP–CP relationship becomes stronger as PsyCap increases, supporting the moderating role of PsyCap in the quadratic effect of TP on CP.

The results suggest that individuals with higher PsyCap are better able to transform increasing TP into partially improved CP after an initial decline, whereas individuals with low PsyCap do not benefit from increased time pressure

Table 16

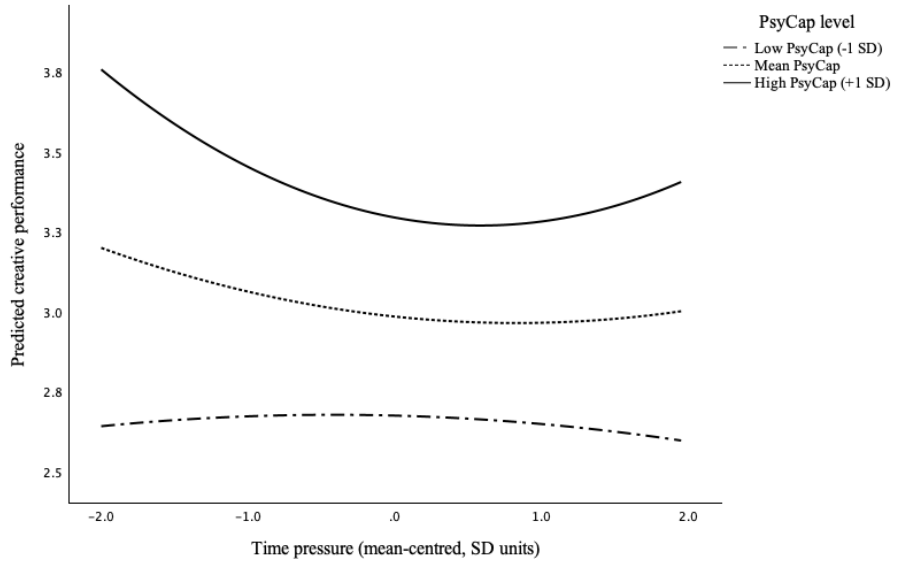
PROCESS Regression Results – TP as IV and PsyCap as Moderator

Predictor	Creative Performance			
	b	SE	t	p
Gender	-0.145	0.046	-3.156	.002
Position	0.033	0.024	1.386	.166
Tenure	0.052	0.022	2.401	.017
CSE	0.155	0.029	5.319	<.001
TP	-0.054	0.025	-2.168	.031
PsyCap	0.595	0.053	11.292	<.001
TP^2	0.037	0.022	1.700	.089
TP (c) *PsyCap (c)	-0.079	0.041	-1.903	.058
TP^2*PsyCap (c)	0.104	0.035	2.989	.003

Note. TP = time pressure; CSE = creative self-efficacy; TP^2 = quadratic term of mean-centered time pressure; (c) = mean-centered; Continuous predictors were mean-centered prior to analysis

Figure 8

Moderating Effect of PsyCap on the Curvilinear Relationship between TP and CP



This study adopted a moderating analytical strategy to examine how TP relates to CP, and how this process is shaped by psychological resources. Specifically, the Model 0 tests the linear and nonlinear effects of TP on CP. The U-

shaped TP–CP relationship resonates with the findings of Study One, thus triangulating and solidifying the arguments from the qualitative research.

Model 0 results indicated that TP was related to CP in a U-shaped manner, characterised by a negative linear component and a positive quadratic component. This pattern suggests that CP declines as TP increases from low to moderate levels, but rebounds as TP intensifies.

When PsyCap was modelled as a moderator of the TP–CP pathway, a distinct pattern emerged. Employees with low PsyCap generally exhibit low CP; as TP increases, their CP shows a slight initial increase, but declines again under high TP. In contrast, employees with moderate and high PsyCap demonstrate correspondingly higher baseline CP. For these groups, increasing TP is associated with an initial decline in CP, with a steeper decline observed among those high in PsyCap. However, under high TP, CP partially rebounds for both groups, with a stronger partial rebound evident among employees with high PsyCap.

In the context of Study Two, these results indicate that psychological resources do not simply buffer the immediate negative effects of TP. Instead, they primarily operate by reshaping the nonlinear trajectory through which TP influences creativity.

Inverted U-shaped Relationship Between Learning Requirements and Creative Performance – Baseline Model

An inverted U-shaped model was estimated to examine whether LRs (mean-centred; linear and quadratic terms) have an inverted U-shaped impact on CP, controlling for gender, position, tenure, and CSE. The model predicting the linear term of LRs on CP was positive and significant ($b = 0.296$, $p < .001$), whereas the quadratic term

was positive but not significant (b = 0.028, p = .451). LRs only showed a significant linear relationship with CP, while they didn't demonstrate an inverted U-shaped association with CP (Hayes & Preacher, 2010; Meyer, 2009). It means that with LRs increases, CP increases accordingly, but there is no evidence of an inverted U-shaped relationship between LRs and CP. H2 was not supported. See Table 17.

Table 17

PROCESS Regression Results of LRs on CP

Predictor	Creative Performance			
	b	SE	t	p
Gender	-0.212	0.055	-3.831	<.001
Position	0.021	0.029	0.728	.467
Tenure	0.029	0.026	1.115	.265
CSE	0.165	0.035	4.682	<.001
LRs (c)	0.296	0.044	6.777	<.001
LRs^2	0.028	0.038	0.755	.451

Note. LRs = learning requirements; CSE = creative self-efficacy; LRs^2 = quadratic term of mean-centered learning requirements; (c) = mean-centered;Continuous predictors were mean-centered prior to analysis

PsyCap in the Moderated Inverted U-shaped Relationship – Model II

In Model II, LRs showed a significant positive linear relationship with CP (b = 0.098, p = .014), whereas the quadratic term LRs^2 was positive but not statistically significant (b = 0.012, p = .758). PsyCap positively predicted CP (b = 0.661, p < .001). The interaction between LRs and PsyCap was not significant (b = 0.108, p = .137), but the quadratic interaction between LRs and PsyCap was significant (b = 0.091, p = .029), indicating that PsyCap moderated the quadratic component of the LRs-CP relationship. Although the quadratic effect of LRs on CP was not significant, the interaction between LRs^2 and PsyCap was significant. Therefore, the H4 received partial support.

The findings support a challenge-stressor pattern for LRs. In line with the challenge–hindrance framework, LRs may be experienced as developmental and competence-building, thereby facilitating engagement and performance-related cognitions. Consistent with COR theory, LRs can be interpreted as a contextual job stressor that may stimulate resource investment (effort, learning, skill-building), and this investment is linked with resource gains reflected in higher CP. Importantly, PsyCap operated as a strong general personal resource, and it moderated the quadratic component of the LRs-CP relationship. However, given the absence of a significant overall quadratic effect of LRs, the findings indicate that LRs were positively associated with CP in a relatively consistent manner across PsyCap levels, whereas PsyCap exerted a direct and independent contribution to CP. See Table 18.

Table 18

PROCESS Regression Results – LRs as IV and PsyCap as Moderator

Predictor	**Creative Performance**			
	b	SE	t	p
Gender	-0.144	0.047	-3.096	.002
Position	0.017	0.024	0.706	.480
Tenure	0.468	0.022	2.127	.034
CSE	0.093	0.030	3.129	.002
LRs	0.098	0.040	2.478	.014
PsyCap	0.661	0.047	14.081	<.001
LRs^2	0.012	0.039	0.308	.758
LRs (c) *PsyCap (c)	0.108	0.073	1.488	.137
LRs^2*PsyCap (c)	0.091	0.042	2.188	.029

Note. LRs = learning requirements; CSE = creative self-efficacy; LRs^2 = quadratic term of mean-centered learning requirements; (c) = mean-centered; Continuous predictors were mean-centered prior to analysis

Overall, a baseline model was established to examine whether LRs are associated with CP, while controlling for gender, position, tenure, and CSE. The results provided clear support for a linear positive influence mechanism consistent with a challenge-stressor pattern. Specifically, LRs were positively related to CP. However,

the quadratic term was positive but not significant. Thus, there is no inverted U-shaped association with CP (Hayes & Preacher, 2010; Meyer, 2009).

From the perspective of the challenge–hindrance stressors framework, the findings suggest that LRs are more likely to be experienced as developmental and competence-enhancing demands rather than as hindrances. Consistent with COR theory, LRs can be interpreted as contextual conditions that stimulate resource investment, including effort, learning, and skill development. Such investment is manifested in higher CP, a secondary resource, thereby initiating a resource gain process.

Building on this baseline model, a conditional process analysis examined whether PsyCap moderated the quadratic relationship between LRs and CP. Across models, PsyCap demonstrated positive direct associations with CP, indicating that these psychological resources function as broadly beneficial personal resources that support creative functioning. This pattern underscores the importance of positive psychological resources in facilitating employees' creative engagement under learning-intensive work conditions.

However, despite their strong direct associations with CP, PsyCap didn't significantly moderate the relationship between LRs and CP. Notably, only the interaction term of PsyCap with the quadratic LRs term was significant, demonstrating conditional effects on the quadratic component of the LRs–CP relationship. Given that the overall LRs–CP association was primarily linear, these findings suggest that the strength of the LRs–CP pathway remained largely stable across different levels of PsyCap. In other words, within the present sample, LRs exerted a generally beneficial influence on CP regardless of employees' PsyCap levels.

Taken together, these findings indicate that LRs primarily operate as a resource-building challenge job stressor, rather than as a hindrance job stressor that requires buffering by personal resources. In COR terms, LRs appear to initiate a gain process that enhances CP. While PsyCap contribute additively to higher creative functioning rather than acting as boundary conditions. Overall, the results align with conceptualising LRs as a challenge stressor that promotes resource gain, with positive psychological resources strengthening creative capacity directly but not altering the fundamental learning–creativity mechanism.

Summary of Hypotheses Testing Outcomes

As shown in the summary of proposed hypotheses table, all hypotheses were confirmed in this study (see Table 19).

Table 19

Summary of Hypotheses Status

Hypotheses	Paths	Results
Hypothesis 1	TP ↘ CP	*Supported*
Hypothesis 2	LRs ↗ CP	*Rejected, observed linear effect*
Hypothesis 3	PsyCap on TP ↘ CP	*Supported*
Hypotheses 4	PsyCap on LRs ↗ CP	*Partially support*

Notes. TP = Time pressure; LRs = Learning requirements; PsyCap = Psychological capital; CP = Creative performance.

Discussion

The findings addressed the four research questions:

RQ1: What is the curvilinear impact of TP on employee CP?

RQ2: What is the curvilinear impact of LRs on employee CP?

RQ3: Does PsyCap moderate the curvilinear relationship of TP on CP?

RQ4: Does PsyCap moderate the curvilinear relationship of LRs on CP?.

In response to RQ1, findings from the TP–CP baseline model provide significant evidence that TP influences CP in a curvilinear way, TP exhibited a U-shaped relationship with CP, characterised by an initial decline in CP as TP increased from low to moderate levels, followed by a partial rebound at high levels of TP. This pattern suggests that the effect of TP on creativity is not uniform, but varies depending on its intensity.

From a COR perspective, the initial decline in CP under increasing TP can be explained by resource depletion. As TP intensifies from low to moderate levels, employees are likely to experience increased cognitive load and resource exhaustion (Baer & Oldham, 2006), which limits their ability to engage in creativity, leading to the shift towards simpler, lower-cost resource strategies (Wu et al., 2022), thereby inhibiting CP (Song et al., 2024). This aligns with the notion that resource loss or threat of loss leads individuals to adopt more conservative and less cognitively demanding strategies (Hobfoll, 1989; Hobfoll et al., 2018). In addition, increased TP may be interpreted as an extrinsic environmental constraint that undermines employees' intrinsic motivation, thereby impairing creative exploration (Amabile, 2018; Amabile et al., 2002).

However, the observed partial rebound in CP at higher levels of TP suggests a more complex dynamic. At elevated levels of TP, employees may perceive urgency as a signal of task importance. It may re-energise effort and focus by elevating arousal toward an optimal level, thus recovering CP (Broadhurst, 1959). In addition, high TP may trigger a mobilisation of remaining or latent resources (Wu et al., 2022), employees may adopt alternative coping strategies, characterised by rapid problem reframing, improvisation, heuristic reasoning, and reliance on existing

knowledge rather than extensive exploratory search. This heightened activation can stimulate focus, persistence, and problem-solving intensity, which may, to some extent, facilitate creative output. Furthermore, as the study argued before, high TP can be seen as both a challenge stressor and a motivating factor for individuals prone to active procrastination. When tasks are delayed, it may serve as an incubation period, allowing ideas to develop subconsciously. As the deadline approaches, it then prompts increased focus and effort, which can lead to creative results (Liu et al., 2017).

Nevertheless, the rebound is only partial, indicating that high levels of TP do not fully restore CP to the levels observed under low-pressure conditions. Therefore, TP mainly acts as a hindrance stressor, in line with the hypothesis. This suggests that excessive pressure continues to impose constraints that limit optimal creativity. One possible explanation is that creativity under high TP becomes predominantly effort-driven rather than exploration-driven. While heightened pressure may mobilise effort and task engagement, it constrains the associative breadth, cognitive flexibility, and incubation processes that are essential for high-quality CP (Amabile et al., 2002; Shalley et al., 2004; Zhou & Hoever, 2014). Under such conditions, individuals are more likely to prioritise efficiency and task completion over idea exploration, thereby limiting the depth and novelty of creative output (Baer & Oldham, 2006; Bormann, 2020).

Overall, these findings underscore that low levels of TP are most conducive to CP, while both moderate and high levels impose limitations, albeit in different ways. This provides important empirical support for adopting a curvilinear lens when examining the TP–creativity relationship

In response to RQ2, baseline models of LRs–CP showed that LRs affect CP linearly and robustly, rather than in a curvilinear manner. LRs are positively related to CP, reinforcing the interpretation that LRs function as a challenge demand rather than a hindrance in the Chinese automotive context. Contrary to the expectation, no curvilinear effect was found. In an industry characterised by rapid technological shifts and continuous upgrading (Zhang & Qin, 2018; Zhu, 2025), employees are required to acquire new knowledge and skills on an ongoing basis. Under such conditions, LRs are likely to be perceived as opportunities for growth and competence development, which stimulate engagement in learning-oriented behaviours that support CP (Ceptureanu et al., 2024; Zhou et al., 2024).

From a challenge-hindrance stressors framework, LRs can be interpreted as challenge stressors that stimulate resource investment rather than resource depletion, as such demands are associated with growth and goal attainment (Cavanaugh et al., 2000; Podsakoff et al., 2023). When employees perceive LRs as meaningful and relevant, they are more likely to invest cognitive effort and engage in skill development, thereby generating future resource gains (e.g., CP). This aligns with prior research suggesting that demanding work conditions can activate motivational processes and encourage proactive effort investment (Schaufeli & Taris, 2014). Such learning processes expand individuals' knowledge base and cognitive resources, thereby enhancing their ability to generate and implement creative ideas (Shalley et al., 2004; Zhou & Hoever, 2023). Unlike TP, which constrains temporal resources, LRs expand employees' knowledge base and perspective, thereby supporting associative thinking and idea generation.

Importantly, even in high levels of LRs, the CP didn't affect and went down; no curvilinear effect was found. There are three possible reasons. The first

possibility is that, within this context, increasing LRs do not reach a threshold at which they become detrimental to CP, thus employees remain highly motivated. Second, this may reflect the nature of the sample, which operates within expansive learning environments where employees are accustomed to continuous learning as part of their work (Fuller & Unwin, 2004, 2011), mindset matters. In such a context, LRs are consistently interpreted as developmental rather than overwhelming demands. Third, there are suggestions that in the East Asian context, the motivation for self-improvement may be particularly strong compared to Western settings. This heightened motivation may help offset the strain and emotional burden associated with high demands, thereby strengthening the link between learning and creativity (Gong et al., 2009). Overall, these findings reinforce the classification of LRs as a challenge demand and extend the literature by demonstrating that, in high-innovation contexts such as the Chinese automotive industry, LRs play a consistently facilitative role in enhancing CP.

Regarding RQ3, the findings from Model I revealed that PsyCap played a critical conditional role in shaping how TP translated into CP. PsyCap was found to be strongly and positively associated with CP, reinforcing its role as a key personal resource in workplace (Luthans & Youssef, 2004; Raza et al., 2022) that enables individuals to sustain performance. Individuals with higher levels of PsyCap are better equipped to mobilise effort, maintain goal-directed behaviour, and persist in the face of challenges, thereby enhancing their creative output (Ghafoor & Haar, 2022; He, 2024; Sweetman et al., 2011; Wang et al., 2024b).

The findings revealed that PsyCap played a critical conditional role in shaping how TP translated into CP within the Chinese automotive industry, where rapid innovation cycles and competitive pressures intensify time-related demands.

Consistent with COR theory, as a key personal resource, PsyCap moderated the quadratic (TP^2) component of the TP–CP relationship, while its moderation of the linear TP effect was only marginal. This pattern suggests that PsyCap does not simply buffer the initial negative impact of TP; rather, it fundamentally shapes the curvature of the TP–CP relationship. In other words, PsyCap influences how CP evolves across varying levels of TP, particularly in determining the extent of decline and recovery under increasing pressure.

The conditional patterns further revealed meaningful differences across PsyCap levels. Employees with low PsyCap exhibited consistently low CP, with only a slight increase followed by a decline as TP intensified, in line with COR theory. It is plausible that limited resources constrain individuals' ability to mobilise resources to cope with stress, regardless of how high the stress they feel, leading to lower performance. In contrast, employees with moderate and high PsyCap demonstrated higher baseline CP but experienced an initial decrease in CP as TP increased, with a more pronounced drop among those with high PsyCap. This sharper drop may reflect heightened sensitivity to resource disruption, with employees attempting to conserve remaining resources. As TP increases, individuals are likely to experience greater cognitive load and a perceived threat of resource loss, prompting more defensive and resource-preserving responses (Hobfoll, 1989; Hobfoll et al., 2018).

However, under high TP, CP partially recovered in both groups, with a stronger rebound observed among employees with high PsyCap. It is possible that as the deadline approaches, employees with higher PsyCap may perceive a sense of urgency, which stimulates them to start to re-mobilise psychological resources they reserved and focus on the task with elevated arousal (Broadhurst, 1959). From a

COR perspective, this rebound can be interpreted as a process of resource mobilisation and reinvestment under heightened demand (Hobfoll, 1989; Hobfoll et al., 2018; Hobfoll & Shirom, 2000a). When TP intensifies, individuals with higher PsyCap are more capable of activating and reallocating their psychological resources to cope with pressure and prevent further resource loss. This enables renewed engagement in problem-solving and supports the recovery of CP. In contrast, those with lower PsyCap may lack sufficient resources to initiate such adaptive responses, resulting in persistently lower performance. Conceptually, PsyCap functions as a dynamic adaptive resource, enabling individuals to re-mobilise creativity under escalating TP. Rather than preventing resource loss at moderate TP, PsyCap facilitate creative recovery and re-engagement at higher TP.

Regarding RQ4, the findings from Model II revealed that PsyCap did not significantly moderate the linear relationship between LRs and CP. This pattern suggests that the positive effect of LRs on CP is relatively robust and does not vary strongly with PsyCap. Given that LRs function as a challenge demand, they are likely to be perceived as opportunities for competence and career development (Crans et al., 2021; Maurer, 2001), thereby stimulating effort investment and knowledge acquisition across employees. In this context, the benefits of LRs for CP may already be sufficiently strong, reducing the necessity for PsyCap to play a buffering or amplifying role.

Although PsyCap showed statistically significant interactions with the quadratic term of LRs, the overall LRs–CP relationship remained primarily linear. As such, the moderating effects on the quadratic component have limited substantive significance. This further reinforces the interpretation that LRs do not impose substantial resource depletion even at higher levels, but instead consistently promote

CP. Overall, the results suggest that LRs operate as a stable driver of CP, while PsyCap primarily contributes through its direct, additive effect rather than through interaction effects in this model.

Together, these findings indicate that psychological resources do not merely buffer stressors uniformly. Instead, they reshape the trajectory through which demanding contexts influence creativity. PsyCap is particularly effective in capturing this adaptive, nonlinear regulation process under TP, whereas under LRs, creativity is enhanced through a broadly shared resource gain mechanism that operates similarly across individuals.

Importantly, these patterns are closely tied to the broader industry context. The rapid pace of technological change and intense competitive pressures characteristic of the Chinese automotive sector may shape how employees interpret and respond to these stressors. In such an environment, continuous learning is often normalised and valued, while TP is both pervasive and performance-related. The effects of TP and LRs on CP are inherently context-dependent, leading to the context-specific patterns observed in this study.

Chapter Summary

This chapter presented the findings from Study Two, using a quantitative methodological design, guided by the actor-context interplay for creativity, COR theory, and the challenge–hindrance stressor framework. The study examined the effects of TP and LRs on CP, as well as the moderating roles of PsyCap in these relationships. The chapter provided a detailed account of the research design, sampling strategies, data collection procedures, and the precautions taken to enhance reliability and validity. It also described the measurement instruments used in the

study, including the scales selected for each construct, and highlighted the relevant control variables incorporated into the analyses. These elements collectively established a rigorous methodological foundation for the empirical investigations presented in this study and the next. PROCESS analyses were conducted to assess the curvilinear effects of TP on CP, as well as LRs on CP. The curvilinear relationship between TP and CP, the linear relationship between LRs and CP, and the moderated curvilinear effect of PsyCap on TP and CP, indicated a more nuanced understanding of how actor and context factors interplay in creativity, providing additional empirical evidence to clarify the complex mechanisms linking TP, LRs, PsyCap, and CP.

Chapter Six: Study Three – Psychological Capital and Employee Creativity Performance at Work: Does Gender Matter?

Chapter Overview

This chapter details the empirical Study Three. It starts with a background introduction, then briefly reflects on the conceptual framework. Followed by a review of the CP and PsyCap from the perspective of COR theory and actor-context interplay for creativity, the rationale and hypotheses are presented. After that, the research methodology is introduced. The chapter then presents the findings from data analysis, including descriptive statistics, tests for CMB, measurement model validity, and hypothesis testing results. The chapter concludes with a discussion of the findings. The main findings of this study have been published in: Huang, S., Mustafa, M. J., Ramos, H. M. (2026). Psychological Capital and Employee CP at Work: Does gender matter? *Review of Managerial Science*.

Introduction

Creative performance (CP) remains a critical capability in the Chinese automotive industry, where intensified global competition, rapid technological transitions, and increasing innovation demands place substantial pressure on employees to continuously generate novel and useful ideas (Liu et al., 2023b; Xu & Chen, 2020). In contemporary organisations, CP is regarded as a critical driver of innovation, competitiveness, and long-term survival (Caniëls & Motylska-Kuzma, 2023; Shalley et al., 2004).

As a key aspect of creativity, CP reflects the “product” dimension in broader creativity frameworks, translating cognitive and affective processes into tangible outcomes (Haase et al., 2023). CP emerges from the interaction of individual factors

(e.g., skills, motivation, affect) and contextual influences (e.g., work environment, leadership, task characteristics) (Amabile & Pratt, 2016). Thus, CP is not merely an individual trait but an outcome shaped by the interplay between actors and their contexts.

A substantial body of literature has identified multiple antecedents of CP, which can be broadly categorised into individual level factors like proactive personality, PsyCap, opportunity recognition, distress tolerance (Caniëls & Motylska-Kuzma, 2023; Choi et al., 2021; Gupta & Singh, 2014), and contextual level factors like ethical leadership, resource allocation, processes digital feedback, gamification, and learning-oriented environments (Ikhide et al., 2022; Wadei et al., 2023; Wang & Lau, 2022; Wong et al., 2021).

Among which, PsyCap remains a pivotal factor in driving employee performance, particularly CP, which underpins organisational innovation and competitiveness (Abbas & Raja, 2015; Gupta & Singh, 2014; Newman et al., 2014). Employees with higher levels of PsyCap are more likely to exhibit positive affect, better mental health, job satisfaction, organisational commitment, and performance (Da et al., 2021; Gao et al., 2020; Harms et al., 2017; Köse et al., 2018; Luthans et al., 2008b), allowing them to generate and implement novel ideas even under resource-depleting conditions such as TP and uncertainty (Gupta & Singh, 2014).

Originally conceptualised within North American organisational contexts (Seligman & Csikszentmihalyi, 2014), PsyCap embodies a set of positive psychological resources: hope, efficacy, resilience, and optimism, that reflect deeply individualistic cultural values, including personal agency, self-determination, and goal-directed achievement (Luthans et al., 2008b; Luthans & Youssef, 2017).

Rooted in the western tradition of positive psychology, PsyCap emphasises individual mastery and internal resource development as key drivers of performance. These values may contrast with traditionally collectivist norms in many Eastern societies, including China, which emphasise group harmony, social obligations, and hierarchical relationships (Tsui et al., 2006). China's rapid socioeconomic transformation since the implementation of the "Reform and Opening-up" policy in 1978 has significantly altered the values and work orientations of its workforce (Xu et al., 2021). Contemporary Chinese employees, particularly younger generations, are increasingly characterised by greater autonomy, self-expression, and a preference for work-life balance, resembling the traits of Generation Y in the West (Xu et al., 2021). These cultural shifts suggest a growing convergence between individualistic and collectivist norms in the Chinese context (Xu et al., 2021).

Moreover, Luthans et al. (2008a) argue that the development of PsyCap in China may serve as a strategic mechanism for aligning Western-style market-oriented thinking with socialist, collectivist traditions. In this sense, PsyCap not only retains its core positive psychological attributes but also functions as a culturally adaptive resource that enables Chinese employees to meet global business challenges while maintaining culturally rooted values. Therefore, examining PsyCap (including its sub-dimensions) and CP in the Chinese context is not merely a replication of Western models but a culturally grounded investigation into how global constructs are reinterpreted and enacted in a non-Western setting.

Despite PsyCap being widely recognised as a source of intrinsic motivation in promoting CP, less attention has been devoted to the characteristics of PsyCap that facilitate employee CP (Rego et al., 2012; Sweetman et al., 2011). While some scholars argue that PsyCap operates primarily as a higher-order construct in

predicting CP (Ghafoor & Haar, 2022; Huang & Luthans, 2015; Newman et al., 2014), others suggest that its four sub-dimensions (hope, optimism, self-efficacy, and resilience) may exert distinct and differential effects (Rego et al., 2012; Yu et al., 2019). This aggregated perspective may therefore obscure the unique functional roles of each component. There is a gap in simultaneously examining the effectiveness of the omnibus concept and its four sub-dimensions (Lupsa et al., 2020). Consistent with COR theory, which posits that different psychological resources are mobilised depending on contextual demands (Hobfoll et al., 2018), examining PsyCap at the sub-dimensional level may provide more fine-grained insights into how specific resources contribute to CP.

Given such inconsistent arguments in the earlier literature and the findings from Study One. This study seeks to concurrently examine the effects of the aggregate construct of PsyCap and its four individual sub-dimensions (hope, optimism, self-efficacy and resilience) on employee CP. Corresponding to thesis *research question c)*, this study articulates the following research question:
RQ1: What are the effects of PsyCap and its sub-dimensions on CP?

The interactionist perspective of creativity (Woodman et al., 1993) suggests that considering psychological factors in combination with contextual factors is the best way to understand their effects. However, this area is far from completely understood (Luthans et al., 2008b), with few studies addressing the important question: when does PsyCap contribute to employee CP? A growing number of scholars have emphasised the need to more deeply examine how contextual factors shape the expression of PsyCap in facilitating CP (Ghafoor & Haar, 2022; Loghman et al., 2023; Zhou & Hoever, 2014).

China's automotive industry is a key pillar of the national economy, and the country has maintained its position as the world's largest automotive market for ten consecutive years. While the automotive industry itself is shaped by a strongly masculinised organisational culture, where long working hours and agentic behaviours are valorised as markers of competence (Coffin & Lawrence, 2020; Pang et al., 2025; Utzeri, 2019). Such work contexts are known to reproduce gendered patterns of exclusion, limiting women's visibility and advancement in innovation roles (Acker, 1990). Drawing on emerging literature that positions PsyCap as a socio-psychological resource extending beyond the individual level (Shan et al., 2023), and highlighting its sensitivity to socio-cultural dimensions such as power distance and masculinity (Loghman et al., 2023). As such, PsyCap is not a neutral resource but one conditioned by gendered organisational structures. Furthermore, building upon social role theory (Eagly, 1987) and role congruity theory (Eagly & Karau, 2002), creativity and its behavioural expression are inherently gendered phenomena. Societal expectations and organisational norms often ascribe divergent roles and behavioural standards to men and women, which may shape how psychological resources such as PsyCap are mobilised in creative work contexts (Baer & Kaufman, 2008).

In the Chinese cultural context, gendered expectations remain deeply shaped by Confucian traditions and long-standing patriarchal norms. Women are often expected to prioritise family responsibilities over career advancement, and it is still widely accepted that a wife's professional status should not surpass that of her husband (Lee Cooke & Xiao, 2014; Wang et al., 2024a). These cultural scripts contribute to what Mavin et al. (2014) term an "organisational gendered context," where access to opportunities, recognition, and leadership development differs

systematically by gender. Under such conditions, women's PsyCap may be less effectively activated or rewarded, even when comparable to men's.

Combining the above reasoning, this study conceptualises gender not as a mere biological attribute, but as a socio-cultural construct that reflects the norms, expectations, and power structures embedded in organisational and societal contexts (Sidanius & Pratto, 1999). Drawing on social role theory (Eagly, 1987) and role congruity theory (Eagly & Karau, 2002), men and women tend to perform roles consistent with socially prescribed expectations, where agentic, confident, and risk-taking behaviours (often associated with high PsyCap) are viewed as more congruent with male roles. In contrast, when women exhibit these agentic behaviours, they may encounter subtle social penalties or diminished recognition, limiting the full expression and utilisation of their psychological resources.

To the best of the researcher's knowledge, no study has systematically investigated whether the influence of PsyCap on CP varies by gender. Drawing on COR theory, actor-context interplay for creativity, social role theory, and role congruity theory, this study proposes that the effects of PsyCap and its four dimensions on CP will be stronger for males than for females (Doci et al., 2023). Corresponding to thesis *research question c)*, the present study develops the following research question:

RQ2: Does gender moderate the relationship between PsyCap (including its four sub-dimensions) and employee CP?

Integrating COR theory, actor–context interplay for creativity, and gender theories, this study extends prior research by moving beyond a global assessment of PsyCap to a more fine-grained examination of both PsyCap and its sub-dimensions

concurrently (Sweetman et al., 2011), while simultaneously incorporating gender as a socio-cultural factor that shapes PsyCap's effectiveness in fostering CP. By doing so, it responds to calls for deeper exploration of how various contextual factors influence how individuals demonstrate their PsyCap attributes to support their CP (Ghafoor & Haar, 2022; Zhou & Hoever, 2014). It also echoes to global calls for gender equality, as emphasised in Sustainable Development Goal (SDG) 5 (United Nations n.d.), highlighting that creative potential is constrained by structural barriers rather than innate capacities.

Literature Review

Conceptual Framework

Building on the actor–context interplay for creativity, COR theory, and gender theories, Study Three investigates how individual differences influence CP. In line with COR theory, employees with higher levels of PsyCap are expected to exhibit higher levels of CP, as these psychological resources facilitate adaptive responses, persistence, and goal-directed thinking in demanding work contexts (Grover et al., 2018; Jabeen et al., 2022; Schaufeli & Taris, 2014).

However, the extent to which these resources translate into observable CP may depend on socio-cultural factors. Drawing on social role theory (Eagly, 1987) and role congruity theory (Eagly & Karau, 2002), gender is conceptualised as a socio-cultural role that shapes behavioural expectations and evaluative standards. Creativity is often associated with agentic qualities, which tend to align more closely with traditionally masculine roles.

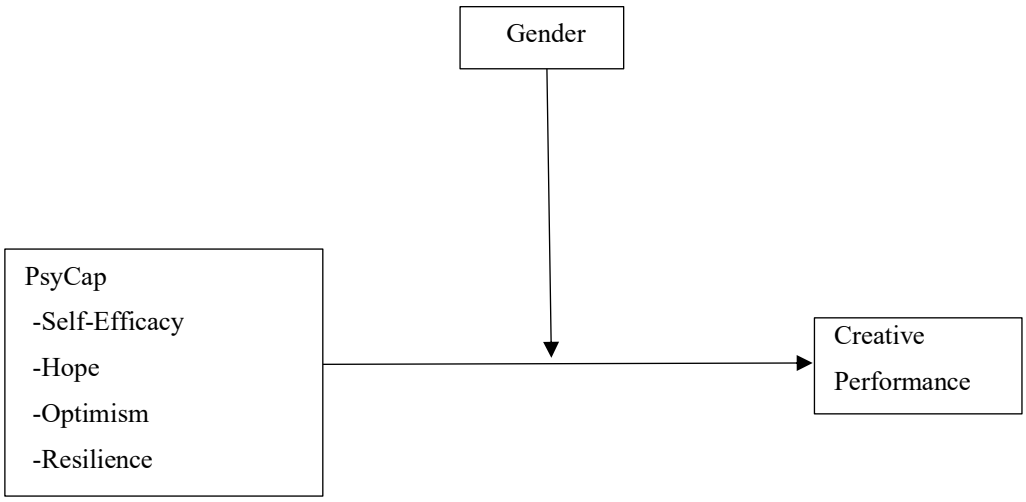
Consequently, individuals whose behaviours deviate from prevailing gender role expectations, such as women displaying assertive or agentic forms of creativity,

may encounter social disapproval or reduced recognition (Hora et al., 2022; Kossek et al., 2017). This role incongruity may constrain the extent to which psychological resources are effectively translated into CP.

Therefore, this study expects that gender moderates the relationship between PsyCap (and its four sub-dimensions) and CP, such that PsyCap may be more effectively translated into CP for male employees than female employees (Doci et al., 2023). Figure 9 illustrates the conceptual framework of Study Three.

Figure 9

Conceptual Framework: The Moderating Role of Gender



Creative Performance

CP is defined as an individual's ability to generate novel and useful ideas, solutions or products in an organisation (Wadei et al., 2023), it remains a critical capability in contemporary organisations (Amabile, 1988), particularly in innovation-intensive industries such as the Chinese automotive sector (Liu et al., 2023b; Xu & Chen, 2020). In contexts characterised by rapid technological change, shortened product development cycles, and intensified competition (Hu & Yuan, 2018; Liu et al.,

2023b), employees are increasingly expected to sustain high levels of CP under demanding conditions.

Zhou and Hoever (2014, 2023) developed the actor-context interplay for creativity, extending earlier interactionist work (Woodman et al., 1993; Woodman & Schoenfeldt, 1990). This perspective posits that creativity is not merely the result of individual traits or contextual factors in isolation, but rather emerges from the dynamic interplay between the two. In other words, creativity arises from how individuals engage with and respond to situational conditions, with both personal and contextual factors jointly shaping creative outcomes (Zhou & Hoever, 2014, 2023). Accordingly, to enhance employee CP, it is essential to consider the integration of personal factors (e.g., traits, cognitive resources) and contextual factors (e.g., job stressors, organisational culture).

Prior research has consistently demonstrated that CP is shaped by the interplay between individual characteristics and contextual factors. Notably, PsyCap emerged as a significant individual predictor of CP. For example, beyond its direct effects, individuals with higher levels of PsyCap are more likely to leverage stress constructively, leading to higher engagement in creative behaviours (Ghafoor & Haar, 2022). It has been shown to moderate the relationship between leader–member exchange and employee creativity (Kalyar et al., 2020), and interacts with work autonomy to jointly influence employee creativity (Li et al., 2019).

Psychological Capital

PsyCap is conceptualised as a higher-order construct comprising four positive psychological resources: hope, self-efficacy, resilience, and optimism (Luthans et al., 2007, 2015). Rooted in COR theory, PsyCap represents a key personal resource

that individuals draw upon to cope with demands, sustain effort, and achieve valued outcomes. COR theory posits that individuals strive to acquire, protect, and invest resources, particularly under conditions of stress, to facilitate goal attainment and prevent resource loss (Hobfoll, 1989; Hobfoll et al., 2018). In this regard, PsyCap functions as a critical resource reservoir that supports adaptive functioning in demanding work environments.

From an actor–context interplay perspective, the effects of PsyCap on CP are not independent of situational conditions but emerge through its interaction with contextual factors (Woodman et al., 1993; Zhou & Hoever, 2014, 2023). For example, prior studies have shown that contextual factors such as job stress, work autonomy, paradoxical tension, and leader-member change shape the extent to which PsyCap facilitates creativity (Ghafoor & Haar, 2022; Guo et al., 2025; Kalyar et al., 2020; Li et al., 2019), suggesting that the PsyCap–CP relationship is inherently contingent. However, while existing research has established the overall positive role of PsyCap in enhancing CP, it has largely treated PsyCap as a unified construct, potentially obscuring the distinct functional roles of its sub-dimensions. Given that hope, self-efficacy, resilience, and optimism represent conceptually different resources, their contributions to CP may not be uniform.

Furthermore, the effectiveness of PsyCap may vary across individuals depending on socio-cultural conditions such as gender. Drawing on social role theory, gendered expectations within organisational contexts may influence how individuals mobilise and translate psychological resources into CP. Despite this, limited research has examined gender as a boundary condition in the PsyCap–CP relationship, particularly at the level of PsyCap sub-dimensions. In addition, few studies have concurrently examined the effects of PsyCap as a higher-order

construct alongside its sub-dimensions (Sweetman et al., 2011), thereby limiting comparative insights. Addressing these gaps is essential for developing a more nuanced understanding of how PsyCap operates in shaping CP (Loghman et al., 2023).

Hypotheses: PsyCap and Creative Performance

Emerging from the theories of positive psychology and organisational behaviour (Luthans, 2012; Seligman & Csikszentmihalyi, 2000), PsyCap represents a widely recognised positive psychological resource that has been positively associated with a range of outcomes in the workplace (Newman et al., 2014). Conceptually, PsyCap comprises four individual sub-dimensions, namely hope, self-efficacy, resilience, and optimism (Luthans, 2002). *Hope* refers to "a positive motivational state based on an interactively (1) derived sense of successfulness (2) agency (goal-directed energy) and (3) pathways (planning to meet goals) (Snyder et al., 1991), while *efficacy* refers to an "individual's conviction about his or her abilities to mobilise the motivation, cognitive resources, and courses of action needed to successfully execute a specific task within a given context" (Stajkovic & Luthans, 1998, p. 66). Similarly, *resilience* refers to one's "positive psychological capacity to rebound, to 'bounce back' from adversity, uncertainty, conflict, failure, or even positive change, progress and increased responsibility" (Luthans, 2002, p. 702) and finally *Optimism* is characterized as an individual's attributional style regarding positive events, viewed in terms of personal, permanent, and pervasive causes (Youssef & Luthans, 2007) and that they consider negative events as temporary and likely to get better.

Recent research has shown PsyCap, as a whole construct, to have particularly strong effects on desired employee performance (Avey et al., 2011; Newman et al.,

2014). Additionally, research has found that PsyCap is positively associated with creativity (Huang & Luthans, 2015; Rego et al., 2012; Sweetman et al., 2011). Based on COR theory, this study suggest that employees higher in PsyCap are likely to have higher CP because they may experience less fear of the possibility and cost of failures than those who are less prone to risk-taking and are also motivated to engage in creative activities (Luthans et al., 2007b). This study proposes that this may occur in the following ways.

Research has shown that self-efficacious individuals have the ability to exploit resources to achieve certain goals (Luthans et al., 2006a), and challenges are likely to stimulate these individuals to produce creative ideas (Rego et al., 2012). Consequently, such individuals are more likely to have the necessary psychological strength and agency (Bandura & Wessels, 1997) to experiment with new ideas, even though it might lead to failure. Similarly, individuals high in hope are likely to view obstacles as opportunities for change, as they tend to take a broader and more proactive role while engaging in their jobs (Parker et al., 2006). Such individuals are more likely to seek alternative methods to pursue creative goals and engage in creative endeavours (Snyder & Lopez, 2001; Sweetman et al., 2011). Optimistic individuals tend to have an expectation and an explanatory style of positive outcomes, regardless of the specific willpower or waypower behaviours needed to achieve those outcomes. Furthermore, optimism has been found to boost self-esteem, morale, positive outlook, and emotions (Tugade et al., 2004). Hence, when faced with difficulties during the creativity process, optimistic individuals will be more likely to take advantage of opportunities while experiencing positive emotions (Luthans et al., 2007a). Prior research has further found employees high in resilience to be better able to cope and ‘bounce back’ from stressful events, stressors and

setbacks such as those that are part of the creative processes (Masten & Reed, 2002). Additionally, resilient individuals are also likely to have a higher sense of psychological safety in overcoming challenges (Luthans et al., 2004), which in turn can enhance their CP (Sweetman et al., 2011).

In line with such findings, this suggests that PsyCap as a core construct and its individual sub-dimensions will be positively related to employee CP (Huang & Luthans, 2015; Rego et al., 2012; Sweetman et al., 2011; Yu et al., 2019). The above argumentation is supported by a number of studies which have found a positive association between PsyCap, its individual sub-dimensions and CP (Cai et al., 2019; Huang & Luthans, 2015; Sweetman et al., 2011; Yu et al., 2019). Therefore, this study hypothesises the following:

H1a: PsyCap is positively associated with employee CP

H1b: Hope is positively associated with employee CP

H1c: Resilience is positively associated with employee CP

H1d: Self-efficacy is positively associated with employee CP

H1e: Optimism is positively associated with employee CP

Hypotheses: Moderating Role of Gender

Social role theory (Eagly, 1987) stipulates that gendered stereotypes emerge in society due to societal expectations regarding the distinct social roles performed by men and women. Role congruity theory (Eagly & Karau, 2002) further points out that there is a mismatch between gender and task roles with the prejudicial consequences of perceived incongruity. The historical gendered divisions of labour have contributed to the gendered stereotypes of males as more agentic (assertive, ambitious, dominant,

independent, and self-confident), and women as more communal (caring, helpful, kind, nurturing, and relationship-focused) (Badura et al., 2018).

The existing literature has often attributed potential gender differences in CP to the agentic nature of creativity (Cropley, 2006; Proudfoot et al., 2015). For instance, engaging in divergent thinking, being assertive, and generating controversial ideas that depart from established norms (Shalley et al., 2004) are all risky behaviours that invoke the association of agency with CP (Hora et al., 2021). Hence, in line with their prescribed gendered expectations of being assertive change agents, confident, and willing to challenge the status quo, men are more likely to engage in CP as they perceive it as both plausible and socially acceptable (Hora et al., 2021). Such notions are supported by prior findings showing males to have higher CP than females (Chavez-Eakle et al., 2006; Dul et al., 2011; Martín-Brufau & Corbalán, 2016).

Scholars have further acknowledged that the psychological resources which help individuals achieve their personal goals may vary based on gendered differences (Doci et al., 2023; Norman et al., 2010). Although limited in nature, evidence suggests gendered differences between PsyCap and its various sub-dimensions may exist (Jin et al., 2020; Ngo et al., 2014; Roxburgh, 1996). Therefore, gender differences may be considered when investigating the influence of PsyCap on CP.

Drawing on COR theory, social role theory, and role congruity theory, this study proposes that gender may condition the effects of PsyCap and its individual sub-dimensions on CP such that its effects are stronger for males than females for the following reasons. Prior research has shown beliefs in one's capabilities to be influenced by feedback and cues from one's environment (Pajares, 2002). In organisational settings, women frequently encounter gender bias, including being

penalised or disliked for occupying agentic roles that are incongruous with stereotypical female traits and expectations, facing undervaluation of their performance and difficulties in establishing supportive professional relationships (Kossek et al., 2017), and managers often hold biased perceptions of women's career motivation, contributing to subtle and ambiguous forms of discrimination– such as microinequities in interpersonal treatment and well-intentioned benevolent or paternalistic behaviours that are difficult to identify or document. These biases limit women's access to challenging assignments, training, and development opportunities (Hoobler et al., 2014).

As a result, career inequality is culturally reinforced by affording women fewer opportunities for power, decision-making, and influential networks compared to men. This not only hinders their progression into leadership roles traditionally associated with masculine traits but also constrains them from fully engaging in creative activities that require autonomy and risk-taking (Shalley et al., 2004). Thus, a biased organisational environment may result in women losing confidence in their ability to carry out tasks in a creative role (Heilman et al., 2004). Such a notion is supported by prior research showing men often exhibit higher levels of self-confidence in agentic activities such as creativity (Luksyte et al., 2018; Proudfoot et al., 2015). Hence, males, as opposed to females, are likely to have a higher sense of self-efficacy and thus be more likely to take risks, explore innovative ideas, and engage with creative tasks more confidently (Montiel-Campos, 2019).

Gendered expectations and stereotypes can also shape how hope is expressed and pursued (Eagly & Wood, 2012). Specifically, males are often socialised to take risks, be ambitious, daring, and adventurous (Hora et al., 2021; Proudfoot et al., 2015), characteristics which they may channel as part of performing creatively.

Conversely, women may experience social pressures to conform to conventional expectations, which can diminish their sense of hope and, ultimately, their willingness to take creative risks (Eagly & Wood, 2012). Broadly, this reflects how systemic bias and cultural expectations can work to constrain women's opportunities, rather than inherent differences in capability. Therefore, when engaging in highly stereotyped activities such as creativity, males might have higher hopes to take risks and engage in creativity, as they perceive society as more supportive and accepting of such actions (Prentice & Carranza, 2002). From a social role theory perspective, research suggests that women's resilience may be differentiated from that of males due to the societal expectations that they need to conform to roles which involve caretaking or emotional labour (Rudman & Phelan, 2008). In contrast, males are socialised to navigate adversity more independently and assertively and thus may experience greater freedom in embracing creative risks and maintaining resilience in the face of creative failures (Seery, 2011). Therefore, males may be better at leveraging their resilience capabilities than women due to the differing societal pressures and expectations they face.

Social role theory further stipulates that compared to females, males are more socialised to be optimistic about their ability to succeed in competitive and goal-oriented tasks (Glick & Fiske, 1999). Ultimately, this means that males may be more willing to engage in creative behaviours as they feel more optimistic about their chances of success in such behaviours (Dweck, 2006). This leads us to believe that males may experience a stronger link between optimism and CP due to the gender-stereotyped and agentic nature of creativity. The above argumentation is supported by prior research showing gender differences to have a significant impact

on PsyCap (Jin et al., 2020; Norman et al., 2010) and the agentic nature of CP (Hora et al., 2021).

Following this line of reasoning, this study explores whether gender moderates the PsyCap–CP linkage for several reasons. First, given the nature of creativity, research has traditionally been considered as predominantly agentic and male prerogative (Luksyte et al., 2018). Such notions have been supported by meta-analytic studies showing males to have a slight advantage over females in CP (Hora et al., 2022). Secondly, recent research has begun to adopt a psycho-social view of PsyCap, suggesting that it represents an agentic psychological resource that is shaped by individual differences (Doci et al., 2023). This view is further supported by prior studies showing PsyCap and its individual sub-dimensions to vary by gender (Doci et al., 2023; Norman et al., 2010). Thus, this study expects that gendered expectations and stereotypes present in society are likely to condition the effects of PsyCap and its individual sub-dimensions on employee CP. Drawing on COR theory, social role theory, and role congruity theory, this study proposes that the effect of PsyCap and its four individual sub-dimensions on CP will be stronger for males than for females (Doci et al., 2023).

Therefore, this study proposes the following hypothesis:

H2a: Gender moderates the relationship between PsycCap and employee CP, such that the relationships are stronger for males than females.

H2b: Gender moderates the relationship between hope and employee CP, such that the relationships are stronger for males than females.

H2c: Gender moderates the relationship between resilience and employee CP, such that the relationships are stronger for males than females.

H2d: Gender moderates the relationship between self-efficacy and employee CP, such that the relationships are stronger for males than females.

H2e: Gender moderates the relationship between optimism and employee CP, such that the relationships are stronger for males than females.

Methodology

Sampling and Data Collection Procedures

Study Three recruited participants from five automotive manufacturing companies in China (Companies A–E) with a convenience sample strategy. These organisations offer a sampling frame of 1,111 potential participants from various company functions, such as production, quality, logistics, HR, R&D, and sales.

To further strengthen the research design and reduce common method bias, Study Three used a multi-wave data collection approach. Based on recommendations and practice from Lee et al. (2024) and Dormann and Griffin (2015), a one-week gap was used between the two waves, since short-interval designs are viewed as more effective at minimising transient bias and enhancing internal validity.

PsyCap and its four sub-dimensions were measured in wave one, while CP was assessed in wave two. Gender was measured in both waves to ensure consistency in participant identification and to facilitate examination of its moderating role. This temporal separation also strengthens causal inference by establishing a clearer temporal ordering between predictors and outcomes.

Online questionnaires were distributed via the Sojump platform, with access provided through QR codes given out within the participating organisations. Matching procedures were used to link responses across waves while protecting

participant confidentiality. To ensure data quality, attention check questions were included to identify inattentive or careless responses (Meade & Craig, 2012). Participants who do not comply with these checks were excluded from subsequent analyses. Before collecting data, coordination with organisational representatives was conducted to assist with participant recruitment and ensure ethical standards were met. All participants were informed that their involvement was voluntary, and confidentiality was maintained throughout the study.

In wave one, 983 valid responses were collected. One week later, the same participants were contacted again, yielding 901 matched responses for wave two. After removing responses with very short completion times and incorrect responses to attention check questions, 639 paired responses remained for the final analysis. This two-wave dataset formed the empirical foundation, allowing for testing of both direct and moderated effects as outlined in the conceptual framework.

Measures

All constructs were measured using established scales with previously published, valid measures. Because the original measures in this study were initially developed in English, this study used the translation-back-translation procedure for Chinese measures to avoid losing the original meaning (Klotz et al., 2023) and ensure linguistic and conceptual equivalence in the Chinese context. Two bilingual PhD students independently performed the translation-back-translation process. After which, the researcher compared the English and Chinese versions and corrected them for consistency in the original meaning. A Likert 5-point scale was used for all the scales (1 = strongly disagree/never to 5 = strongly agree/very frequently).

PsyCap: Participants rated their PsyCap using a 12-item instrument developed and validated by Dudasova et al. (2021). Its scale consists of four dimensions, namely: hope, optimism, self-efficacy, and resilience. Sample item included “I am looking forward to the life ahead of me” (hope); “I can think of many ways to reach my current goals” (optimism); “I am confident that I could deal efficiently with unexpected events” (self-efficacy); and “I consider myself a person who can withstand a lot” (resilience). Prior research provides both conceptual and empirical support for examining PsyCap as both a core construct and the separate motivational/emotional and cognitive dimensions (Luthans et al., 2007a). The Cronbach’s alpha for PsyCap was 0.93, hope 0.91, optimism 0.72, self-efficacy 0.84, and resilience 0.86.

CP: Participants rated their CP using a three-item scale from Oldham and Cummings (1996). An example item included “I am original and practical in my work”. The Cronbach’s alpha for CP was 0.89.

Gender was measured as 0 = Male and 1 = Female.

Control variables

Building on prior literature, this study controlled for the following factors: Gender, as Hora et al. (2022) indicated there is a male advantage in CP; CSE, as Tierney and Farmer (2002, p. 1138) found it is a critical determinant of CP, which was further supported by meta-analytic findings (Haase et al., 2018), CSE using three items from Karwowski (2011). An example item includes “I would describe myself as a talented person”. The Cronbach’s alpha for CSE was 0.82; Tenure, as prior research has reported that individuals with longer tenure are more likely to engage in innovative and creative behaviours (Ma et al., 2023; Ng & Feldman, 2013); Position, this study also controlled employee’s position (1 = common staff, 2

= shift management, 3 = supervisor,4 = manager, 5 = director and above), based on the finding from Abukhait et al. (2023).

Data Analysis

IBM SPSS Statistics version 29 was employed to perform the preliminary data analyses, including the examination of demographic characteristics, data distribution and normality, analyses of correlation patterns, and assessments of internal consistency reliability for each construct. These preliminary tests ensured that the dataset met the statistical assumptions required for multivariate analysis and provided a foundational understanding of the relationships among key variables.

To assess the construct validity of the measurement instruments and confirm the adequacy of the measurement model, IBM SPSS AMOS version 29 (Arbuckle, 2022) was used to conduct confirmatory factor analysis (CFA) to verify the fit of the measurement model.

Upon establishing an acceptable measurement model, structural equation modelling (SEM) was applied to test the hypothesised direct and interaction effects among the study variables. SEM was chosen because of its ability to estimate multiple interrelated dependence relationships simultaneously while accounting for measurement error, making it particularly suitable for testing complex theoretical models involving latent variables (Ghaleb & Yaslioglu, 2024), such as PsyCap and creativity outcomes.

A priori power analysis was conducted using G*Power 3.1 (Faul et al., 2009) to estimate the minimum sample size required for Study Three. Following the same general approach as Study Two, the analysis used F tests for multiple linear regression. A medium effect size was specified ($f^2 = 0.15$), with $\alpha = 0.05$ and

statistical power set at 0.95, providing a conservative basis for detecting the hypothesised effects (Cohen, 2013). The analysis indicated a minimum required sample size of 146. As the present study included 639 valid responses, the sample size exceeded this requirement and was considered sufficient for the planned analyses.

Findings

Study Three aims to examine whether and how gender moderates the relationship between PsyCap and employee CP. Specifically, this study seeks to deepen the understanding of how gender shapes the psychological resources that transform into creative outcomes. Building on the resource-based foundations of CP identified in Study One, as well as the observed gender imbalance in creativity, Study Three further investigates the conditional role of gender in the PsyCap–CP relationship.

Descriptive Analysis

Descriptive statistics and correlations among the study variables and respondents' demographic characteristics were analysed using IBM SPSS version 29. The results indicated that PsyCap was positively and significantly correlated with CP, suggesting that individuals with higher PsyCap tend to report higher levels of CP. Gender, on the other hand, showed a negative correlation with PsyCap, with males generally exhibiting higher PsyCap than females. Gender was also found to be negatively correlated with CP, implying that females reported lower levels of CP compared with their male counterparts. Furthermore, CSE demonstrated a significant and positive correlation with both PsyCap and CP, highlighting its reinforcing role in employees' psychological resources and creative outcomes.

In addition, Huber's M-Estimator (Tyler, 1987) reveal gender differences in PsyCap and its four dimensions, with male employees reporting higher levels of hope, optimism, self-efficacy, resilience, and overall PsyCap compared to female employees. The gap is particularly pronounced in the self-rated CP, where males scored substantially higher. The robust estimator strengthens confidence in these findings, as the gender differences remain stable even when adjusting for potential outliers (see Table 20).

These findings reveal important relational patterns among the key variables. However, it is important to note that correlation analysis only reflects the presence and strength of associations; it does not establish causal direction or explain underlying mechanisms (Cohen et al., 2013). In other words, while these results provide useful insights into how the variables are interconnected, they cannot be interpreted as evidence of cause-and-effect relationships. Table 20 displays the PsyCap and CP mean differences between males and females. Table 21 presents descriptive statistics, including scale ranges, means, standard deviations, and correlations among the studied variables.

Table 20

Huber's M-Estimators

	Gender	Huber's M-Estimator
Hope	Male	4.263
	Female	4.1611
Optimism	Male	3.7793
	Female	3.6559
Self-Eff	Male	4.014
	Female	3.8049
Resilience	Male	4.0325
	Female	3.8272
PsyCap	Male	4.0088
	Female	3.8362
CP	Male	3.7493
	Female	3.3952

Table 21

Descriptive Statistics and Intercorrelations

Variable	M	SD	1	2	3	4	5	6	6.1	6.2	6.3	6.4	7
1. Age	2.600	0.759	1										
2. Gender	0.280	0.449	0.053	1									
3. Education	2.700	1.069	-0.042	0.049	1								
4. Tenure	3.320	1.048	0.478**	-0.092*	0.310**	1							
5. Position	1.400	0.960	0.355**	-0.061	0.413**	0.421**	1						
6. Psychological Capital	3.980	0.521	0.115**	-0.134**	-0.020	0.004	0.078*	1					
6.1. Hope	4.200	0.688	0.035	-0.011	-0.059	-0.068	0.006	0.806**	1				
6.2. Optimism	3.768	0.581	0.111**	-0.107*	-0.002	0.012	0.086*	0.879**	0.629**	1			
6.3. Self-Efficacy	3.970	0.563	0.106**	-0.189**	0.049	0.070	0.113**	0.873**	0.552**	0.720**	1		
6.4. Resilience	3.984	0.620	0.147**	-0.166**	-0.045	0.014	0.070	0.850**	0.509**	0.664**	0.737**	1	
7. CSE	2.969	0.771	0.151**	-0.135**	0.288**	0.194**	0.235**	0.254**	0.106**	0.244**	0.300**	-0.235**	1
8. CP	3.669	0.684	0.058	-0.197**	0.042	0.110**	0.136**	0.616**	0.381**	0.562**	0.622**	0.555**	0.314**

Note. N = 639, *$p < .05$, **$p < .01$.

Measurement Quality Validation

The same acceptance criteria for model fit indices used in Study Two were applied in this study. Consistent with that approach, IBM SPSS AMOS 29 was employed to conduct CFA in order to evaluate the validity of the measurement model, using data collected from 639 participants prior to testing the structural hypotheses.

The CFA results for all models indicated that the standardised factor loadings were significant and exceeded the recommended threshold of 0.50, confirming that each observed indicator contributed meaningfully to its underlying construct. In addition, the CR values for all constructs were greater than the 0.70 benchmark, suggesting strong internal consistency and indicating that each construct accounted for more than 49% of the variance in its associated indicators, thereby demonstrating good reliability. Furthermore, the AVE values for all constructs were above the 0.50 cutoff, confirming that more than half of the variance in each construct was explained by its latent factor, thereby supporting convergent validity (see Table 22).

Table 22

Validity Findings for all Instruments (Factor Loadings, CR, and AVE)

Construct	Item	Factor Loading	CR	AVE
PsyCap	Hope	0.682	0.923	0.741
	Optimism	0.916		
	Self-Efficacy	0.959		
	Resilience	0.884		
Hope	CPC1	0.799	0.912	0.775
	CPC2	0.899		
	CPC3	0.938		
Optimism	CPC4	0.861	0.791	0.568
	CPC5	0.829		
	CPC6	0.524		
Self-Efficacy	CPC7	0.814	0.839	0.635
	CPC8	0.751		
	CPC9	0.824		
Resilience	CPC10	0.799	0.857	0.667
	CPC11	0.820		
	CPC12	0.830		
CSE	CSE1	0.810	0.822	0.607
	CSE2	0.709		
	CSE3	0.813		
Creative Performance	CPSR1	0.858	0.895	0.740
	CPSR2	0.851		
	CPSR3	0.871		

All models (Model 1-5) applied in this study met the Fornell–Larcker criterion for discriminant validity. For each model, the square root of the AVE for each construct was greater than its correlations with other constructs, indicating that the constructs are empirically distinct. See Table 23.

In sum, these indices provide robust evidence for the reliability and validity of the measurement model, confirming that the constructs adopted in this study are of satisfactory psychometric quality.

Table 23

Discriminant Validity

	Model 1	1	2	3	Discriminant validity
1	PsyCap	**0.861**			OK
2	CSE	0.254	**0.779**		OK
3	CP	0.616	0.314	**0.860**	OK
	Model 2	1	2	3	Discriminant validity
1	Hope	**0.880**			OK
2	CSE	0.106	**0.779**		OK
3	CP	0.381	0.314	**0.860**	OK
	Model 3	1	2	3	Discriminant validity
1	Optimism	**0.754**			OK
2	CSE	0.244	**0.779**		OK
3	CP	0.562	0.314	**0.860**	OK
	Model 4	1	2	3	Discriminant validity
1	Self-Efficacy	**0.916**			OK
2	CSE	0.300	**0.779**		OK
3	CP	0.622	0.314	**0.860**	OK
	Model 5	1	2	3	Discriminant validity
1	Resilience	**0.926**			OK
2	CSE	0.235	**0.779**		OK
3	CP	0.555	0.314	**0.860**	OK

Note. square root of AVE is shown in the bold diagonal in the table
the rest of the numbers show the correlations between factors

Measurement Model Validation

Model 1. PsyCap. The baseline 3-factor model, in which PsyCap is represented through its four sub-dimensions (hope, optimism, self-efficacy, and resilience), each measured by three observed indicators, was adopted because of its superior performance in CFA testing. This model demonstrated acceptable fit indices (χ^2 = 360.567, df = 127, χ^2/df = 2.839, RMR = 0.024, TLI = 0.962, CFI = 0.968, RMSEA = 0.054), thereby confirming its suitability for further structural testing. Importantly, this specification outperformed alternative models, including the 3-factor model with 12 observed items, as well as simplified 2-factor and 1-factor structures. These results suggest that conceptualising PsyCap as a higher-order construct with four distinct yet interrelated sub-dimensions provides the most

robust representation of the data (see Table 24). Figure 10 displays the adopted diagram of the measurement model CFA outcome.

Table 24

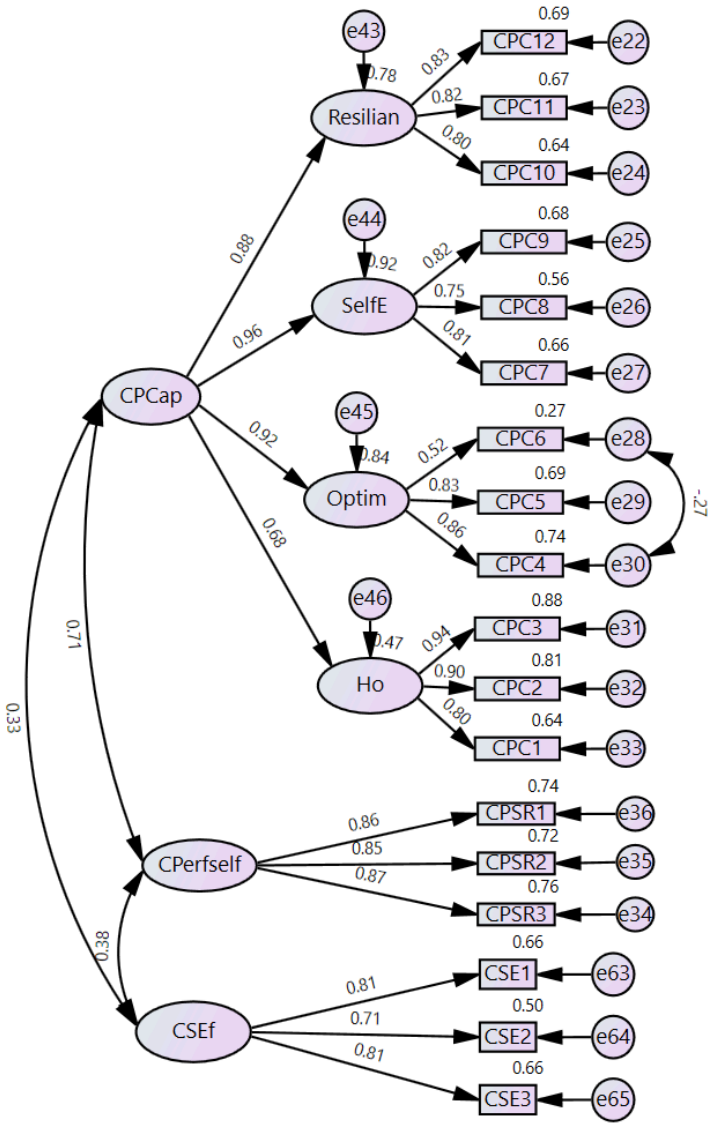
Measurement model (CFA) – Model 1: PsyCap

Model	$\chi 2$	df	$\chi 2$/df	RMR	TLI	CFI	RMSEA	AIC
3-factor base line model (PsyCap with 4 sub-dimensions)	360.567	127	2.839	0.024	0.962	0.968	0.054	448.57
3-factor model (PsyCap with 12 observed items)	1344.909	131	10.266	0.037	0.809	0.836	0.121	1424.909
2-factor model (PsyCap with 4 sub-dimensions, CSE and CP blended)	936.74	129	7.262	0.057	0.871	0.891	0.099	1020.74
1-factor model (PsyCap with 4 sub-dimensions, PsyCap, CSE, and CP blended)	1447.462	130	11.134	0.065	0.791	0.822	0.126	1529.46
ULMC Model	340.074	126	2.699	0.069	0.965	0.971	0.052	430.074
Δ (base line model-ULMC model)					-0.003	-0.003	0.002	

Note. N = 639, RMR = Root Mean Square Residual, TLI = Tucker-Lewis Index, CFI = Comparative Fit Index, RMSEA = Root Mean Square Error of Approximation, AIC = Akaike Information Criterion, CSE = Creative Self-Efficacy, CP = Creartive Performance, ULMC = Unmeasured Latent Method Construct

Figure 10

Confirmatory Factor Analysis Measurement Model 1 (PsyCap)



Model 2: Hope. The CFA results indicated that when Hope was tested as the independent variable, the 3-factor baseline model provided a stronger fit compared with the 2-factor and 1-factor alternatives. The model demonstrated robust fit indices (χ^2 = 360.567, df = 127, χ^2/df = 2.839, RMR = 0.021, TLI = 0.983, CFI = 0.989, RMSEA = 0.050), confirming its appropriateness for hypothesis testing (Dash & Paul, 2021; Hair et al., 2010). This finding highlights Hope as a reliable and distinct psychological resource within PsyCap that can be meaningfully

examined in relation to creativity and employee outcomes (Dash & Paul, 2021; Hair Jr et al., 2010). Table 25 presents the measurement model CFA outcome. Figure 11 displays the adopted diagram of the measurement model CFA outcome.

Table 25

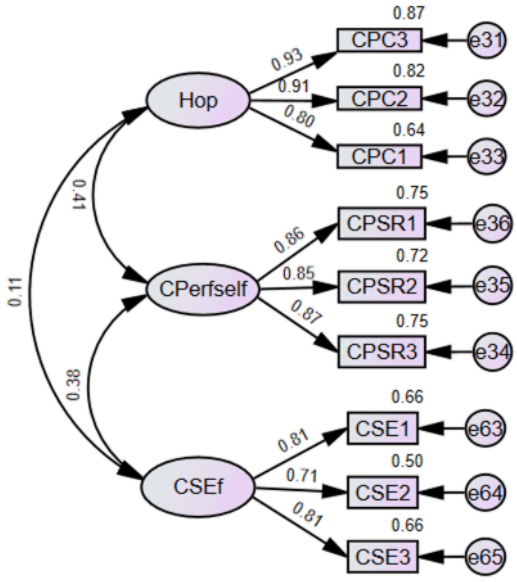
Measurement Model (CFA) – Model 2: Hope

Model	$\chi 2$	df	$\chi 2$/df	RMR	TLI	CFI	RMSEA	AIC
3-factor base line model	61.687	24	2.57	0.021	0.983	0.989	0.050	103.687
2-factor model (Hope,CSE&CP blended)	641.759	26	24.683	0.105	0.748	0.818	0.193	679.759
1-factor model (All factors blended)	1790.723	27	66.323	0.135	0.304	0.478	0.32	1826.723
ULMC Model	44.713	20	2.236	0.018	0.987	0.993	0.044	94.713
Δ (base line model-ULMC model)					-0.004	-0.004	0.006	

Note. N = 639, RMR = Root Mean Square Residual, TLI = Tucker-Lewis Index, CFI = Comparative Fit Index, RMSEA = Root Mean Square Error of Approximation, AIC = Akaike Information Criterion, CSE = Creative Self-Efficacy, CP = Creative Performance, ULMC = Unmeasured Latent Method Construct

Figure 11

Confirmatory Factor Analysis Measurement Model 2 (Hope)



Model 3: Optimism. When Optimism was specified as the independent variable, the CFA results again supported the 3-factor baseline model over reduced-factor alternatives. The model displayed acceptable fit indices (χ^2 = 70.94, df = 23, χ^2/df = 3.085, RMR = 0.021, TLI = 0.973, CFI = 0.983, RMSEA = 0.057), validating its robustness for subsequent analyses (Dash & Paul, 2021; Hair et al., 2010). These findings reaffirm the theoretical value of treating Optimism as a distinct component of PsyCap, while also providing empirical support for its measurement reliability. Table 26 presents the measurement model CFA outcome. Figure 12 displays the adopted diagram of the measurement model CFA outcome.

Table 26

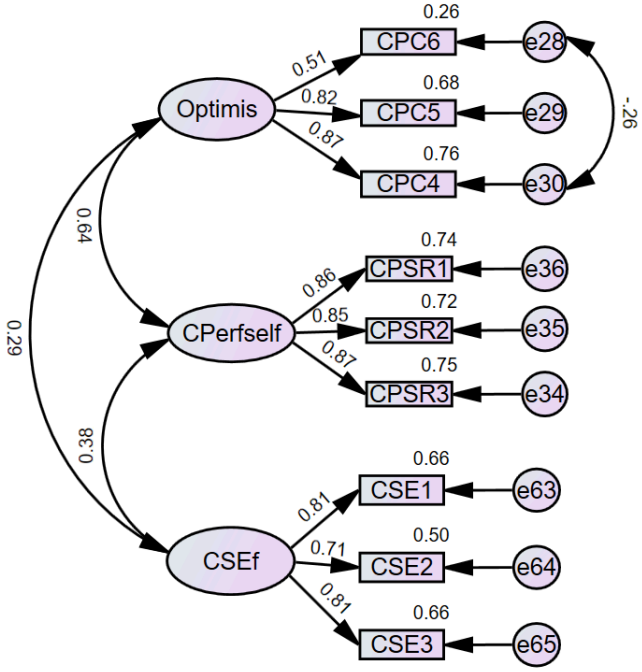
Measurement Model (CFA) – Model 3: Optimism

Model	**χ2**	**df**	**χ2/df**	**RMR**	**TLI**	**CFI**	**RMSEA**	**AIC**
3-factor base line model	70.954	23	3.085	0.021	0.973	0.983	0.057	114.954
2-factor model （Optimism, CSE&CP blended)	647.41	25	25.896	0.104	0.677	0.776	0/198	687.41
1-factor model （All factors blended)	947.59	26	36.446	0.107	0.54	0.668	0.236	985.59
ULMC Model	55.181	19	2.904	0.021	0.975	0.987	0.055	107.181
Δ（base line model-ULMC model)					-0.002	-0.004	0.002	

Note. N = 639, RMR = Root Mean Square Residual, TLI = Tucker-Lewis Index, CFI = Comparative Fit Index, RMSEA = Root Mean Square Error of Approximation, AIC = Akaike Information Criterion, CSE = Creative Self-Efficacy, CP = CP, ULMC = Unmeasured Latent Method Construct

Figure 12

Confirmatory Factor Analysis Measurement Model 3 (Optimism)



Model 4: Self-efficacy. The CFA analysis of Self-Efficacy further demonstrated the superiority of the 3-factor baseline model, which showed consistently stronger performance relative to 2-factor and 1-factor models. The fit indices were acceptable (χ^2 = 66.146, df = 24, χ^2/df = 2.756, RMR = 0.018, TLI = 0.979, CFI = 0.986, RMSEA = 0.052), thereby confirming its suitability for subsequent structural testing (Dash & Paul, 2021; Hair et al., 2010). The results suggest that Self-Efficacy, as a core psychological strength, is both theoretically and empirically sound as a predictor of creative outcomes. Table 27 presents the measurement model CFA outcome. Figure 13 displays the adopted diagram of the measurement model CFA outcome.

Table 27

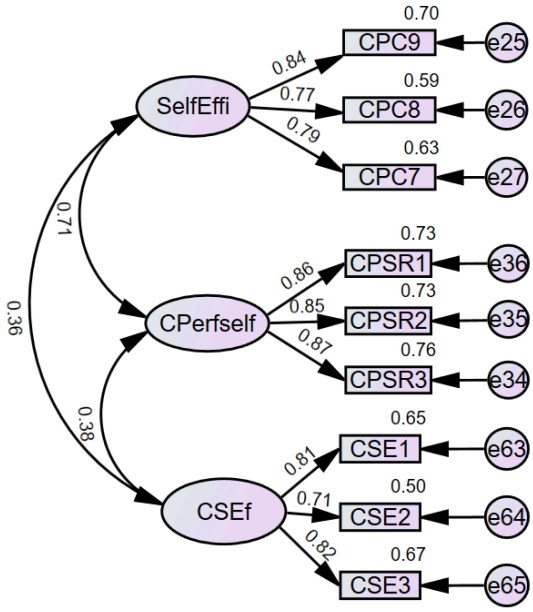
Measurement Model (CFA) – Model 4: Self-Efficacy

Model	χ2	df	χ2/df	RMR	TLI	CFI	RMSEA	AIC
3-factor base line model	66.146	24	2.756	0.018	0.979	0.986	0.052	108.146
2-factor model （Self-efficacy, CSE&CP blended)	644.09	26	24.773	0.103	0.717	0.795	0.193	682.089
1-factor model （All factors blended)	940.93	27	34.849	0.105	0.596	0.697	0.230	976.929
ULMC Model	52.425	20	2.671	0.018	0.98	0.989	0.051	103.425
Δ（base line model-ULMC model)					-0.001	-0.003	0.001	

Note. N = 639, RMR = Root Mean Square Residual, TLI = Tucker-Lewis Index, CFI = Comparative Fit Index, RMSEA = Root Mean Square Error of Approximation, AIC = Akaike Information Criterion, CSE = Creative Self-Efficacy, CP = Creative Performance, ULMC = Unmeasured Latent Method Construct

Figure 13

Confirmatory Factor Analysis Measurement Model 4 (Self-efficacy)



Model 5: Resilience. Similarly, when Resilience was examined as the independent variable, the CFA results indicated that the 3-factor baseline model provided the strongest and most parsimonious fit compared with alternative

specifications. The model achieved acceptable indices (χ^2 = 65.084, df = 24, χ^2/df = 2.712, RMR = 0.020, TLI = 0.980, CFI = 0.986, RMSEA = 0.052), supporting its robustness for further hypothesis testing (Dash & Paul, 2021; Hair et al., 2010). These results provide further evidence that Resilience can be reliably conceptualised as an independent driver of creative outcomes (see Table 28). Figure 14 displays the adopted diagram of the measurement model CFA outcome.

Table 28

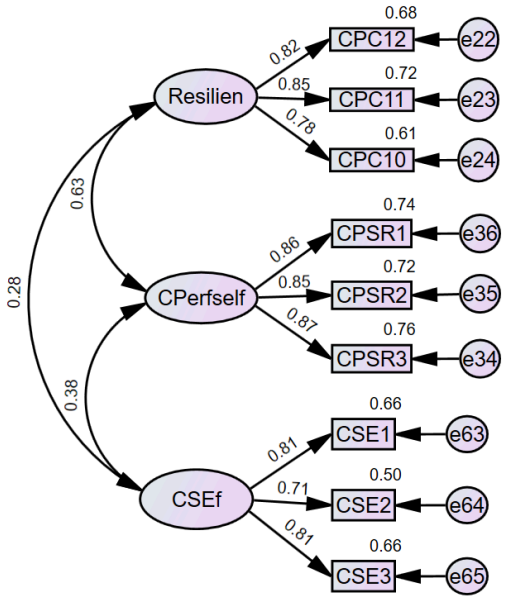
Measurement Model (CFA) – Model 5: Resilience

Model	χ2	df	χ2/df	RMR	TLI	CFI	RMSEA	AIC
3-factor base line model	65.084	24	2.712	0.020	0.980	0.986	0.052	107.084
2-factor model （Resilience, CSE&CP blended)	614.088	26	24.657	0.104	0.719	0.797	0.193	679.088
1-factor model （All factors blended)	1108.971	27	41.073	0.111	0.524	0.643	0.251	1144.971
ULMC Model	42.783	20	2.904	0.021	0.975	0.987	0.055	107.181
Δ（base line model-ULMC model)					0.005	-0.001	-0.003	

Note. N = 639, RMR = Root Mean Square Residual, TLI = Tucker-Lewis Index, CFI = Comparative Fit Index, RMSEA = Root Mean Square Error of Approximation, AIC = Akaike Information Criterion, CSE = Creative Self-Efficacy, CP = Creative Performance, ULMC = Unmeasured Latent Method Construct

Figure 14

Confirmatory Factor Analysis Measurement Model 5 (Resilience)



Synthesis of Model Comparisons. Across all five specifications, the CFA analyses consistently demonstrated that the 3-factor baseline model yielded the strongest fit relative to reduced-factor alternatives. This robustness across multiple independent variables not only validates the psychometric quality of the measures but also reinforces the theoretical argument for conceptualising PsyCap and its sub-dimensions as distinct yet interrelated constructs. In sum, the evidence confirms that PsyCap, whether treated as a higher-order construct or disaggregated into its four sub-dimensions, can be reliably modelled to explore its influence on employee creativity and the moderating effects of contextual factors.

Preliminary Checks

Normality. Normality was assessed separately for PsyCap, hope, optimism, self-efficacy, resilience, and CP within male (n = 460) and female (n = 179) groups.

For both males and females, all the skewnesses were less than 0.797, and all the kurtoses were less than 2.223. All these metrics fell well within the acceptable thresholds (|skewness| < 2; |kurtosis| < 7) (Kline, 2023), suggesting no substantial deviations from normality. Although the Kolmogorov–Smirnov and Shapiro–Wilk tests yielded statistically significant results (all ps < .005), it is widely acknowledged that these tests are highly sensitive to large sample sizes (Ghasemi & Zahediasl, 2012). Consequently, considering the skewness and kurtosis values, the assumption of approximate normality was regarded as fulfilled for subsequent SEM analyses employing maximum likelihood estimation.

Multicollinearity. Since each regression model in this study included only one predictor, multicollinearity was not applicable.

Common Method Bias. To mitigate potential CMB, the study was designed as a two-wave survey with a one-week time lag between data collections. This temporal separation is expected to alleviate, at least to some extent, the risk of inflated relationships caused by common method variance (CMV). Nevertheless, as all measures were obtained from a single source, the possibility of CMB cannot be completely ruled out, and thus it remains a methodological concern (Fuller et al., 2016). To further examine this potential issue, Harman's single-factor test was conducted. Harman's single-factor test is a widely used diagnostic technique for assessing the presence of CMV. When CMV is high, it increases the likelihood that CMB will occur, leading to biased estimates of the relationships among constructs. The CMV procedure involves conducting an exploratory factor analysis (EFA) of all measurement items. The underlying assumption is that if CMV is a serious concern, either (a) a single factor will emerge from the analysis or (b) one general factor will

account for the majority of the covariance among the variables (Podsakoff et al., 2003).

Using the principal axis factoring extraction method, the results indicated that the first factor explained 42.2% of the variance, which is below the commonly used 50% threshold for detecting CMB (Podsakoff et al., 2003). For a more rigorous assessment of CMB, this study incorporated an unmeasured latent method construct (ULMC) in the CFA within the SEM framework (Podsakoff et al., 2003; Podsakoff et al., 2012).

The ULMC analysis revealed that after one common latent factor was added to all the measurement models, there was no significant improvement in model fit (Chen, 2007; Cheung & Rensvold, 2002) in the Tucker-Lewis index (Δ TLI $\leq$ 0.005), comparative fit index (Δ CFI $\leq$ 0.004), and root mean square error of approximation (ΔRMSEA $\leq$ 0.006). This further confirmed that CMB was not a significant issue in this study (Podsakoff et al., 2003), see Table 24-28.

Structural Model Hypothesis Testing and Results

IBM SPSS AMOS SEM is used to assess the regression results (Arbuckle, 2022).

Model 1: PsyCap. After controlling for position, tenure, and CSE, this study employed SEM using AMOS (Arbuckle, 2022) to test the proposed hypotheses. The results revealed a strong and statistically significant positive relationship between PsyCap and CP ($\beta = 0.750$, $p < .001$), thereby providing robust support for H1a. This finding underscores the pivotal role of PsyCap as a resource that directly enhances employees' creative outcomes.

To further explore the potential boundary conditions of this relationship, this study examined the moderating role of gender through interaction analysis in SEM.

The analysis revealed that gender significantly moderated the PsyCap–CP relationship (β = -0.139, p < .001). Specifically, the negative interaction effect suggests that the influence of PsyCap on CP varies between male and female employees. This result supports H2a, confirming that gender is an important contextual factor that influences how PsyCap translates into creativity. Table 29 illustrates these findings, while Figure 15 provides a visual representation of the moderating effects of gender on the PsyCap–CP link.

Table 29

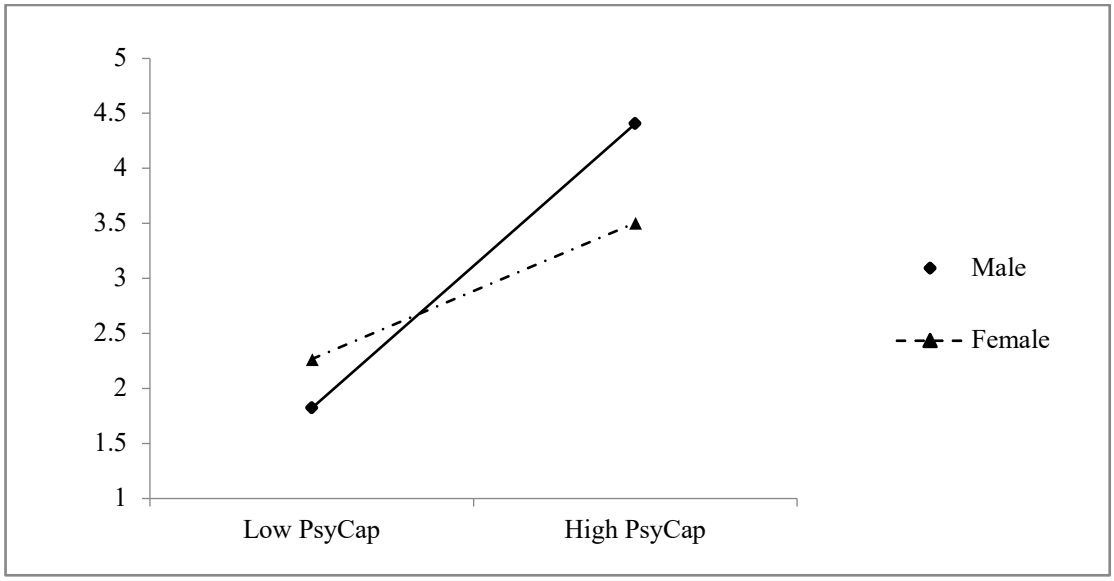
Structural Equation Model Results – Model 1: PsyCap

Control Variable	**CP**			
	β	S.E	*t*-value	P value
Position	0.019	0.024	0.535	0.593
Tenure	0.057	0.021	1.590	0.112
Creative Self-Efficacy	0.169	0.036	4.409	<0.001
Independent variable				
PsyCap	0.750	0.068	14.074	<0.001
Moderator				
Gender(0=male)	-0.083	0.045	-2.507	0.012
Interaction term				
PsyCap x Gender	-0.139	0.096	-3.499	<0.001
R^2	0.787			

Note. N = 639

Figure 15

Moderating Effects of Gender-SEM Output-PsyCap



Model 2: Hope. Following the same procedure as in Model I, SEM analysis was conducted for the hope sub-dimension. The results revealed a significant positive relationship between hope and CP ($\beta = 0.439$, $p < .001$), thereby supporting H1b. This indicates that employees with higher levels of hope are more likely to generate creative outcomes.

The interaction analysis further demonstrated that gender significantly moderated the hope–CP relationship ($\beta = -0.095$, $p = .027$). The negative interaction effect suggests that the strength of hope's influence on creativity differs across male and female employees. This finding supported H2b, confirming gender's moderating role in shaping how hope translates into CP. Table 30 reports these results, and Figure 16 illustrates the moderating effect graphically.

Table 30

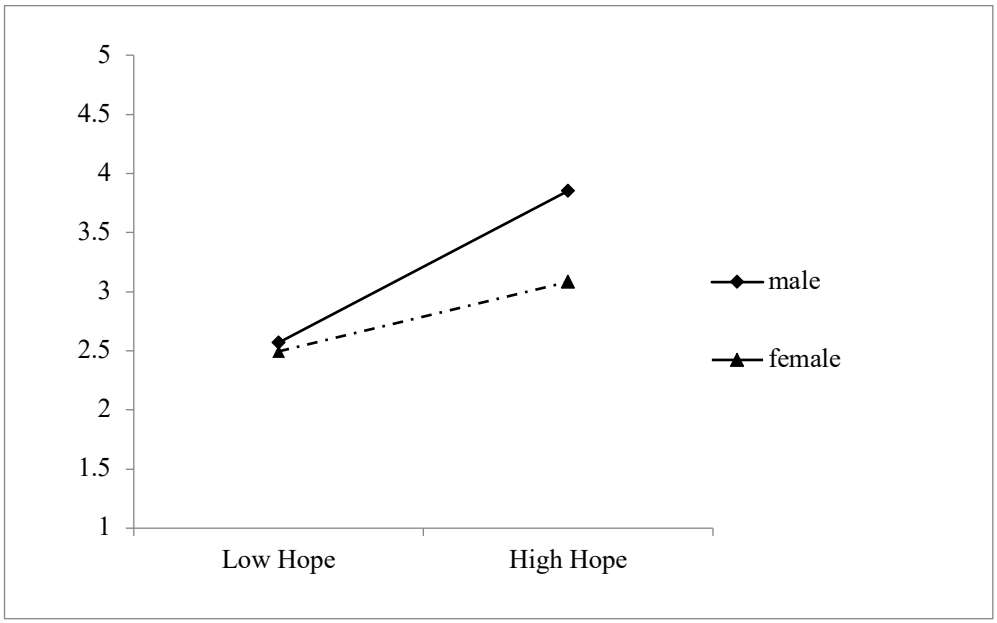
Structural Equation Model Results – Model 2: Hope

Control Variable	**CP**			
	β	S.E	*t*-value	P value
Position	0.040	0.027	0.986	0.324
Tenure	0.059	0.025	1.445	0.148
Creative Self-Efficacy	0.296	0.042	6.708	<0.001
Independent variable				
Hope	0.439	0.051	9.257	<0.001
Gender(0=male)	-0.149	0.053	-4.016	<0.001
Interaction term				
Hope x Gender	-0.095	0.079	-2.207	0.027
R^2	0.737			

Note. N = 639

Figure 16

Moderating Effects of Gender-SEM Output -Hope



Model 3: Optimism. Applying the same analytical process, SEM results for the optimism sub-dimension indicated a significant positive relationship between optimism and CP ($\beta = 0.662$, $p < .001$), thus lending strong support to H1c. This

demonstrates that optimism serves as an important psychological resource for enhancing creativity.

The interaction analysis revealed that gender significantly moderated the optimism–CP relationship (β = -0.129, p = .003). The finding supported H2c, showing that the positive effects of optimism on creative outcomes are conditioned by gender. Table 31 presents the statistical results, and Figure 17 illustrates this moderating effect.

Table 31

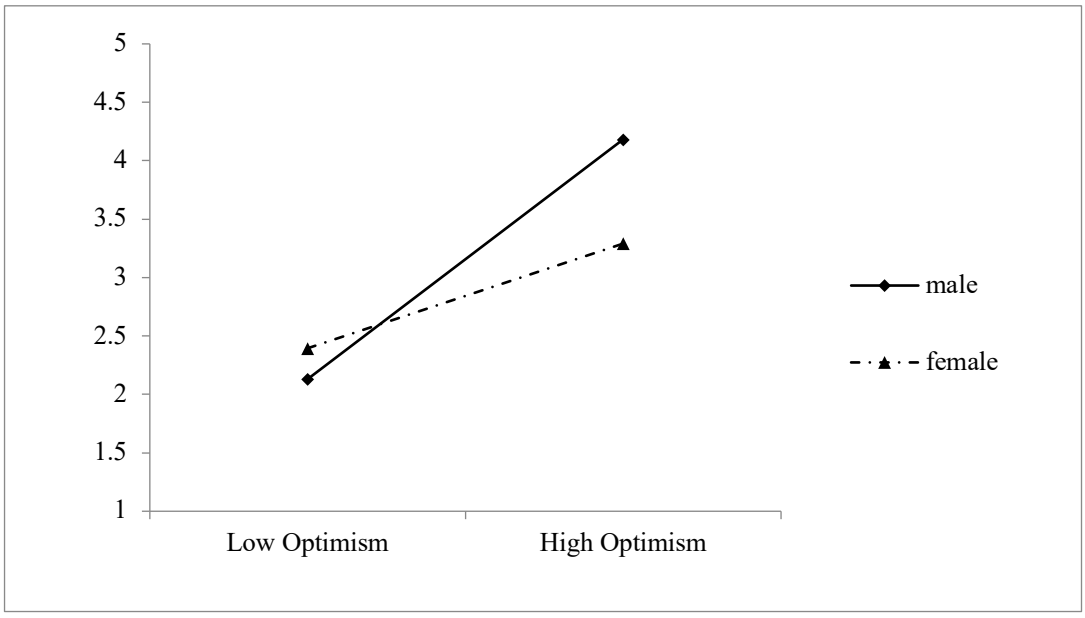
Structural Equation Model Results – Model 3: Optimism

Control Variable	CP			
	β	S.E	*t*-value	P value
Position	0.014	0.025	0.350	0.726
Tenure	0.048	0.023	1.269	0.205
Creative Self-Efficacy	0.212	0.038	5.186	<0.001
Independent variable				
Optimism	0.662	0.057	12.575	<0.001
Gender(0=male)	-0.110	0.048	-3.155	0.001
Interaction term				
Optimism x Gender	-0.129	0.096	-3.014	0.003
R^2	0.662			

Note. N = 639

Figure 17

Moderating Effects of Gender-SEM Output -Optimism



Model 4: Self-efficacy. For the self-efficacy sub-dimension, SEM analysis revealed a strong and positive relationship with CP ($\beta = 0.781$, $p < .001$), offering robust support for H1d. This suggests that self-efficacy, the confidence to mobilise one's skills to meet creative challenges, plays a particularly powerful role in predicting CP.

The moderation analysis further showed that gender significantly moderated this relationship ($\beta = -0.196$, $p < .001$). The stronger negative coefficient highlights that the self-efficacy–creativity link is notably influenced by gender, supporting H2d. Table 32 summarises these findings, and Figure 18 illustrates the moderating effects.

Table 32

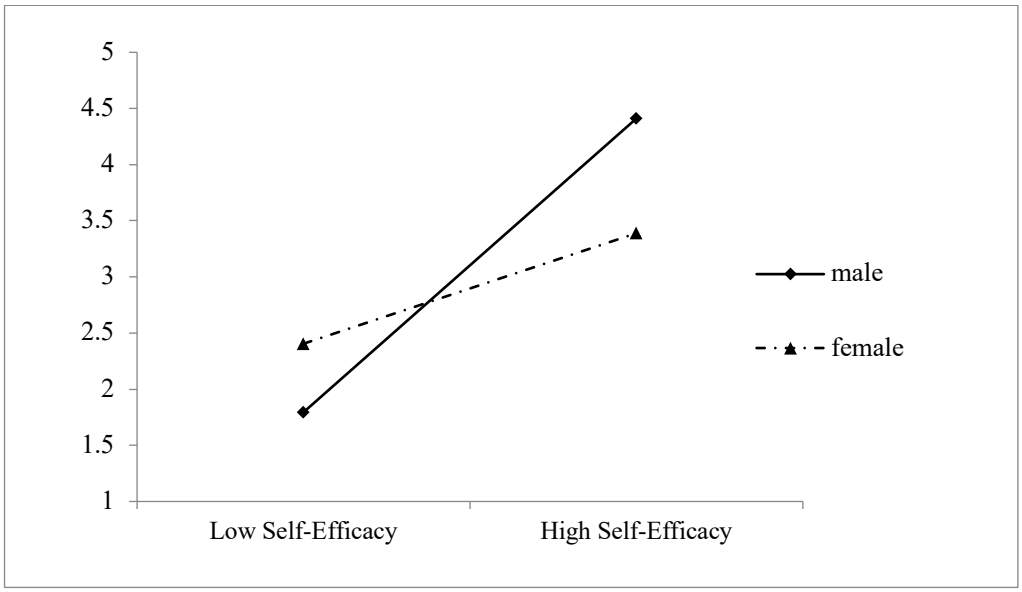
Structural Equation Model Results – Model 4: Self-Efficacy

Control Variable	CP			
	β	S.E	*t*-value	P value
Position	0.028	0.024	0.759	0.448
Tenure	0.042	0.022	1.131	0.258
Creative Self-Efficacy	0.156	0.037	3.947	<0.001
Independent variable				
Self-Efficacy	0.781	0.065	13.868	<0.001
Moderator				
Gender(0=male)	-0.076	0.046	-2.246	0.025
Interaction term				
Self-Efficacy x Gender	-0.196	0.093	-4.387	<0.001
R^2	0.644			

Note. N = 639

Figure 18

Moderating Effects of Gender-SEM Output -Self-efficacy



Model 5: Resilience. The resilience model analysis, conducted using the same procedure, demonstrated a significant positive relationship between resilience and CP ($\beta = 0.674$, $p < .001$), thereby supporting H1e. This highlights resilience as a crucial psychological strength that sustains employees' creativity under challenging conditions. The interaction analysis confirmed that gender moderated the resilience–CP relationship ($\beta = -0.161$, $p < .001$). This supports H2e, indicating that gender plays a role in shaping how resilience translates into creative outcomes. Table 33 presents the results, and Figure 19 provides a visual depiction of the moderating effect.

Table 33

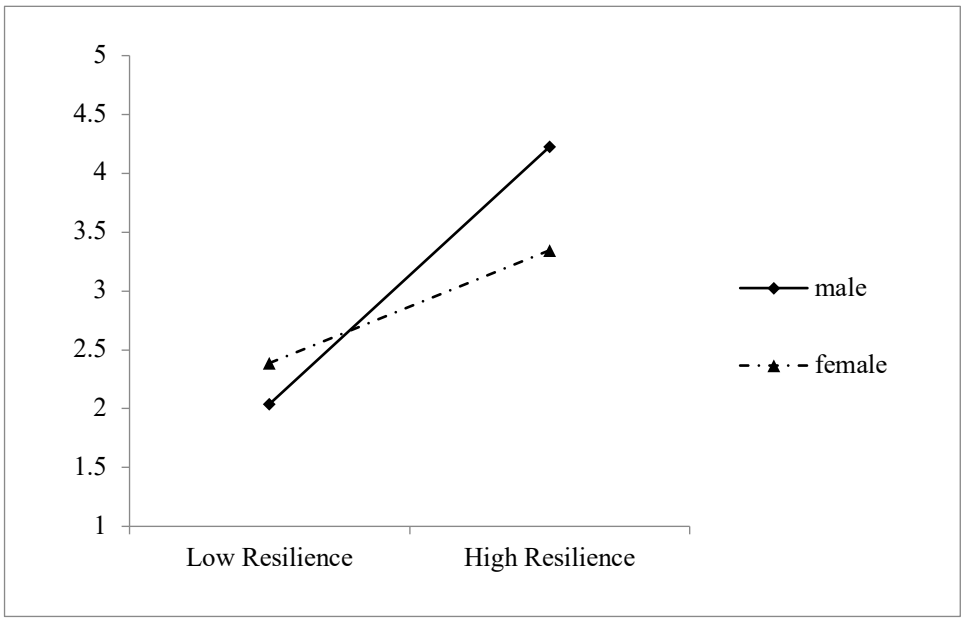
Structural Equation Model Results – Model 5: Resilience

Control Variable	CP			
	β	S.E	*t*-value	P value
Position	0.029	0.025	0.738	0.461
Tenure	0.053	0.023	1.375	0.169
Creative Self-Efficacy	0.227	0.038	5.503	<0.001
Independent variable				
Resilience	0.674	0.064	12.330	<0.001
Moderator				
Gender(0=male)	-0.096	0.049	-2.722	0.006
Interaction term				
Resilience x Gender	-0.161	0.086	-3.595	<0.001
R^2	0.671			

Note. N = 639

Figure 19

Moderating Effects of Gender-SEM Output -Resilience



Summary of the Findings. The analyses demonstrated that PsyCap and each of its four sub-dimensions, hope, optimism, self-efficacy, and resilience, significantly enhance CP. Among these, PsyCap as a higher-order construct exerted

a consistently strong influence, underscoring the value of considering PsyCap as an integrated psychological resource. Notably, self-efficacy emerged as the most powerful individual predictor, highlighting the central role of confidence in one's creative capabilities for driving creative outcomes.

In addition, the moderation analyses revealed that gender significantly shaped these relationships. Across PsyCap and all four sub-dimensions, the interaction effects were negative, indicating that the positive impact of PsyCap-related resources on CP was stronger for male employees than for female employees. This pattern suggests that while PsyCap and its sub-dimensions are beneficial for fostering creativity in both genders, structural or contextual factors may constrain the extent to which female employees can translate these psychological resources into creative output. See Table 34, structural equation modelling outputs comparison, and Figure 20, comparison of moderating effects of gender.

Table 34

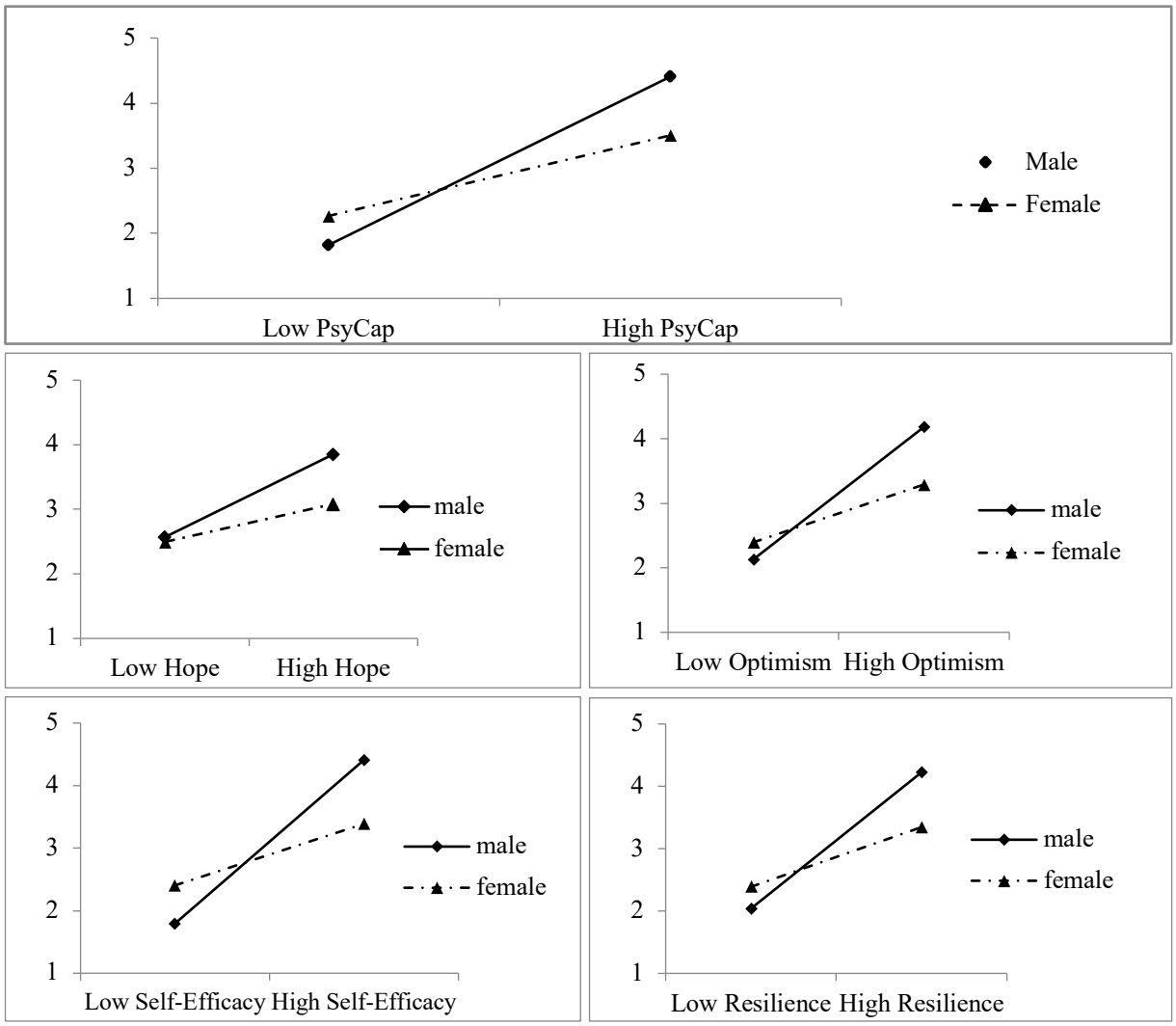
Structural Equation Modelling Outputs Comparison

	CP									
	Model1-PsyCap		Model2-Hope		Model3-Optimism		Model4-Self-Efficacy		Model5-Resilience	
Control Variable	β	*t*-value	β	*t*-value	β	*t*-value	β	*t*-value	β	*t*-value
Position	0.019	0.535	0.040	0.986	0.018	0.464	0.028	0.759	0.029	0.738
Tenure	0.057	1.590	0.059	1.445	0.040	1.043	0.042	1.131	0.053	1.375
Creative Self-Efficacy	0.169***	4.409	0.296***	6.708	0.213***	5.167	0.156***	3.947	0.227***	5.503
Independent variable										
PsyCap	0.750***	14.074								
Hope			0.439***	9.257						
Optimism					0.659***	12.642				
Self-Efficacy							0.781***	13.868		
Resilience									0.674***	12.330
Moderator										
Gender(0=male)	-0.083*	-2.507	-0.149***	-4.016	-0.114**	-3.223	-0.076*	-2.246	-0.096**	-2.722
Interaction term										
PsyCap x Gender	-0.139***	-3.499								
Hope x Gender			-0.095*	-2.207						
Optimism x Gender					-0.129**	-2.982				
Self-Efficacy x Gender							-0.196***	-4.387		
Resilience x Gender									-0.161***	-3.595
R^2	0.787		0.737		0.658		0.644		0.671	

Note. N = 639, ***$p < 0.001$, **$p < 0.01$, *$p < 0.05$

Figure 20

Comparison of the Moderating Effects of Gender



Summary of Hypotheses Testing Outcomes

As shown in the table of the outcomes of proposed hypotheses, all the hypotheses were confirmed in this study, see Table 35.

Table 35

Hypotheses Testing Outcomes

Hypotheses	Paths	Results
H1a	PsyCap–CP	*Supported*
H1b	Hope–CP	*Supported*
H1c	Resilience–CP	*Supported*
H1d	Self-efficacy–CP	*Supported*
H1e	Optimism–CP	*Supported*
H2a	Gender on PsyCap–CP	*Supported*
H2b	Gender on Hope–CP	*Supported*
H2c	Gender on Resilience–CP	*Supported*
H2d	Gender on Self-efficacy–CP	*Supported*
H2e	Gender on Optimism–CP	*Supported*

Notes. PsyCap = Psychological capital; CP = Creative Performance

Discussion

The findings answered the following research questions:

RQ1: What are the effects of PsyCap and its sub-dimensions on CP?

RQ2: Does gender moderate the relationship between PsyCap (including its four sub-dimensions) and employee CP?

Regarding RQ1, the findings revealed a positive association between PsyCap and employee CP. Such a finding is consistent with prior reports on this association (Cai et al., 2019; Ghafoor & Haar, 2022; Rego et al., 2012; Sweetman et al., 2011). The findings suggest that PsyCap provides employees with the necessary positive psychological resources and motivation necessary to address the uncertainties and challenges associated with creativity (Huang & Luthans, 2015). Additionally, prior studies have also called for further investigations into the effects of PsyCap's four individual sub-dimensions and employee CP (Yu et al., 2019), given that research suggests the four distinct sub-dimensions of PsyCap may not contribute equally to explaining specific behaviours (Madrid et al., 2018). Responding to such calls, the findings show that all four individual sub-dimensions of PsyCap (hope, optimism,

resilience and self-efficacy) had a direct significant effect on employee CP. The findings here support earlier studies on how high levels of individuals' psychological resources (hope, self-efficacy, optimism and resilience) facilitate performance in the workplace, including CP (Youssef & Luthans, 2005). For example, individuals with higher efficacy feelings are more effective at functioning under stressful and challenging circumstances due to their greater sense of control (Bandura & Locke, 2003). Similarly, the study found hope to also be positively associated with employee CP. Such a finding is consistent with prior research showing that individuals high in hope are more likely to use feedback to improve goal-pursuit thoughts and strategies, which in turn supports creative endeavours (Rego et al., 2012). Specifically, the findings indicate that the aggregate PsyCap yielded a more substantial overall predictive effect on CP than most individual sub-dimensions, which aligns with the assertion that the combined resource reservoir of PsyCap enhances positive work outcomes more than most single dimensions alone (Avey et al., 2011; Khliefat et al., 2021; Newman et al., 2014). However, this study also reveals that self-efficacy displayed a particularly robust and comparable predictive power relative to the higher-order construct. This dual insight contributes theoretically by demonstrating the relative utility of using aggregate PsyCap versus focusing on targeted dimensions, especially self-efficacy, depending on the outcome of interest (e.g., CP). Research has also found individuals with higher levels of resilience to be better able to recover from negative emotional experiences and more prone to experience positive emotions in the midst of stressful events (Fredrickson, 2001). Such attributes are considered necessary conditions to perform creative tasks (Zubair & Kamal, 2015). Finally, in line with theoretical expectations, the study found that individuals high in optimism also have increased CP. Such a finding is consistent with prior research showing

optimistic individuals to be more likely to distance themselves from unfavourable life events and to look for creative ways to solve problems (Youssef & Luthans, 2005). Broadly, the findings support prior research showing the positive association between the individual sub-dimensions of PsyCap and employee CP (Sweetman et al., 2011; Yu et al., 2019; Zubair & Kamal, 2015)

While scholars have acknowledged the gender disparity in CP (Hora et al., 2021), evidence of how and when gender shapes CP remains limited. Responding to calls for further action in this area and answering RQ2, this study found that gender not only moderated the PsyCap–CP relationship but also the relationship between the individual sub-dimensions of PsyCap and CP. Prior research has traditionally viewed creative behaviour as agentic behaviour, thus aligning more strongly with the male gender role. Thus, men may more easily translate PsyCap into creative outcomes by taking risks, reframing failures, and persisting in novel solutions (Hora et al., 2022). By contrast, women's ability to mobilise PsyCap is constrained by cultural expectations and organisational bias that undermine confidence, hope, and resilience. This reflects COR's "shadow side": when women lack access to recognition, autonomy, or support, resource loss spirals deplete PsyCap and suppress creativity (Acker, 1990; Ely, 1994; Hoobler et al., 2014; Kossek et al., 2017).

Findings show that the effects of PsyCap and its individual sub-dimensions on employee CP were stronger for males than for females. The findings here can, in part, be interpreted through the lens of COR theory, social role theory, and role congruity theory. These frameworks suggest that psychological resources can be differentiated based on an individual's gender (Doci et al., 2023; Zubair & Kamal, 2015). Moreover, creativity is more strongly aligned with agentic rather than communal behaviours. For instance, due to the gendered nature of creativity, males may be more likely to have

higher confidence in their ability to carry out creativity-related tasks and be more resilient than females because of their ability to frame failures as necessary steps towards success, take more risks, and persist in exploring novel solutions (Hora et al., 2022). Similarly, the socialisation process in society may condition males to be more hopeful and optimistic about their circumstances than females, thus motivating them to take risks in the creative process. In sum, this study suggests that males may be better at leveraging and utilising their psychological resources in the form of self-efficacy, hope, optimism and resilience towards CP. The findings support earlier evidence by Zubair and Kamal (2015), who found male employees had more PsyCap and higher levels of creativity compared to female employees and other studies showing gender differences among the different sub-dimensions of PsyCap (Jin et al., 2020; Norman et al., 2010) and CP (Hora et al., 2022).

Chapter Summary

This chapter presented empirical Study Three. Building on the COR theory, actor-context interplay for creativity, it explored the PsyCap and its sub-dimensions' association with CP. In addition, guided by social role theory and role congruity theory, it examined the role of gender in this association. Study Three first validated the measurement and measurement model, and conducted data normality tests. Subsequently, SEM was utilised to test the hypothesised relationships, with the results providing strong support for all hypotheses proposed in this study. The findings provided empirical evidence on the predictive role of PsyCap and its sub-dimensions on CP, and the strong predictive power of PsyCap over its sub-dimensions. It also revealed that males were better able to transfer these resources into CP. A discussion on the findings was presented.

Chapter Seven: Integration of Findings, Theoretical Contributions, Practical Implications, and Limitations

Chapter Overview

This chapter integrates the findings and summarises the overarching contributions and implications of the thesis, synthesising insights from the three studies into a coherent narrative of academic value. It also acknowledges methodological and contextual limitations that may affect the interpretation and generalisability of the findings. It offers suggestions and directions for future research.

Integration of the Findings

The overarching purpose of this thesis was to address the central research questions:
a) How do employees experience creativity in the Chinese automotive industry under job stressors of time pressure and learning requirements, and what psychological resources enable them to sustain creative engagement?
b) How and when do PsyCap moderate the job stressors (time pressure and learning requirements)–creative performance relationship?
c) How do PsyCap and its subdimensions predict creative performance, and how does gender shape this relationship?

In addressing the research questions, a mixed methods design was adopted, combining the IPA methodology with a time-lagged survey approach. This methodological integration enabled both depth of inquiry and breadth (Creswell & Creswell, 2017). The thesis engaged not only experts in the subject matter but also employees across multiple organisational levels, functions, and geographical regions, ensuring that experiences and diverse perspectives were captured. Through

a combination of in-depth, reflective interviews and structured surveys, participants were able to articulate their perceptions, lived experiences, and insights regarding creativity in the workplace. The multi-source data collection strategy provided rich contextually grounded evidence, allowing for the exploration of both individual and job factors that drive or constrain CP. It also enhanced the robustness of the findings through cross-source validation (Patton, 1999; Povee & Roberts, 2015). In doing so, the thesis advances understanding beyond surface-level correlations by offering a more interpretive and holistic account of how creativity unfolds within complex organisational settings. The integration of methodological rigour provides a clearer and more comprehensive understanding of the research objective, offering both theoretical contributions to the literature on creativity and practical implications for organisational practice.

Collectively, the three studies provide unique insights into how contextual factors (TP, LRs), personal psychological resources (PsyCap and its sub-dimensions), and socio-cultural factors (gender), jointly shape employees' CP among Chinese automotive industry under the actor-context interplay for creativity and COR theory framework.

Study One offered a grounded, experiential foundation by revealing how employees interpret and respond to job stressors (TP, LRs) and adversities during the creative process, answering the *research question a)* of the thesis. TP was experienced as a double-edged demand. For most employees, increasing TP elicited stress, anxiety, and emotional strains, undermining CP by limiting exploration and flexibility, which is in line with the claims of Song et al. (2024) that in the Chinese context, TP may not be experienced as a motivator but rather as a burden. However, some participants also described that under high TP, the negative emotion can ignite

latent potential, leading to breakthroughs by sharpened focus, intensified effort, and sustained persistence, thereby stimulating CP, which is supported by the existing literature that negative mood may stimulate persistence and promote creativity (Amabile & Pratt, 2016; Nijstad et al., 2010). This ambivalence helps explain the longstanding inconsistency in TP–CP findings (Adler & Koch, 2017; Aleksic et al., 2017; Bormann, 2020; Zhang et al., 2023b; Zhou et al., 2024). In contrast, LRs were overwhelmingly perceived as developmental and enabling, which directly supported CP and broader life satisfaction. It is possible that LRs can foster skill acquisition, knowledge expansion, and lead to a sense of growth. When facing setbacks and failures during the creative process, employees relied heavily on psychological strengths, particularly self-efficacy and resilience, to recover from adversities and remain engaged in the creative process. In line with COR theory, such personal resources play a critical role in enabling individuals to cope with stressful events and sustain goal-directed effort (Hobfoll et al., 2018). Thus, Study One highlights both the heterogeneous nature of job stressors and the central role of personal psychological resources in sustaining creativity under stress and adversity.

Study Two integrated job stressors, personal psychological resources, and creativity into the framework of actor-context interplay for creativity and COR perspective. It answers the *research question b)* of the thesis. Building on insights from Study One, TP was shown to exert a curvilinear (U-shaped) relationship with CP, corroborating prior findings by Aleksic et al. (2017) and providing further empirical support within the present research context. As TP increased from low to moderate levels, CP declined, reflecting resource depletion and cognitive strain; CP then partially rebounded at high TP, suggesting adaptive re-engagement in the creative process. In contrast, LRs showed a stable, linear, and positive effect on CP,

confirming their role as a challenge stressor (Glaser et al., 2015) that initiates a resource gain process. Importantly, the U-shaped curvilinear TP–CP relationship and the positive LRs-CP relationship converge with the findings of Study One, thereby triangulating and strengthening the qualitative insights through complementary quantitative evidence (Creswell & Creswell, 2017).

Crucially, PsyCap moderated the quadratic TP–CP relationship, indicating that this resource shapes the curvature of the relationship rather than merely buffering initial resource loss. This pattern extends the findings of Study One by moving beyond identifying what impacts from TP on CP to clarify how and when such effects unfold.

However, PsyCap did not moderate the linear LRs–CP pathway, and partially moderated the quadratic pathway, while LRs–CP mainly presented a positive linear relationship. Notably, the overall relationship between LRs and CP was positive and linear, with no significant inverted U-shaped pattern observed. As such, the moderating effect of PsyCap on the quadratic term has limited substantive meaning, given that the inverted U-shaped relationship itself was not supported. This indicates that the learning-driven resource gain process operates robustly across individuals, which resonates with the findings from Glaser et al. (2015), regardless of psychological resource levels.

Study Three built on the insights from Study One and Study Two and extended them by quantitatively establishing PsyCap as a core antecedent of CP. By doing so, it addresses the *research question c)* of the thesis. The results indicate that both PsyCap and its four sub-dimensions (hope, optimism, self-efficacy, resilience) positively predict CP. Notably, PsyCap as a higher-order construct exerts a stronger and more coherent effect on CP than most of its individual dimensions, which is in

line with the arguments of Avey et al. (2011); Newman et al. (2014). Self-efficacy emerged as the most powerful sub-dimension, mirroring Study One narratives emphasising confidence and persistence in overcoming creative obstacles. The study responds to the call to concurrently examine the effectiveness of PsyCap and its sub-dimensions (Lupsa et al., 2020). Importantly, gender significantly moderated the PsyCap (and its sub-dimensions)–CP relationship, such that PsyCap and its sub-dimensions translated more strongly into CP for male than female employees. PsyCap and its sub-dimensions are valuable resources for all employees, but their conversion into CP is shaped by gendered organisational and socio-cultural constraints rather than intrinsic capability differences. This aligns with the findings of Loghman et al. (2023), whose meta-analysis indicates that PsyCap is strongly associated with masculinity and power distance.

Overall, these findings are consistent with the qualitative insights from Study One, where TP acts as a double-edged sword and LRs function as a driver of both capability and creativity, psychological strengths support employees in navigating adversities during the creative process, and female R&D employees are notably underrepresented. By providing complementary quantitative evidence, Study Two and Study Three validate and extend the qualitative insights of Study One, thereby triangulating and strengthening the overall argument.

Across the three studies, a coherent pattern emerges. TP functions primarily as a resource-threatening stressor, producing nonlinear effects on CP that depend on individuals' capacity for adaptive resource mobilisation. Study One's qualitative findings revealed that most employees experienced TP as constraining (Song et al., 2024), reporting cognitive overload, reduced idea exploration, and heightened pressure. When TP intensified, some employees explained that it ignited their latent

potential, persistence, and even inspiration to sustain progress on the task, revealing TP's complicated effects on creativity (Aleksic et al., 2017; Hsiao et al., 2017; Song et al., 2023; Zhang et al., 2023b). Building on these insights, Study Two provided quantitative evidence of a curvilinear (U-shaped) relationship between TP and CP, whereby CP declined at low-to-moderate levels of TP but partially recovered at higher levels. Importantly, this nonlinear pattern was further conditioned by PsyCap, suggesting that individuals with greater psychological resources were better able to mobilise adaptive responses under high TP.

LRs function as a resource-building stressor, supporting CP through a stable gain mechanism that does not require psychological moderation. It was supported by Study One, with consistent experiences among R&D employees, and resonated with the findings of Glaser et al. (2015). Study Two revealed an unconditional positive linear relationship between LRs and CP.

PsyCap operated not as a universal stress buffer, but as a dynamic adaptive resource that reshapes how individuals respond to escalating TP, enabling creative recovery under high pressure. Qualitative findings showed that employees relied on self-efficacy and resilience to reframe setbacks, regulate emotions, and sustain engagement during the creative process. Extending this, Study Two revealed that PsyCap played a vital conditional role in balancing the influence of TP on CP. It was strongly and positively linked to CP, highlighting its importance as a key personal resource in the workplace (Luthans & Youssef, 2004; Raza et al., 2022), helping individuals maintain their performance. Study Three further strengthened the key personal resource of PsyCap in the workplace.

Moreover, gender was observed to constitute a critical contextual boundary condition, influencing how effectively PsyCap is translated into CP. Study One

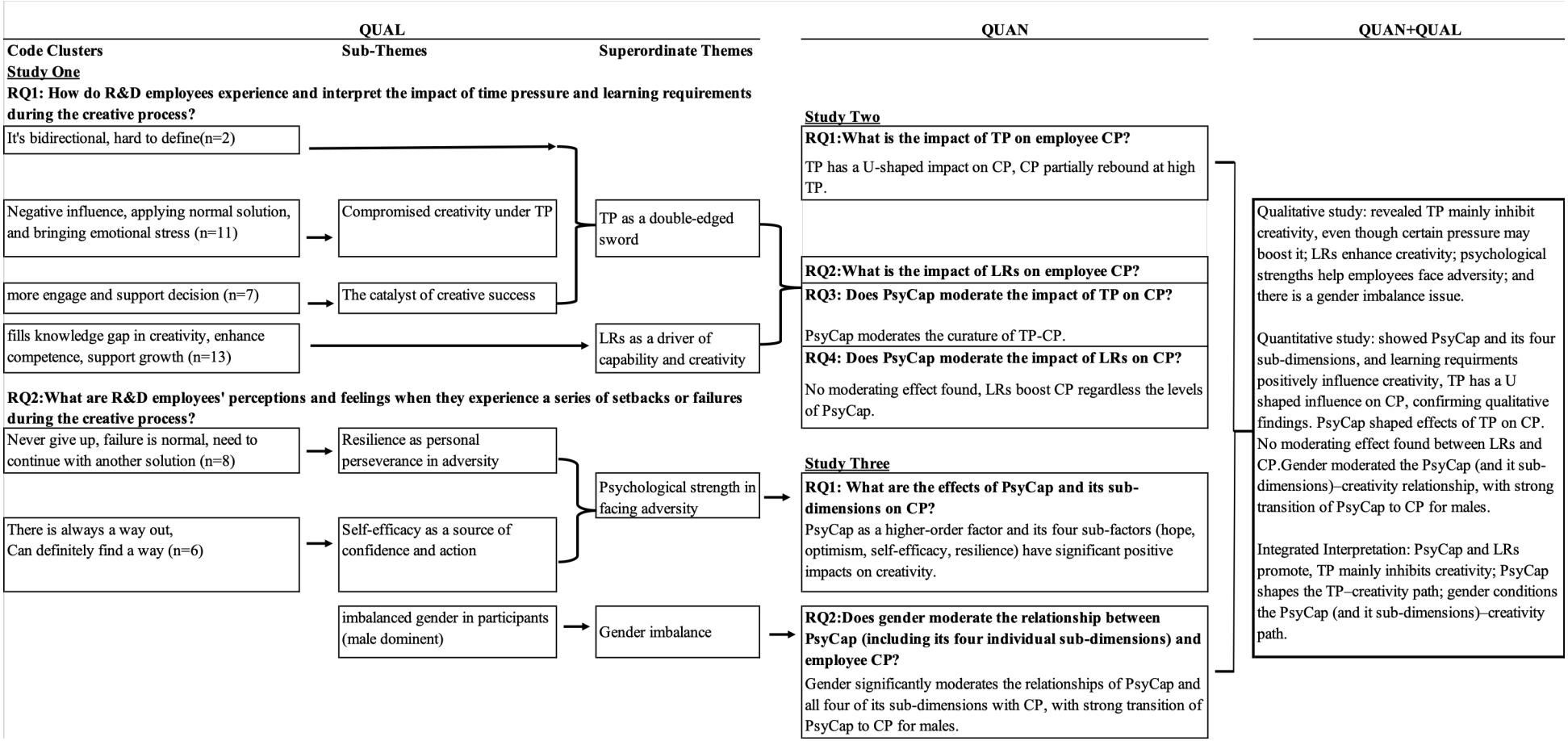
highlighted the issue of gender imbalance in creative works, drawing attention to the potential moderating role of gender in shaping creativity, which was further examined in Study Three. The results indicated that the positive effects of PsyCap on CP were significantly stronger for men than for women. This pattern suggests that gender conditions the extent to which psychological resources can be mobilised and converted into creative outcomes, likely reflecting broader socio-cultural constraints on resource utilisation. By unpacking these dynamics, this study responds to calls for a more nuanced understanding of the mechanisms underlying the PsyCap–performance relationship (Lupsa et al., 2020).

Overall, the quantitative findings closely converged with the insights generated from the qualitative investigation, together presenting a coherent and integrated picture. These findings advance creativity research by integrating lived experience (Study One), resource-based curvilinear (U-shaped) TP–CP relationship and linear LRs–CP relationship (Study Two), and gendered PsyCap–CP association (Study Three). They demonstrate that creativity under demanding conditions is best understood not through linear or uniform effects, but through resource-sensitive, nonlinear, and socio-cultural contextual factor embedded mechanisms.

Table 36 presents the flow and development of the data analysis by integrating the qualitative and quantitative research questions and findings. It illustrates how insights from the different studies are systematically connected, demonstrating how the findings collectively contribute to a more comprehensive and nuanced understanding of how key antecedents and their dynamic interplay jointly shape employee creativity.

Table 36

Flow and Development of Data Analysis

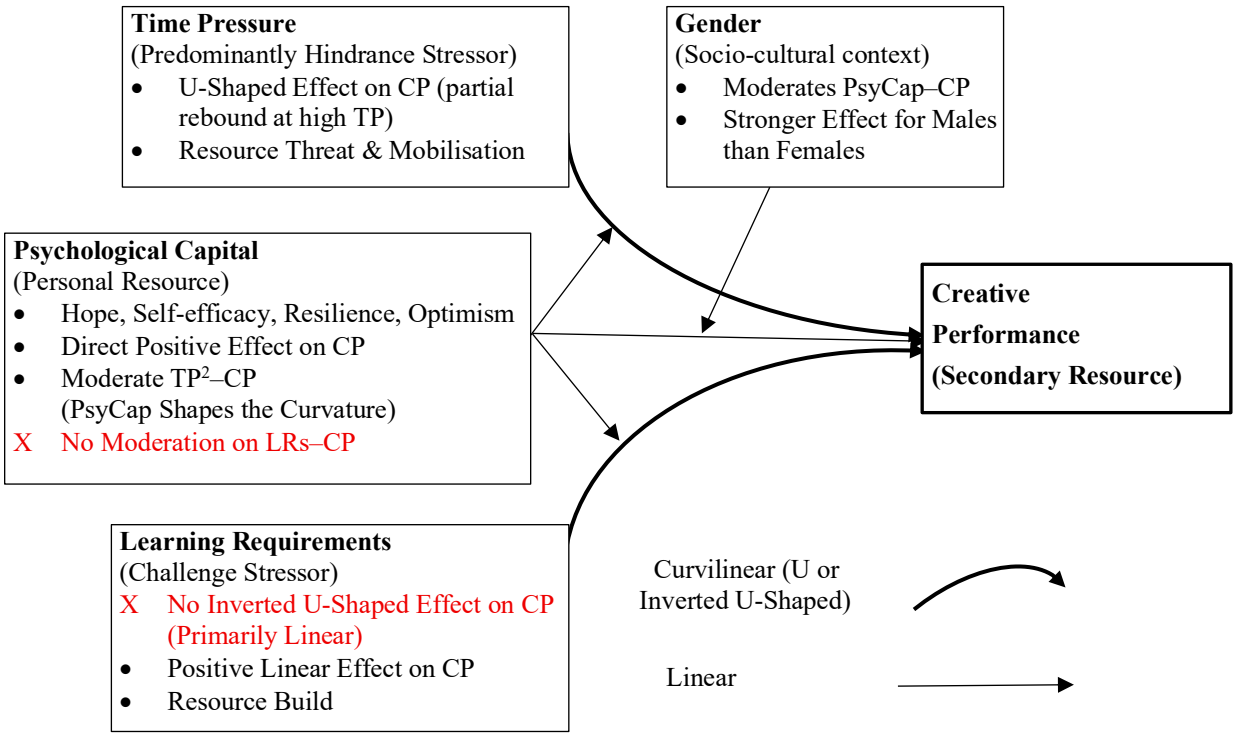


Overall, the combined results indicate that employee creativity is shaped by job demands, psychological resources, and gendered organisational contexts. Study One showed that TP operates as a double-edged condition, enhancing concentration at moderate levels but undermining creativity when excessive. In contrast, LRs were viewed as beneficial, helping employees develop competence and support creative problem-solving. These qualitative insights were confirmed and extended by Study Two, which found that TP has a curvilinear effect on CP, while LRs have a more consistently positive impact. PsyCap further shaped the TP–creativity link but did not moderate the effect of LRs. Study Three showed that PsyCap and its four sub-dimensions positively predict CP, while gender moderates the PsyCap–CP relationship, with stronger effects among male employees. Collectively, the findings suggest that organisations should manage TP carefully, foster learning opportunities, strengthen psychological resources, and create inclusive environments where all employees can translate psychological strengths into CP.

Figure 21 presents the refined conceptual model derived from the findings of the three studies, illustrating the differential effects of TP and LRs on CP, the dynamic role of PsyCap, and the moderating role of gender.

Figure 21

Integrated Conceptual Model of the Actor–Context Interplay for Creativity: A COR Perspective



Based on the integrated conceptual framework, this thesis proposed that CP is shaped by the combined effects of PsyCap, TP, LRs, and gender. The hypotheses were tested across Study Two and Study Three, and their support status is summarised in Table 37.

Table 37

Summary of the Hypotheses

Study	Hypothesis	Summary of Hypothesis	Result
Study Two	H1	TP is expected to have a U-shaped curvilinear effect on CP, such that CP decreases at lower to medium levels of TP, but CP increases at medium to higher levels.	Supported
	H2	LRs have an inverted U-shaped impact on CP, such that CP increases at lower to medium levels of LRs but decreases at medium to higher levels.	Not supported
	H3	PsyCap moderates the U-shaped TP-CP relationship	Supported
	H4	PsyCap moderates the inverted U-shaped LRs-CP relationship	Partially supported
Study Three	H1a	PsyCap is positively associated with employee CP	Supported
	H1b	Hope is positively associated with employee CP	Supported
	H1c	Resilience is positively associated with employee CP	Supported
	H1d	Self-efficacy is positively associated with employee CP	Supported
	H1e	Gender moderates the relationship between PsycCap and employee CP, such that the relationships are stronger for males than females	Supported
	H2a	Gender moderates the relationship between hope and employee CP, such that the relationships are stronger for males than females	Supported
	H2b	Gender moderates the relationships between the four PsyCap sub-dimensions and CP.	Supported
	H2c	Gender moderates the relationship between resilience and employee CP, such that the relationships are stronger for males than females	Supported
	H2d	Gender moderates the relationship between self-efficacy and employee CP, such that the relationships are stronger for males than females	Supported
	H2e	Gender moderates the relationship between optimism and employee CP, such that the relationships are stronger for males than females	Supported

Overall, the findings provide strong support for the central role of PsyCap in promoting CP. TP showed a curvilinear effect on CP and its relationship with CP was further shaped by PsyCap, suggesting that psychological resources influence how employees respond to pressure. In contrast, LRs did not show the expected inverted U-shaped effect, nor was their relationship with CP moderated by PsyCap; instead, LRs appeared to have a more consistently positive linear effect on CP. Finally, gender significantly moderated the PsyCap–CP relationship, with stronger effects observed among male employees, indicating that the translation of

psychological resources into CP may be conditioned by gendered organisational contexts.

Overall Theoretical Contributions

Study One

Study One addressed the thesis research question a): *How do employees experience creativity in the Chinese automotive industry under job stressors of time pressure and learning requirements, and what psychological resources enable them to sustain creative engagement?*

The findings revealed a nuanced understanding of employees' experience on TP. Participants reported diverse and sometimes contrasting responses to TP. On the one hand, many employees described TP as evoking stress, discomfort, and a sense of constraint, which may hinder creativity by restricting cognitive flexibility and reducing their willingness to explore novel directions. On the other hand, some participants reported a bittersweet experience. Although high TP evoked unpleasant experiences, it also opened alternative pathways with persistent efforts. Eventual success brought a profound sense of joy. In the Chinese context, TP may predominantly inhibit creativity by reducing willingness and cognitive flexibility due to experienced stress (Song et al., 2024). However, for a small subset of employees, it may paradoxically enhance creativity by sharpening attention and fostering persistence in idea development (Aleksic et al., 2017; Bormann, 2020). It is possible that these employees appraised TP as a challenge rather than a threat (Yu & Wang, 2022), perceiving the associated stress as enhancing rather than hindering (Zhou et al., 2024).

This study provides additional empirical evidence clarifying how TP exerts both inhibiting and enabling effects on creativity, an issue that is particularly salient in the contemporary VUCA (volatility, uncertainty, complexity, and ambiguity) environment, where organisations operate under rapidly changing and unpredictable conditions (Akkaya et al., 2022). To remain competitive in such contexts, organisations increasingly rely on employees' adaptive capacity and creative contributions (Gu et al., 2023). Overall, the findings suggest that, in the Chinese context, managers should seek to cultivate a work environment characterised by lower baseline TP levels and avoid sustained moderate TP, thereby minimising chronic strain that undermines creative engagement. At the same time, for certain individuals who are less averse to high TP, the strategic and short-term application of elevated TP may serve as a motivational catalyst, enhancing focus and creative persistence rather than impairing performance.

Findings also suggest that employees unanimously perceive LRs not as a hindrance but as a catalyst for capability and creativity building. By compelling individuals to acquire new skills and knowledge, LRs help to close knowledge gaps in problem-solving, expand employees' intellectual resources, and stimulate innovative thinking. Importantly, these experiences also foster a sense of personal growth and accomplishment, supporting goal achievement not only within the workplace but also across broader aspects of life (Burmeister et al., 2022; Prem et al., 2018). Thus, LRs appear to function as a more consistently positive force, directly fostering both individual development and creativity, acting as a challenge stressor in this context (Glaser et al., 2015; Prem et al., 2018).

The study further uncovered important insights into how R&D employees respond to adversity during the creative process. When confronted with setbacks and

failures, employees drew upon their psychological strengths, particularly resilience (Mohammad et al., 2024) and self-efficacy (Chiang et al., 2022; Choi et al., 2021), to navigate obstacles and maintain engagement in the creative process. These resources enabled them to recover from disappointments, reframe setbacks and failures as opportunities for learning (Bakker & Demerouti, 2007), and sustain their motivation to pursue innovative solutions despite repeated difficulties.

By employing a qualitative lens, this study was able to capture employees' lived experiences and personal narratives, providing a richer and more nuanced understanding of the cognitive strategies they use in times of adversity. This finding is particularly significant because R&D employees are among those most directly engaged in organisational creativity and innovation (Chang et al., 2023; Khedhaouria et al., 2017), where setbacks and failures are not exceptions but inherent features of the creative journey (Amabile & Pratt, 2016). Recognising the critical role of psychological strengths in these contexts offers both theoretical insight into creativity and practical guidance for supporting creativity in real-world organisational settings.

This study contributes to the literature in several ways. First, it advances literature by addressing the existing inconsistencies concerning the effects of TP and LRs on CP from a qualitative perspective. Existing studies have excessively relied on quantitative approaches (Aleksic et al., 2017; Glaser et al., 2015; Mikkelsen & Olsen, 2019; Yu & Wang, 2022; Zhou et al., 2024). In contrast, the present study shifts to an employee-centric lens, adopting a qualitative approach with semi-structured interviews to capture first-hand accounts of employees' experiences. This approach enriches the creative literature by offering distinct insights that provide a fine-grained understanding of the effects of TP and LRs on creativity. It not only

diversifies the predominantly quantitative literature in creativity research but also offers novel theoretical insights by capturing the lived experiences of R&D employees navigating dynamic, high-pressure environments.

Second, it addresses these inconsistencies of TP's influence on CP by providing new empirical evidence from the Chinese automotive context, offering a more nuanced understanding of the topic. Existing literature has reported negative, positive, and curvilinear relationships between TP and CP (Acar et al., 2019; Aleksic et al., 2017; Kuutila et al., 2020; Song et al., 2024; Yu & Wang, 2022; Zhou et al., 2024). From the lived experiences of R&D employees, this study elucidated how participants interpreted the significance of TP throughout their creative processes. The findings revealed that TP can play both a facilitative and detrimental role, depending on its intensity and the individual's interpretation. However, most participants perceived high levels of TP as detrimental to creativity. This study thus offers an additional perspective that enhances understanding of the complex and often contradictory impact of TP in the creativity literature.

Third, the literature presents conflicting findings regarding the effects of LRs on CP (Glaser et al., 2015; Mikkelsen & Olsen, 2019). This study provided empirical evidence of its positive influence on creativity (Glaser et al., 2015). By clarifying the role of LRs, it addresses these inconsistencies and helps resolve ambiguities concerning whether such job stressors enhance or inhibit CP, thereby extending the literature.

Fourth, as R&D employees are the group that often confronts failures and setbacks (Amabile & Pratt, 2016) within the organisation, little effort has been made to understand their true insights and unspoken reflections when they experience these challenges. The findings address this issue by advancing their interpretation of

setbacks and failures, centring on the underexplored true insights and unspoken reflections of R&D employees. It integrates psychological strengths and creativity in challenging situations by interviewing frontline R&D employees, thereby addressing the literature gap identified by Bakker and De Vries (2021) concerning how strengths are mobilised to cope with job strain and facilitate successful performance.

Finally, this study contributes to the organisational behaviour literature by drawing on employees' lived experiences to emphasise the interaction between actor-related factors and constraining job stressors in shaping creativity. It responds to recent calls for research on the impact of negative context factors and the ways to overcome them (Zhou & Hoever, 2023). By providing empirically grounded examples of these dynamics, the findings enhance and develop the theoretical framework of actor–context interplay for creativity.

Study Two

Study Two addressed the thesis research question b): *How and when does PsyCap moderate job stressors (time pressure and learning requirements)–creative performance relationships?*

Drawing on the actor–context interaction for creativity, COR theory, and the challenge–hindrance stressor framework, Study Two examined whether and how TP and LRs impact CP and if the relationships are contingent on PsyCap.

The findings indicate that TP predominantly as a hindrance stressor exhibits a U-shaped curvilinear relationship with CP (CP partially rebound under high TP), consistent with prior research (Aleksic et al., 2017), but does not support the opposite argument (Hsu & Fan, 2008, 2010; Ohly & Fritz, 2010; Song et al., 2023; Zhang et al., 2023b). The U-shaped TP–CP relationship resonates with the findings

of Study One, which indicate that both positive and negative effects of TP on CP coexist, thereby triangulating and strengthening the arguments derived from the qualitative research (Povee & Roberts, 2015).

PsyCap significantly conditioned the curvature of the TP–CP relationship, rather than its linear component. Employees with higher PsyCap were better able to mobilise psychological resources under high TP, supporting creative rebound as pressure intensified. This pattern underscores the role of PsyCap in shaping adaptive responses to escalating demands rather than preventing the early-stage decline in CP, thereby addressing the previously unresolved 'how' and 'when' questions, extending the findings of Study One and filling the gap to have a deeper understanding of PsyCap and how it relates to its outcome variables (Loghman et al., 2023).

Contrary to the hypotheses, PsyCap did not moderate the LRs–CP pathway. LRs were significantly and positively associated with CP (a secondary resource). This suggests that learning-driven resource gain operates robustly across individuals, regardless of differences in personal resource levels. LRs acting as a challenge stressor exerted a significant and direct positive effect on CP, which corresponds to Ceptureanu et al. (2024); Glaser et al. (2015).

This study makes several theoretical contributions. First, it enriches the creativity literature by advancing a nonlinear, resource-based understanding of TP and CP. By demonstrating a U-shaped curvilinear TP–CP relationship, the study challenges simplistic classifications of TP as uniformly detrimental or beneficial (Hsiao et al., 2017; Song et al., 2024). Instead, it provides rare empirical evidence of a nonlinear pathway through which TP influences CP, aligning with the challenge–hindrance stressor framework.

Second, it extends COR theory by demonstrating that psychological resources function not only to protect against resource loss but also to facilitate resource reconfiguration and reinvestment when individuals face intensified stress (Hobfoll, 2001). This study reconceptualises PsyCap from a general motivational resource into a dynamic adaptive resource that reshapes how individuals respond to escalating stress, rather than buffering the initial negative effect of TP.

Third, it clarifies the role of LRs in the creativity literature by providing empirical evidence. The findings indicate that LRs are positively associated with CP regardless of individuals' levels of psychological resources (PsyCap), highlighting their consistent and beneficial role (Glaser et al., 2015). This reinforces the importance of LRs and consolidates their position as a key driver of creativity in this context.

Fourth, the study concurrently examined the influence of one hindrance stressor of TP and one challenge stressor of LRs, providing a more integrated understanding of how different types of job stressors jointly shape creativity. This comparative evidence not only extends the challenge-hindrance stressors framework (Cavanaugh et al., 2000; Schilbach et al., 2023) by incorporating nonlinear dynamics but also enriches it by offering nuanced insights into how different stressors operate within the creative process under this framework. Importantly, the findings reflect the realities of organisational life in which employees simultaneously encounter both hindrance and challenge stressors. Therefore, the study advances the framework (Cavanaugh et al., 2000; Schilbach et al., 2023) by aligning theoretical assumptions more closely with real-world complexity.

Fifth, the study contributes to COR theory by conceptualising CP as a secondary work-related resource (Hobfoll, 2001; Wright & Bonett, 2007). It provides empirical evidence demonstrating how job stressors can initiate the resource gain

process, and how these processes are conditioned by personal resources such as PsyCap. In doing so, the study extends the application of COR theory by elucidating the dynamic interplay between job stressors, personal resources, and secondary resources (CP).

Lastly, it responds to the call for greater scholarly attention to how and when employees can overcome negative contextual influences in the workplace (Zhou & Hoever, 2023). By integrating PsyCap with job stressors, the study offers new insights into the mechanisms through which employees navigate such adverse conditions.

Study Three

Study Three addressed the thesis research question c): *How do PsyCap and its subdimensions influence creative performance, and how does gender shape this relationship?*

There are growing calls in the literature for more empirical evidence regarding the effects of PsyCap and its individual sub-dimensions on CP and when PsyCap is likely to matter (Cai et al., 2019; Lupsa et al., 2020; Yu et al., 2019). This study responds to such calls by examining the moderating role of gender in the relationship between PsyCap and its individual sub-dimensions and CP.

These findings extend prior evidence that men often report higher PsyCap and creative outcomes (Hora et al., 2022; Jin et al., 2020; Norman et al., 2010; Zubair & Kamal, 2015). They contribute theoretically by demonstrating the contextual limits of PsyCap and highlighting gender as a socio-cultural contingency factor in the interactionist perspective of creativity. In doing so, the study moves beyond confirming gender stereotypes to advancing contextualised theorising of

psychological resources, showing how patriarchal constraints shape the PsyCap–creativity link.

Overall, the present study contributes to the body of knowledge on employee CP in several ways. First, this study adds to the growing body of empirical evidence concerning the predictive role of PsyCap and its individual sub-dimensions with respect to employee CP (Sweetman et al., 2011; Yu et al., 2019). Specifically, this study support earlier notions put forward (Luthans et al., 2007b, p. 551) that "employees who embody high levels of overall PsyCap may be stronger performers because of the number and level of positive psychological constructs manifested through their cognitions, motivation, and ultimately their behaviour in a given situation". The findings confirm that PsyCap functions as a reservoir of positive psychological resources that enhance creativity. Importantly, the analysis revealed that while aggregate PsyCap provides stronger predictive power than most individual sub-dimensions, self-efficacy stands out as a particularly robust driver, showing predictive strength comparable to the higher-order construct. This dual insight contributes to theoretical debates on whether PsyCap should be conceptualised as a composite construct or whether its sub-dimensions should be examined independently (Khliefat et al., 2021; Rego et al., 2012; Yu et al., 2019).

Secondly, it extends the application of the interactionist perspective by positioning PsyCap as a key psychological resource alongside personality (George & Zhou, 2001), intrinsic motivation (Wang et al., 2016) and cognitive style (Tierney et al., 1999). In doing so, the study highlights the importance of considering PsyCap together with individual traits, cognitions and motivations in shaping CP.

Additionally, the study responds to calls to systematically investigate the influence of various contextual variables from different aspects on creativity (Choi,

2004). Prior research adopting the interactionist perspective has largely focused on a narrow range of contextual factors such as job stress (Ghafoor & Haar, 2022), supervisor support and job characteristics (Cai et al., 2019). Drawing on social role theory and role congruity theory, this study conceptualised gender as an important socio-cultural factor that may condition the PsyCap–CP relationship. Findings showed that the effects of PsyCap on employee CP were significantly stronger for men than for women. Put differently, such a finding suggests that gender serves as a contingency factor around what predicts creativity and thus should be considered as a "contextual" determinant of creativity in the interactionist perspective of creativity (Hora et al., 2022).

Lastly, the findings suggest that women may encounter cultural and organisational barriers that constrain the mobilisation of psychological resources. This pattern reflects the "shadow side" of COR theory, whereby insufficient empowerment, autonomy, or organisational support can trigger resource loss (Hobfoll, 2001; Hobfoll & Shirom, 2000a) that undermines women's CP, a work-related secondary resource. These insights extend the existing literature by demonstrating that the effects of PsyCap are contextually bounded within gendered environments, thereby advancing a more nuanced and context-sensitive elaboration of COR theory.

Overall

Taken together, the three studies provide a detailed understanding of how creativity is shaped through the dynamic interplay between job stressors, psychological resources, and socio-cultural conditions in the Chinese automotive industry. Grounded in the actor–context interplay for creativity (Zhou & Hoever,

2014, 2023), COR theory (Hobfoll, 1989; Hobfoll, 2011), and further informed by the challenge–hindrance stressor framework (Cavanaugh et al., 2000; Podsakoff et al., 2023) and gender theories (Eagly, 1987; Eagly & Karau, 2002), this thesis advances creativity research in several important ways.

First, the thesis offers a multi-perspective understanding of creativity by integrating qualitative and quantitative evidence. Study One captures employees' lived experiences, revealing the nuanced and sometimes paradoxical effects of TP (Aleksic et al., 2017; Bormann, 2020), alongside the consistently positive role of LRs (Glaser et al., 2015; Prem et al., 2018), while highlighting the importance of psychological strengths such as resilience and self-efficacy in sustaining creative engagement (Bakker & Demerouti, 2007; Chiang et al., 2022). Study Two quantitatively validates and extends these insights by demonstrating a curvilinear (U-shaped) TP–CP relationship (Aleksic et al., 2017) and a robust positive association between LRs and CP (Glaser et al., 2015), thereby triangulating findings across methods (Povee & Roberts, 2015). Study Three further deepens this understanding by examining how individual differences (PsyCap and its sub-dimensions) and socio-cultural factors (gender) shape creative outcomes (Hora et al., 2022; Yu et al., 2019). Together, these findings provide a richer and more holistic account of creativity that moves beyond single-method or single-level explanations.

Second, the thesis advances the actor–context interplay for creativity by explicitly demonstrating how personal resources, job stressors, and socio-cultural contexts jointly influence CP (Zhou & Hoever, 2014, 2023). Across the three studies, PsyCap is shown to function as a key actor-related resource (Luthans et al., 2007a; Sweetman et al., 2011) that interacts with contextual job stressors (TP and LRs), while gender operates as a broader socio-cultural condition shaping the extent

to which such resources can be mobilised and translated into creative outcomes (Eagly, 1987; Eagly & Karau, 2002; Hora et al., 2022). This integrated perspective extends existing theorising by incorporating both resource-based and socio-cultural contingencies into the interactionist framework.

Third, the thesis contributes to the challenge–hindrance stressor framework by providing comparative and nuanced evidence on different types of job stressors (Cavanaugh et al., 2000; Podsakoff et al., 2023). By examining TP (predominantly hindrance) and LRs (challenge) concurrently, the findings demonstrate that stressors do not exert uniform effects: TP follows a nonlinear, double-edged pattern, whereas LRs consistently foster creativity (Glaser et al., 2015; Prem et al., 2018). This not only extends the framework by incorporating nonlinear dynamics but also enriches it by offering a more fine-grained understanding of how distinct stressors operate within the creative process.

Fourth, the thesis extends COR theory by conceptualising CP as a secondary work-related resource (Hobfoll, 2001; Wright & Bonett, 2007) and by uncovering the mechanisms through which personal resources are mobilised under stress. The findings show that job stressors can trigger both resource loss and resource gain processes (Hobfoll, 1989; Hobfoll, 2011) and that PsyCap plays a critical role in enabling resource reconfiguration and reinvestment, particularly under high TP. Furthermore, Study Three highlights the contextual limits of resource utilisation, demonstrating that gendered organisational and socio-cultural constraints influence how effectively psychological resources can be converted into creative outcomes (Hobfoll & Shirom, 2000a; Loghman et al., 2023). This advances COR theory by emphasising the dynamic and context-dependent nature of resource mobilisation.

Fifth, this study contributes to the organisational behaviour literature, including positive organisational behaviour literature stream, by clarify the role and mechanism of PsyCap in influencing CP. It does so by explore employees' lived experiences and examine how PsyCap interacts with constraining job stressors and socio-cultural factors in shaping creativity. In this way, It enriches literature by clarify the impact of negative context factors and the ways to overcome them (Zhou & Hoever, 2023) and by providing a more fine-grained understanding of the contextual conditions and mechanisms underlying the association between PsyCap and performance (Huang et al., 2025; Lupsa et al., 2020).

Finally, the thesis responds to recent calls for greater attention to how and when employees overcome adverse contextual conditions in creativity (Zhou & Hoever, 2023). By integrating job stressors, psychological resources, and gender, the research identifies key mechanisms through which employees navigate challenging environments and sustain creativity. In doing so, it provides a more context-sensitive and mechanism-based explanation of creativity, particularly within the underexplored setting of the Chinese automotive industry.

Overall Practical Contributions

Study One

Study One offers important practical implications. First, the findings suggest that although high TP may focus employees' attention and foster persistence, leading to deeper engagement in creative tasks, it also risks provoking anxiety and frustration that undermine creativity. The study revealed that most employees interpreted high TP as detrimental to creativity. Organisations should therefore aim to cultivate work environments in which TP is generally maintained at a low level.

Second, this study uncovered a noteworthy and consistent pattern: participants unanimously viewed LRs as opportunities for personal growth and professional advancement (Glaser et al., 2015). This positive orientation toward continuous learning reflects a strong alignment between the East Asian context employees' mindset (Gong et al., 2009) and the industry's creativity-driven imperatives (Dong & Liu, 2020; Shou & Li, 2025). The findings suggest that organisations should build a learning environment as a nudging strategy, whereby they signal that continuous learning is expected, valued, and widely adopted by managers and peers, to promote employees' learning, thereby equipping them with richer knowledge and better skills, which in turn boosts their CP (Burmeister et al., 2022).

Third, this study offers a valuable benchmark for other countries seeking to accelerate the development of NEVs, while also providing practical guidance for organisations aiming to cultivate employee creativity in dynamic, high-pressure R&D environments. This is particularly important, as psychological readiness and adaptive attitudes among R&D professionals are crucial for facilitating the successful advancement of NEVs within China's automobile sector (Hsu & Fan, 2008), thereby contributing to broader sustainability goals.

Lastly, identifying employees' psychological strengths, specifically resilience and self-efficacy, as critical resources for coping with adversity carries essential practical implications. These findings underscore the value of developing psychological strengths within the workforce (Shan et al., 2023). Organisations and HR managers should consider implementing targeted interventions such as resilience (Liu et al., 2020) and self-efficacy (Mathisen & Bronnick, 2009) training to enhance these capacities. By actively supporting the development of

psychological resources, such initiatives can better equip employees to navigate challenges effectively, promoting sustained CP in the face of adversity.

In summary, to enhance employee creativity, organisations and HR professionals should strive to cultivate a work environment that maintains TP general at a low level and strategically implement short-term high TP, foster a learning-oriented environment as a nudging strategy to support continuous development, and implement interventions such as resilience and self-efficacy training to strengthen employees' psychological resources.

Study Two

This study provides several practical implications. Firstly, this study underscores that individuals with elevated PsyCap demonstrate superior CP. Therefore, cultivating organisational creativity requires a strategic focus from the recruitment phase. PsyCap is a strong predictor of creative potential (Ghafoor & Haar, 2022; He, 2024; Raza et al., 2022; Wang et al., 2024b), making it a critical criterion for talent acquisition in roles that demand creativity. By integrating PsyCap assessments into hiring protocols, organisations can systematically identify candidates whose psychological profiles align with the job competence matrix. This proactive approach can enhance the likelihood of sustained CP.

Secondly, contrary to prevailing practices in China, where organisations often intensify task allocation under heightened TP to accelerate productivity (Liu & Chen, 2023), this study demonstrates that although CP may partially rebound under high TP, low TP remains the most conducive condition for sustaining a high level of CP. Accordingly, employers and managers should strive to maintain a low TP work

environment to foster employees' CP, while strategically implementing short-term high TP.

Third, learning new knowledge and skills can be a stressful experience (Mikkelsen & Olsen, 2019). However, employees generally welcome LRs that come with their work. Therefore, building a learning environment within the organisation can be an effective strategy to help employees acquire new knowledge and skills, and enhance their creative contributions (Tapak et al., 2024).

Fourth, integrating the findings from Study One, which suggest that high TP may remobilise employees' psychological resources under certain conditions (Wu et al., 2022), with the observed rebound in CP under higher levels of TP in Study Two, it is plausible that structuring large, long-term creative tasks into smaller, manageable stages may facilitate CP. Such an approach may allow employees to experience cycles of pressure and recovery and enable them to maintain engagement throughout the creative process (Wu et al., 2022). Such structuring can also support sustained creative engagement by aligning with natural resource investment and replenishment processes (Hobfoll, 1989).

Fifth, organisations should adopt a differentiated approach to managing TP rather than treating it as uniformly detrimental or beneficial. Prior research suggests that the relationship between TP and creativity is often nonlinear, with both facilitating and inhibiting effects (Aleksic et al., 2017; Baer & Oldham, 2006). The U-shaped curvilinear pattern indicates that prolonged moderate TP may be particularly harmful, as it is associated with resource depletion and reduced CP (Baethge et al., 2019; Hobfoll, 1989). Managers should therefore avoid sustained mid-level pressure and instead consider strategically calibrating TP, such as applying short-term, goal-oriented pressure to stimulate focus and re-engagement.

Study Three

The study has several practical implications. It presents additional empirical evidence and suggests that employees with higher PsyCap exhibit better CP (Cai et al., 2019; Ghafoor & Haar, 2022; Yu et al., 2019). Therefore, organisations could screen for individuals with high PsyCap during the hiring process. Ultimately, this may contribute to the sustainability and prosperity of the organisation.

The findings highlight to employers and managers alike that entrenched gender stereotypes and traditional cultural expectations within the organisation may inhibit the creative potential of female employees while simultaneously enhancing the creative advantages of their male counterparts. This underscores the need for organisations to address potential gender bias and create an inclusive environment, including ensuring fairness and non-discrimination for females, having a high person-environment fit to learn from and utilise females' talent, and actively supporting females' needs, views and interests (Kossek et al., 2017). Such efforts are essential to enabling females' full engagement in the creative process. Rather than simply screening for individuals with high PsyCap during the hiring process, organisations should create equitable systems that cultivate PsyCap across the workforce. By embedding fairness and inclusivity into talent management practices, firms can ensure that all employees have the opportunity to develop and mobilise these resources. Ultimately, this contributes not only to individual growth but also to the sustainability and prosperity of the organisation.

As indicated in this study, female respondents constituted a minority in the survey sample, reflecting the broader issue of women's underrepresentation in male-dominated industries such as automotive manufacturing in China. This underrepresentation points to a persistent gap between growing societal consensus on

gender equality and the inadequate support structures available within organisational contexts (Wang et al., 2024a). Such structural disparities are misaligned with the aims of Sustainable Development Goal (SDG) 5 (United Nations, n.d.), which calls for the elimination of gender-based inequalities and the empowerment of women and girls in all spheres of life. Rather than placing the responsibility on women to adapt or overcome these barriers, organisations must take proactive steps to foster inclusive cultures that value diverse perspectives, ensuring that creative processes are equally accessible and rewarding to all employees (Kossek et al., 2017). Organisations must dismantle barriers that restrict women's engagement in creative processes, such as biased evaluations, exclusion from networks and inequitable workload allocation. As indicated by this study, female respondents constituted a minority in the survey sample, reflecting the broader issue of women's underrepresentation in male-dominated industries such as car manufacturing. This underrepresentation points to a persistent gap between growing societal consensus on gender equality and the inadequate support structures available within organisational contexts (Wang et al., 2024a). For women in such male-dominated environments, minority status is not merely numerical but experiential: it can heighten scrutiny, reduce access to networks, and undermine hope, self-efficacy, and all core elements of PsyCap. These dynamics illustrate how women's psychological resources may be constrained by minority stress rather than by individual limitations. Thus, the organisational actions are essential not only for achieving SDG 5 but also for enabling greater female participation and contribution in the creative and innovative processes central to organisational growth.

Organisations must foster an inclusive organisational culture that recognises and values diverse contributions. Initiatives such as bias interrupter training, and

formalised pathways into decision-making networks can reduce the exclusionary dynamics that disproportionately affect women in male-dominated settings. Importantly, these interventions should be framed as strengthening organisational capacity, not as remediating women's supposed deficiencies.

This study provides insights into the interaction effects of PsyCap and gender on employee creativity, thereby bridging the gap between theory and practice. It enables managers to acquire a deeper understanding of the nuanced relationships among PsyCap, its individual sub-dimensions, gender, and creativity. Furthermore, this research discusses how these factors interact with one another and elucidates the underlying mechanisms. Consequently, it offers guidance for managers in formulating strategies and building an environment that is aimed at enhancing employee creativity in the workplace.

Since PsyCap and its sub-dimensions differ from trait-like capacities that are stable and hard to change, they are state-like positive psychological resource capacities that are malleable and developable (Luthans & Youssef, 2007). This indicates that there exist opportunities to enhance the PsyCap of employees, which significantly influences CP. The findings may offer valuable guidance for managers to apply targeted interventions to improve employees' PsyCap. These may include PsyCap intervention (PCI) developed by Luthans et al. (2006a), strength-based coaching and other positive psychology approaches to develop PsyCap's sub-dimensions (Lupsa et al., 2020). Specifically, interventions may focus on enhancing hope (Cherrington, 2018; Pavlakou, 2023), optimism (Malouff & Schutte, 2017; Sanín-Posada, 2018), self-efficacy (Mathisen & Bronnick, 2009), and resilience (Liu et al., 2020). Thereby fostering employee creativity and contributing to sustained organisational growth.

Overall

Taken together, the three studies provide actionable insights for organisations seeking to enhance employee CP in dynamic and high-pressure environments. First, organisations should adopt a carefully calibrated approach to managing TP. While TP can enhance focus and persistence under certain conditions, excessive or prolonged pressure is generally perceived as detrimental, leading to cognitive strain and reduced creativity (Aleksic et al., 2017; Baethge et al., 2019). Both qualitative and quantitative findings indicate that low baseline TP is most conducive to sustained CP, whereas moderate levels may be particularly harmful. Managers should therefore avoid sustained mid-level pressure and instead strategically apply short-term, goal-oriented pressure when appropriate to stimulate re-engagement (Baer & Oldham, 2006; Ohly & Fritz, 2010). Additionally, structuring large creative tasks into smaller, manageable phases may facilitate cycles of resource mobilisation and recovery, thereby supporting sustained creative engagement (Hobfoll, 1989; Wu et al., 2022).

Second, organisations should prioritise the development of a learning-oriented work environment. Across all studies, LRs consistently demonstrated a stable and positive relationship with CP (Glaser et al., 2015; Prem et al., 2018), regardless of individual differences in psychological resources. Employees generally perceive LRs as opportunities for growth and capability development, particularly within the Chinese context (Gong et al., 2009). Accordingly, organisations should implement continuous learning systems, such as training programmes, knowledge-sharing platforms, and developmental job designs, to enhance employees' skills and creative potential (Tapak et al., 2024).

Third, the findings highlight the critical importance of developing PsyCap. Employees with higher PsyCap exhibit stronger CP and are better able to mobilise

resources under demanding conditions (Cai et al., 2019; Ghafoor & Haar, 2022; Yu et al., 2019). Organisations should therefore incorporate PsyCap into both talent management and development strategies, including recruitment screening and targeted interventions such as PsyCap training, resilience development, and self-efficacy enhancement (Liu et al., 2020; Luthans et al., 2006b; Mathisen & Bronnick, 2009). These initiatives can strengthen employees' capacity to cope with adversity and sustain creativity.

Fourth, organisations should recognise the importance of task and job design in supporting creativity (De Spiegelaere et al., 2015). Rather than relying solely on individual capabilities, well-structured work environments, characterised by high job autonomy, certain job complexity, learning opportunities, and resource support (De Spiegelaere et al., 2015; Hammond et al., 2011), may enable employees to perform creatively even under demanding conditions. This highlights the role of organisations in shaping resource gain processes rather than merely reacting to employee differences (Hobfoll, 1989).

Finally, the findings underscore the need to foster inclusive and equitable organisational environments, particularly in male-dominated industries. Gender differences in the PsyCap–CP relationship suggest that socio-cultural and organisational barriers may constrain the ability of female employees to mobilise psychological resources (Hora et al., 2022; Wang et al., 2024a). Organisations should therefore implement inclusive practices, such as reducing bias, improving access to networks, and supporting female employees' development, to ensure that all individuals can fully contribute to creative processes (Kossek et al., 2017). Such efforts align with broader societal goals of gender equality (United Nations, n.d.) and enhance overall organisational creativity.

Overall, drawing on first-hand data from the automotive industry, this thesis integrates qualitative insights with quantitative evidence to offer a practice-oriented roadmap for cultivating creativity. From an actor–context perspective, three key principles emerge. First, organisations should adopt a balanced approach to managing contextual job stressors. In particular, TP should be maintained at a relatively low baseline, while short-term, goal-oriented bursts of pressure may be strategically introduced to stimulate focus and resource mobilisation. Such calibrated use of TP enables cycles of resource investment and recovery, which are essential for sustaining creativity (Hobfoll, 1989; Hobfoll, 2001). At the same time, LRs should be embedded as developmental opportunities, as they are consistently associated with enhanced learning, capability development, and creative engagement (Glaser et al., 2015; Prem et al., 2018).

Second, organisations should actively cultivate employees' psychological resources. As a core personal resource, PsyCap plays a critical role in enabling individuals to cope with demanding conditions and sustain creative performance (Cai et al., 2019; Ghafoor & Haar, 2022; Yu et al., 2019). Targeted interventions, such as coaching, developmental assignments, and supportive feedback, can strengthen employees' hope, self-efficacy, resilience, and optimism, thereby enhancing their capacity for adaptive and creative responses (Liu et al., 2020; Luthans et al., 2006b; Luthans et al., 2011; Mathisen & Bronnick, 2009; Noefer et al., 2009).

Third, organisations should prioritise the development of inclusive systems that enable the effective mobilisation of psychological resources. The findings suggest that socio-cultural and structural barriers, particularly those related to gender, may constrain the translation of PsyCap into creative outcomes (Hora et al.,

2022; Wang et al., 2024a). Creating inclusive environments that promote equal opportunities and challenge entrenched stereotypes is therefore essential to ensure that all employees can fully contribute to creative processes (Kossek et al., 2017).

Taken together, these principles highlight that creativity is not solely an individual capability, but rather the outcome of dynamic interactions between personal resources and contextual conditions. By aligning organisational practices with this actor–context interplay, organisations can foster creativity that is both sustainable and inclusive in increasingly complex and demanding work environments.

Limitations and Future Directions

Although this thesis offers meaningful theoretical and practical contributions to the understanding of job stressors, personal psychological resources, socio-cultural factors, and creativity within organisational contexts, several limitations should be acknowledged. Recognising these limitations not only strengthens the transparency and credibility of the research but also serves as a foundation for identifying promising directions for future inquiry (Brutus et al., 2013; Price & Murnan, 2004). By critically reflecting on theoretical, methodological, contextual, and conceptual boundaries, this section aims to delineate where future studies may build upon and extend the insights generated in the present research.

Study One

The qualitative component was based on semi-structured interviews with R&D employees in the automotive industry. Although purposive sampling was used to ensure participants had relevant experiences (Tisdell et al., 2025), gender distribution within the sample was highly uneven, with 12 male and only one female

participant. This skewed ratio reflects the prevailing gender imbalance in the sampled R&D context, but it limits the generalisability of findings to more gender-diverse environments. This imbalance raises concerns about whether women's voices were sufficiently represented in capturing diverse perspectives on creativity. Future research should therefore pursue comparative analyses across industries where female participation in R&D is higher, such as in life sciences, healthcare, or pharmaceuticals (Berlin et al., 2023; Bukhari et al., 2020). Such cross-industry comparisons would enable researchers to test whether the mechanisms identified in this study, particularly those related to gender, are valid across different contexts with varying gender distributions.

The findings also revealed that TP predominantly and negatively affects CP, serving as a double-edged sword. However, the current study did not examine in detail the mechanisms underlying this conditionality. For example, it is still unclear why some individuals find TP stimulating and motivating, while most find it debilitating. Future research could explore these mechanisms by investigating individual differences such as procrastination tendencies (Gafni & Geri, 2010), growth versus fixed mindsets (Dweck, 2016), or reliance on intrinsic versus extrinsic motivations (Ryan & Deci, 2000). In addition, employees' perceiption of TP may change over time. For example, at the different phases of the project, they may experience varying levels of TP. Understanding these dynamics would help clarify how personal dispositions interact with environmental pressures to influence creative outcomes.

Alongside the gender imbalance, the specific context of the automotive industry also represents a potential limitation. The sector has undergone a rapid and profound transformation, particularly with the transition from ICEVs to NEVs (Liu

et al., 2023b; Xu & Chen, 2020). This shift has intensified product iteration cycles, technological complexity, and competitive pressures, creating a uniquely dynamic and demanding work environment (Dong & Liu, 2020; Shou & Li, 2025; Tian et al., 2024). As such, the conditions under which employees experience TP and engage in creative processes in this context may differ substantially from those in more stable or less innovation-driven industries. Consequently, the transferability of the findings to other sectors may be constrained. Future research should therefore examine similar phenomena across diverse industrial contexts to assess whether the patterns observed in this study are context-specific or generalisable, thereby providing a more nuanced understanding of how industry dynamics shape the relationship between individual, context, and creativity.

Study Two

The quantitative studies used a time-lagged survey design to reduce common method bias (Podsakoff et al., 2012). Although this approach lessens the risk of simultaneity bias, relying on self-reports remains a limitation. Self-perceptions of creativity might be affected by social desirability, self-enhancement, or other response biases (Podsakoff & Organ, 1986; Williams et al., 2010). This could lead to either exaggerated or weakened links between PsyCap and creativity. Future research should therefore triangulate self-reports with data from additional sources, such as supervisor ratings of creativity, peer assessments, or objective performance metrics. Doing so would offer a more balanced view of how psychological resources translate into visible creative outcomes.

Another limitation concerns the study's cultural and industrial scope. The sample was drawn exclusively from four provinces in China, all of which share

broadly similar cultural traditions and norms. This homogeneity restricts the ability to generalise findings to other cultural contexts where gender norms, workplace expectations, and attitudes toward creativity might differ significantly (Chadwick, 2023; Hing et al., 2023). For example, cultural orientations such as collectivism and individualism may shape the development and mobilisation of individual resources, including PsyCap (Luthans et al., 2008a). Cross-cultural research is therefore vital for testing the universality of these findings.

Furthermore, focusing solely on the automotive industry limits how well findings apply to other occupational fields. The automotive sector is known for intense competition, rapid innovation, technological demands (Dong & Liu, 2020; Shou & Li, 2025; Tian et al., 2024), and a predominantly male workforce (Coffin & Lawrence, 2020; Pang et al., 2025; Utzeri, 2019). These characteristics may exaggerate certain issues, such as gender gaps in recognition for creative work, which might be less evident in different sectors. To improve external validity, future studies should explore whether similar trends are present in industries like service industries (e.g., hospitality) where organisational structures and workforce make-up are quite different.

Lastly, although CP represents a critical outcome for organisations (Sahadev et al., 2024; Zhang et al., 2023c), this thesis primarily focuses on its antecedents, without simultaneously examining its downstream consequences. From a COR perspective (Hobfoll, 2001; Wright & Bonett, 2007), CP may also function as a work-related secondary resource, in that successful creative outcomes can generate additional resources, such as employee well-being (Helzer & Kim, 2019; Tan et al., 2021). In this sense, CP is not only an outcome but also part of a resource gain spiral cycle that facilitates further resource accumulation. Future empirical research could

therefore extend the current framework by examining the consequential role of CP, particularly its potential to contribute to resource enrichment processes (e.g., employee well-being), under the guidance of COR theory.

Study Three

While offering unique insights, this study has a number of limitations, which also open up avenues for possible future research. First, although a time-lagged design was adopted to mitigate common method bias, it is important to note that all data in this study were self-reported, which may introduce potential biases and attenuate the effects of the findings. Future research may involve collecting employee performance data from supervisors to minimise these potential biases further.

Secondly, considering the impact of cultural variations on gender norms, this study was limited to the four provinces in China, all characterised by certain common cultural backgrounds. Future organisational culture and cross-cultural research are essential to enhance the understanding of the role of gender in influencing CP.

Thirdly, although this study applied COR theory, social role theory, and role congruity theory to elucidate whether gender influences CP, it is plausible that other potential theories may exist that play a contributory role in these effects. For example, social identity theory (Turner and Oakes 1986) conceptualises gender as a salient social identity, suggesting that group-based norms and social identity salience may shape individuals' creative behaviour (Glăveanu and Tanggaard 2014; Proudfoot et al. 2015). Additionally, expectancy theory (Vroom et al. 2015) posits that individuals are motivated to engage in behaviours when they expect their efforts will lead to desirable outcomes. When applied to a gendered context, this suggests

that if women perceive unequal recognition or reward for creative efforts due to gender bias, their motivation to engage in the creative process may be diminished. Further research could extend the theoretical framework by incorporating these and other relevant theories to investigate the interplay between gender, motivation, and creativity more thoroughly. Moreover, this study was conducted within the automotive industry. As contextual factors may vary across industries and job types, future research would benefit from examining whether gender effects on creativity differ in alternative occupational and business settings.

Fourthly, this study examined gender using a binary categorisation, which may fail to capture the experiences of non-binary and gender-diverse individuals (Schudson & Morgenroth, 2022). As a result, it potentially overlooks more nuanced insights relevant to the research objectives. Future research should adopt a more inclusive conceptualisation of gender to enrich understanding within this context.

Lastly, the variables examined within this framework are limited. Therefore, it is essential to consider the possibility that other factors, for example, team gender composition (Apesteguia et al., 2012), may shape social dynamics and inclusion perception, while the type of employee employment (full-time, part-time, or contract) may condition the influence of gender on creativity. Furthermore, job-related challenge-hindrance stressors may differentially impact individuals' cognitive and emotional resources available for creativity. Further research should explore these and other relevant variables to develop a more comprehensive understanding of the factors that facilitate or constrain employee creativity.

Overall

Taken together, the three studies present several limitations that should be considered when interpreting the findings. First, issues of sample composition and representativeness are evident across the studies. The qualitative component relied on a small, male-dominated sample of R&D employees, while the quantitative studies focused primarily on employees within the Chinese automotive industry. Although purposive sampling ensured relevant experience (Tisdell et al., 2025), such sampling limits the generalisability of findings to more gender-balanced populations and different occupational groups.

Second, the context-specific nature of the automotive industry may have shaped the observed relationships. The sector's rapid transformation from ICEVs to NEVs in China (Liu et al., 2023b; Xu & Chen, 2020), coupled with intense competition and innovation demands (Dong & Liu, 2020; Shou & Li, 2025; Tian et al., 2024), creates a uniquely dynamic environment. As such, employees' experiences of TP and their engagement in CP may differ from those in more stable or service-based industries. This raises concerns regarding the external validity of the findings and highlights the need for cross-industry comparisons.

Third, although the studies employed a time-lagged design to mitigate common method bias (Podsakoff et al., 2012), the reliance on self-reported measures remains a limitation. Self-perceptions of creativity and psychological resources such as PsyCap may be influenced by social desirability and self-enhancement biases (Podsakoff & Organ, 1986; Williams et al., 2010), potentially affecting the strength and direction of observed relationships. Future research should therefore incorporate multi-source data, including supervisor or peer evaluations, to enhance robustness.

Fourth, from a theoretical perspective, the thesis primarily focuses on the antecedents of CP, with limited examination of its consequences. Guided by COR theory (Hobfoll, 2001; Wright & Bonett, 2007), CP may also function as a secondary resource, contributing to resource gain spiral cycles such as enhanced employee well-being (Helzer & Kim, 2019; Tan et al., 2021). Additionally, while the thesis draws on COR theory alongside social role theory (Eagly, 1987) and role congruity theory (Eagly & Karau, 2002), other perspectives, such as social identity theory (Turner & Oakes, 1986) and expectancy theory (Vroom et al., 2015), may further enrich understanding of how gender and motivation shape creativity. This suggests opportunities to extend the theoretical framework.

Fifth, the studies provide limited insight into the underlying mechanisms and boundary conditions of key relationships. For example, while evidence supports a curvilinear (U-shaped) relationship between TP and CP (Aleksic et al., 2017), the individual-level processes explaining why some employees perceive TP as motivating while others find it detrimental remain underexplored. It is possible that factors such as procrastination tendencies (Gafni & Geri, 2010), mindset (Dweck, 2016), and motivational orientation (Ryan & Deci, 2000) may shape these responses. Moreover, cultural homogeneity within the sample restricts generalisation to other cultural contexts, where gender norms, workplace expectations, and attitudes toward creativity may differ (Chadwick, 2023; Hing et al., 2023), and where cultural orientations such as collectivism and individualism may influence the development and mobilisation of PsyCap (Luthans et al., 2008b). Future research could adopt cross-cultural comparative designs to examine the robustness of the proposed relationships.

Finally, an additional limitation relates to the researcher's background and positioning. The thesis was partly inspired by the urgent, deeply felt challenges the researcher personally encountered and observed during the Chinese automotive industry's transition to NEVs. This context shaped the research focus on identifying practical solutions to alleviate organisational pressures while reducing employees' strain. In particular, the thesis sought to explore actionable approaches that enable organisations to foster employee creativity in daily work without exacerbating stress or undermining psychological well-being. Instead, the underlying aim was to identify practices that support a mutually reinforcing dynamic, in which enhanced creativity contributes to organisational adaptability and long-term competitiveness, while employees benefit from improved psychological well-being, satisfaction, and the overall quality of their working life. At the same time, the researcher's extensive professional experience in the automotive industry, comprising over 16 years in senior management roles, provided valuable contextual insight and enriched the interpretation of findings.

However, this depth of experience may also introduce potential bias, as it could shape underlying assumptions and limit the consideration of alternative perspectives. Although conscious efforts were made to maintain reflexivity and analytical rigour throughout the research process, including critical self-reflection and ongoing supervisory feedback, the researcher's prior experiences may have subtly influenced data interpretation and meaning-making.

Chapter Summary

This chapter presented the integrated findings, discussions, theoretical and practical contributions, as well as the limitations and future research directions of the thesis.

Drawing on the findings of the three empirical studies, it provided a synthesis that highlighted the overall outcomes, contributions to the literature, and implications for organisational practice. In addition, the chapter outlined the key limitations of the thesis and offered directions to guide future research in this area.

Chapter Eight: Conclusions

Rapid technological advancement has intensified the need for bold and often radical organisational change, rendering the future increasingly uncertain and unpredictable (Dwivedi et al., 2023). In such environments, both organisations and individuals must continuously adapt to remain competitive. In particular, employee creativity and innovation have become critical drivers of organisational success and long-term viability (Rietzschel et al., 2024; Zhou & Hoever, 2023).

The automotive industry exemplifies these dynamics. It continues to face relentless competitive pressures, characterised by technological disruption, and escalating demands for innovation (Shou & Li, 2025; Xu & Chen, 2020). Many firms, once regarded as industry mainstays, are now struggling to sustain their positions in this volatile environment. For example, in October 2025, First Brands, a long-established global auto parts manufacturer, filed for bankruptcy protection (Gladstone et al., 2025).

At the same time, organisations in the industry continue to reshape the competitive landscape by leveraging innovation to expand their market presence. A notable example is BYD, whose sustained investment in new energy vehicle technologies reflects a strong innovation-oriented strategy. This approach has enabled significant technological advancement and global expansion, reinforcing the centrality of creativity and innovation as drivers of competitive advantage (Indiran et al., 2023; Liu & Meng, 2017; Quan et al., 2018; Zhu, 2025).

This thesis set out to develop a more nuanced understanding of how individual psychological resources and contextual factors jointly shape employee CP, with particular attention to the roles of TP, LRs, PsyCap, and the conditioning effect of gender. Drawing on a sequential mixed-methods design, the findings

provide a multi-perspective account of creativity that integrates qualitative insights with quantitative evidence.

This thesis underscores that employee creativity is a dynamic and contextually embedded process shaped by the continuous interaction between individual resources and contextual factors. By integrating multiple perspectives and methodological approaches, it offers a more comprehensive understanding and ways of how creativity can be sustained and enhanced in increasingly competitive organisational environments.

Ultimately, this work presents a framework that facilitates organisations to remain not only competitive in the present but also creative, future-ready, and resilient amid ongoing technological, economic, and social change. It also provides pathways for employees to sustain and enhance their performance, empowering them to thrive, experience a sense of accomplishment in their work, and achieve greater happiness, helping employees “live differently, in order to live as well as possible” (Wilson, 2018, p. 622), even in a demanding and uncertain world.

References

Abbas, M., & Raja, U. (2015). Impact of psychological capital on innovative performance and job stress. *Canadian Journal of Administrative Sciences/Revue Canadienne des Sciences de l'Administration*, *32*(2), 128-138. https://doi.org/10.1002/cjas.1314

Abraham, A. (2016). Gender and creativity: an overview of psychological and neuroscientific literature. *Brain Imaging and Behavior*, *10*(2), 609-618. https://doi.org/10.1007/s11682-015-9410-8

Abukhait, R., Shamsudin, F. M., Bani-Melhem, S., & Al-Hawari, M. A. (2023). Obsessive–compulsive personality and creative performance: The moderating effect of manager coaching behavior. *Review of Managerial Science*, *17*(1), 375-396. https://doi.org/10.1007/s11846-022-00528-6

Acar, O. A., Tarakci, M., & Van Knippenberg, D. (2019). Creativity and innovation under constraints: A cross-disciplinary integrative review. *Journal of Management*, *45*(1), 96-121. https://journals.sagepub.com/doi/full/10.1177/0149206318805832

Acker, J. (1990). Hierarchies, jobs, bodies: A theory of gendered organizations. *Gender & society*, *4*(2), 139-158. https://doi.org/10.1177/089124390004002002

Acker, J. (2006). Inequality regimes: Gender, class, and race in organizations. *Gender & society*, *20*(4), 441-464. https://doi.org/10.1177/0891243206289499

Adler, M., & Koch, A. K. (2017). Expanding the Job Demands-Resources Model to Classify Innovation-Predicting Working Conditions. *Management Revue*, *28*(2), 175-203. https://doi.org/10.5771/0935-9915-2017-2-175

Aguinis, H., Beaty, J. C., Boik, R. J., & Pierce, C. A. (2005). Effect size and power in assessing moderating effects of categorical variables using multiple regression: a 30-year review. *J Appl Psychol*, *90*(1), 94-107. https://doi.org/10.1037/0021-9010.90.1.94

Akkaya, B., Panait, M., Apostu, S. A., & Kaya, Y. (2022). Agile Leadership and Perceived Career Success: The Mediating Role of Job Embeddedness. *Int J Environ Res Public Health*, *19*(8). https://doi.org/10.3390/ijerph19084834

Aleksic, D., Mihelic, K. K., Cerne, M., & Skerlavaj, M. (2017). Interactive effects of perceived time pressure, satisfaction with work-family balance (SWFB), and leader-member exchange (LMX) on creativity. *Personnel Review*, *46*(3), 662-679. https://doi.org/10.1108/Pr-04-2015-0085

Allemang, B., Sitter, K., & Dimitropoulos, G. (2022). Pragmatism as a paradigm for patient-oriented research. *Health Expectations*, *25*(1), 38-47. https://doi.org/10.1111/hex.13384

Alyammahi, A. H., Sarker, A., & Zervopoulos, P. (2024). Linking Entrepreneurial Orientation, Learning Orientation, Organization Structure and the Growth of Government. *Administrative Sciences*, *14*(10). https://doi.org/10.3390/admsci14100250

Amabile, T. M. (1982). Social-Psychology of Creativity - a Consensual Assessment Technique. *Journal of personality and social psychology*, *43*(5), 997-1013. https://doi.org/10.1037/0022-3514.43.5.997

Amabile, T. M. (1983). The Social-Psychology of Creativity - a Componential Conceptualization. *Journal of personality and social psychology*, *45*(2), 357-376. https://doi.org/10.1037/0022-3514.45.2.357

Amabile, T. M. (1988). A model of creativity and innovation in organizations. *Research in organizational behavior*, *10*(1), 123-167.

Amabile, T. M. (2018). *Creativity in context: Update to the social psychology of creativity*. Routledge.

Amabile, T. M., Conti, R., Coon, H., Lazenby, J., & Herron, M. (1996). Assessing the work environment for creativity. *Academy of management journal*, *39*(5), 1154-1184. https://doi.org/10.5465/256995

Amabile, T. M., Hadley, C. N., & Kramer, S. J. (2002). Creativity under the gun. *Harvard Business Review*, *80*, 52-63.

Amabile, T. M., & Kramer, S. J. (2011). The power of small wins. *Harvard Business Review*, *89*(5), 70-80. https://doi.org/10.1108/hrmid.2011.04419gaa.015

Amabile, T. M., & Pratt, M. G. (2016). The dynamic componential model of creativity and innovation in organizations: Making progress, making meaning. *Research in Organizational Behavior: An Annual Series of Analytical Essays and Critical Reviews, Vol 36*, *36*, 157-183. https://doi.org/10.1016/j.riob.2016.10.001

Ancis, J. R., & Phillips, S. D. (1996). Academic gender bias and women's behavioral agency self-efficacy. *Journal of Counseling & Development*, *75*(2), 131-137. https://doi.org/10.1002/j.1556-6676.1996.tb02323.x

Anderson, N., Potočnik, K., & Zhou, J. (2014). Innovation and Creativity in Organizations: A State-of-the-Science Review, Prospective Commentary, and Guiding Framework. *Journal of Management*, *40*(5), 1297-1333. https://doi.org/10.1177/0149206314527128

Anderson, R. (2023). Anxiety, fear of failure, and creativity. *The cambridge handbook of creativity and emotions*, 461-478. https://doi.org/10.1017/9781009031240.030

Antwi, C. O., Fan, C.-j., Aboagye, M. O., Brobbey, P., Jababu, Y., Affum-Osei, E., & Avornyo, P. (2019). Job demand stressors and employees' creativity: A within-person approach to dealing with hindrance and challenge stressors at the airport environment. *The Service Industries Journal*, *39*(3-4), 250-278. https://doi.org/10.1080/02642069.2018.1520220

Apesteguia, J., Azmat, G., & Iriberri, N. (2012). The impact of gender composition on team performance and decision making: Evidence from the field. *Management Science*, *58*(1), 78-93. https://doi.org/10.1287/mnsc.1110.1348

Arbuckle, J. L. (2022). *IBM SPSS Amos 29 user's guide*. IBM Corp, Amos development corporation.

Attané, I. (2012). Being a woman in China today: A demography of gender. *China perspectives*, *2012*(2012/4), 5-15. https://doi.org/10.4000/chinaperspectives.6013

Attride-Stirling, J. (2001). Thematic networks: an analytic tool for qualitative research. *Qualitative Research*, *1*(3), 385-405. https://doi.org/10.1177/146879410100100307

Avey, J. B., Lynn Richmond, F., & Nixon, D. R. (2012). Leader positivity and follower creativity: An experimental analysis. *The Journal of Creative Behavior*, *46*(2), 99-118. https://doi.org/10.1002/jocb.8

Avey, J. B., Reichard, R. J., Luthans, F., & Mhatre, K. H. (2011). Meta-Analysis of the Impact of Positive Psychological Capital on Employee Attitudes,

Behaviors, and Performance. *Human Resource Development Quarterly*, *22*(2), 127-152. https://doi.org/10.1002/hrdq.20070

Badura, K. L., Grijalva, E., Newman, D. A., Yan, T. T., & Jeon, G. (2018). Gender and leadership emergence: A meta-analysis and explanatory model. *Personnel psychology*, *71*(3), 335-367. https://doi.org/10.1111/peps.12266

Baer, J., & Kaufman, J. C. (2008). Gender differences in creativity. *The Journal of Creative Behavior*, *42*(2), 75-105. https://doi.org/10.1002/j.2162-6057.2008.tb01289.x

Baer, M. (2012). Putting creativity to work: The implementation of creative ideas in organizations. *Academy of Management Journal*, *55*(5), 1102-1119. https://doi.org/10.5465/amj.2009.0470

Baer, M., & Oldham, G. R. (2006). The curvilinear relation between experienced creative time pressure and creativity: Moderating effects of openness to experience and support for creativity. *Journal of Applied psychology*, *91*(4), 963-970. https://doi.org/10.1037/0021-9010.91.4.963

Baethge, A., Deci, N., Dettmers, J., & Rigotti, T. (2019). “Some days won’t end ever”: Working faster and longer as a boundary condition for challenge versus hindrance effects of time pressure. *Journal of occupational health psychology*, *24*(3), 322. https://doi.org/10.1037/ocp0000121

Bagozzi, R. P., & Yi, Y. (2012). Specification, evaluation, and interpretation of structural equation models. *Journal of the academy of marketing science*, *40*, 8-34. https://doi.org/10.1007/s11747-011-0278-x

Bahrami Azar, G., Givehchi, S., & Vosoughi, S. (2023). WORKFORCE SAFETY CULTURE, JOB STRESS AND JOB SATISFACTION IN AN

AUTOMOTIVE INDUSTRY. *Sigurnost*, *65*(1). https://doi.org/10.31306/s.65.1.2

Bakker, A. B., & De Vries, J. D. (2021). Job Demands–Resources theory and self-regulation: New explanations and remedies for job burnout. *Anxiety, stress, & coping*, *34*(1), 1-21. https://doi.org/10.1080/10615806.2020.1797695

Bakker, A. B., & Demerouti, E. (2007). The job demands-resources model: State of the art. *Journal of Managerial Psychology*, *22*(3), 309-328. https://doi.org/10.1108/02683940710733115

Bakker, A. B., & Demerouti, E. (2018). Multiple levels in job demands-resources theory: Implications for employee well-being and performance. In *Handbook of well-being*. Noba Scholar.

Bandura, A. (1997). *Self-efficacy: The exercise of control*. Macmillan.

Bandura, A., & Locke, E. A. (2003). Negative self-efficacy and goal effects revisited. *Journal of Applied Psychology*, *88*(1), 87. https://doi.org/10.1037/0021-9010.88.1.87

Bandura, A., & Wessels, S. (1997). *Self-efficacy*. Cambridge University Press Cambridge.

Battams, S., Roche, A. M., Fischer, J. A., Lee, N. K., Cameron, J., & Kostadinov, V. (2014). Workplace risk factors for anxiety and depression in male-dominated industries: a systematic review. *Health Psychology and Behavioral Medicine*, *2*(1), 983-1008. https://doi.org/10.1080/21642850.2014.954579

Becker, T. E. (2005). Potential problems in the statistical control of variables in organizational research: A qualitative analysis with recommendations. *Organizational research methods*, *8*(3), 274-289. https://doi.org/10.1177/1094428105278021

Berlin, G., Robinson, N., & Sharma, M. (2023). Women in the healthcare industry: an update. *New York: McKinsey and Company*.

Bernerth, J. B., & Aguinis, H. (2016). A critical review and best-practice recommendations for control variable usage. *Personnel Psychology*, *69*(1), 229-283. https://doi.org/10.1111/peps.12103

Binnewies, C., & Wörnlein, S. C. (2011). What makes a creative day? A diary study on the interplay between affect, job stressors, and job control. *Journal of organizational Behavior*, *32*(4), 589-607. https://doi.org/https://doi.org/10.1002/job.731

Blaique, L., Ismail, H., Corbin, T. J. r., & Aldabbas, H. (2024). Enhancing learning organizations through employee resilience: Investigating the mediating influence of psychological empowerment. *Journal of Workplace Learning*. https://doi.org/10.1108/Jwl-02-2024-0033

Bormann, K. C. (2020). Turning Daily Time Pressure into a Creative Day: The Interactionist Roles of Employee Neuroticism and Time Pressure Dirspersion. *Applied Psychology-an International Review-Psychologie Appliquee-Revue Internationale*, *69*(3), 589-615. https://doi.org/10.1111/apps.12183

Bornstein, M. H., Jager, J., & Putnick, D. L. (2013). Sampling in developmental science: Situations, shortcomings, solutions, and standards. *Developmental Review*, *33*(4), 357-370. https://doi.org/10.1016/j.dr.2013.08.003

Bourn, D. (2021). Pedagogy of hope: global learning and the future of education. *International Journal of Development Education and Global Learning*, *13*(2), 65-78. https://doi.org/10.14324/ijdegl.13.2.01

Breevaart, K., & Bakker, A. B. (2018). Daily job demands and employee work engagement: The role of daily transformational leadership behavior. *Journal*

of occupational health psychology, *23*(3), 338. https://doi.org/10.1037/ocp0000082

Broadbridge, A., & Simpson, R. (2011). 25 years on: reflecting on the past and looking to the future in gender and management research. *British Journal of Management*, *22*(3), 470-483. https://doi.org/10.1111/j.1467-8551.2011.00758.x

Broadhurst, P. (1959). The interaction of task difficulty and motivation: the Yerkes Dodson Law revived. *Acta Psychologica, Amsterdam*. https://doi.org/10.1016/0001-6918(59)90105-2

Brown, S. L., & Eisenhardt, K. M. (1997). The art of continuous change: Linking complexity theory and time-paced evolution in relentlessly shifting organizations. *Administrative science quarterly*, 1-34. https://doi.org/10.2307/2393807

Brown, T. A. (2015). *Confirmatory factor analysis for applied research*. Guilford publications.

Brown, T. A., & Moore, M. T. (2012). Confirmatory factor analysis. In *Handbook of structural equation modeling* (Vol. 361, pp. 379).

Brutus, S., Aguinis, H., & Wassmer, U. (2013). Self-reported limitations and future directions in scholarly reports: Analysis and recommendations. *Journal of Management*, *39*(1), 48-75. https://doi.org/10.1177/0149206312455245

Bryman, A. (2016). *Social research methods*. Oxford university press.

Bukhari, N., Manzoor, M., Rasheed, H., Nayyer, B., Malik, M., & Babar, Z.-U.-D. (2020). A step towards gender equity to strengthen the pharmaceutical workforce during COVID-19. *Journal of Pharmaceutical Policy and Practice*, *13*(1), 15. https://doi.org/10.1186/s40545-020-00215-5

Burk, J. E. (2019). The Only Constant is Change: Developing a Compelling Story to Enable Organizational Transformation. *International Journal of Knowledge, Culture & Change Management: Annual Review*, *19*(1). https://doi.org/10.18848/1447-9524/cgp/v19i01/1-6

Burmeister, A., Alterman, V., Fasbender, U., & Wang, M. (2022). Too much to know? The cognitive demands of daily knowledge seeking and the buffering role of coworker contact quality. *Journal of Applied psychology*, *107*(8), 1303-1322. https://doi.org/10.1037/apl0000925

Cai, W., Lysova, E. I., Bossink, B. A., Khapova, S. N., & Wang, W. (2019). Psychological capital and self-reported employee creativity: The moderating role of supervisor support and job characteristics. *Creativity and Innovation Management*, *28*(1), 30-41. https://doi.org/10.1111/caim.12277

Caniëls, M. C. J., & Motylska-Kuzma, A. (2023). Entrepreneurial intention and creative performance - the role of distress tolerance. *International entrepreneurship and management journal*, *19*(3), 1131-1152. https://doi.org/10.1007/s11365-023-00863-4

Cao, T. H. V., Chai, D. S., Nguyen, L. P., Nguyen, H. T. H., Han, C. S. H., & Park, S. (2024). Learning organization and employee performance: the mediating role of job satisfaction in the Vietnamese context. *Learning Organization*. https://doi.org/10.1108/Tlo-09-2023-0177

Cavanaugh, M. A., Boswell, W. R., Roehling, M. V., & Boudreau, J. W. (2000). An empirical examination of self-reported work stress among US managers. *Journal of Applied psychology*, *85*(1), 65. https://doi.org/10.1037//0021-9010.85.165

Ceptureanu, S. I., Ferraro, G., Ceptureanu, E. G., & Georgescu, B. (2024). Individual learning ambidexterity behavior and individual job performance in services: the role of organizational structure. *Review of Managerial Science*. https://doi.org/10.1007/s11846-024-00819-0

Chadwick, H. (2023). Supervisor Gender, Culture and Employee Creativity: The Mediating Role of Interaction Frequency. *Academy of Management Proceedings*. https://doi.org/10.5465/amproc.2024.12343abstract

Chang, Y. Y., & Chen, M. H. (2013). Innovative Cognitive Style, Proactive Personality and Employee Creativity: The Moderating Effects of Work Discretion and Time Pressure. *2013 Proceedings of Technology Management in the It-Driven Services (Picmet'13)*, 1521-1534. https://doi.org/10.5465/ambpp.2013.10136abstract

Chang, Y. Y., Shih, H. Y., & Lin, B. W. (2023). Work curiosity and R&D professionals? creative performance: Scientists vs. engineers. *Technovation*, *124*. https://doi.org/10.1016/j.technovation.2023.102739

Chavez-Eakle, R. A., Lara, M. d. C., & Cruz-Fuentes, C. (2006). Personality: A possible bridge between creativity and psychopathology? *Creativity Research Journal*, *18*(1), 27-38. https://doi.org/10.1207/s15326934crj1801_4

Chen, F. F. (2007). Sensitivity of goodness of fit indexes to lack of measurement invariance. *Structural equation modeling: a multidisciplinary journal*, *14*(3), 464-504. https://doi.org/10.1080/10705510701301834

Chenarboo, F. J., Hekmatshoar, R., & Fallahi, M. (2022). The influence of physical and mental workload on the safe behavior of employees in the automobile industry. *Heliyon*, *8*(10). https://doi.org/10.1016/j.heliyon.2022.e11034

Cherrington, A. M. (2018). Research as hope-intervention: Mobilising hope in a South African higher education context. *South African Journal of Education*, *38*(4), 1-9. https://doi.org/10.15700/saje.v38n4a1706

Cheung, G. W., Cooper-Thomas, H. D., Lau, R. S., & Wang, L. C. (2024). Reporting reliability, convergent and discriminant validity with structural equation modeling: A review and best-practice recommendations. *Asia Pacific Journal of Management*, *41*(2), 745-783. https://doi.org/10.1007/s10490-023-09871-y

Cheung, G. W., & Rensvold, R. B. (2002). Evaluating goodness-of-fit indexes for testing measurement invariance. *Structural equation modeling*, *9*(2), 233-255. https://doi.org/10.1207/s15328007sem0902_5

Chiang, H. L., Lien, Y. C., Lin, A. P., & Chuang, Y. T. (2022). How Followership Boosts Creative Performance as Mediated by Work Autonomy and Creative Self-Efficacy in Higher Education Administrative Jobs. *Frontiers in Psychology*, *13*. https://doi.org/10.3389/fpsyg.2022.853311

Choi, J. N. (2004). Individual and contextual predictors of creative performance: The mediating role of psychological processes. *Creativity Research Journal*, *16*(2-3), 187-199. https://doi.org/10.1207/s15326934crj1602&3_4

Choi, S., Lee, O. K. D., Suh, W., & Lim, K. H. (2023). Unveiling the underlying cognitive processes of creative idea generation using mobile collaboration platforms. *Information & Management*, *60*(8). https://doi.org/10.1016/j.im.2023.103874

Choi, S. B., Ullah, S. M. E., & Kang, S. W. (2021). Proactive Personality and Creative Performance: Mediating Roles of Creative Self-Efficacy and Moderated Mediation Role of Psychological Safety. *Sustainability*, *13*(22). https://doi.org/10.3390/su132212517

Cifuentes-Férez, P., López, A. R., & López, L. E. (2024). Self-efficacy as a protective factor when translating under time pressure. *Vigo International Journal of Applied Linguistics*(21). https://doi.org/10.35869/vial.v0i21.4215

Coffin, D., & Lawrence, A. (2020). Demographic diversity in US Automotive manufacturing. *US International Trade Commission (USITC) Executive Briefings on Trade*. https://doi.org/10.2139/ssrn.3981009

Cohen, J. (2013). *Statistical power analysis for the behavioral sciences*. routledge.

Cohen, J., Cohen, P., West, S. G., & Aiken, L. S. (2013). *Applied multiple regression/correlation analysis for the behavioral sciences*. Routledge.

Crans, S., Gerken, M., Beausaert, S., & Segers, M. (2021). The mediating role of social informal learning in the relationship between learning climate and employability. *Career Development International*, *26*(5), 678-696. https://doi.org/10.1108/cdi-09-2020-0234

Creswell, J. W., & Creswell, J. D. (2017). *Research design: Qualitative, quantitative, and mixed methods approaches*. Sage publications.

Cropley, A. (2006). Creativity: A social approach. *Roeper Review*, *28*(3), 125-130. https://doi.org/10.1080/02783190609554351

Csikszentmihalyi, M., & Seligman, M. (2000). Positive psychology. *American psychologist*, *55*(1), 5-14.

Czerwiński, S. K., & Atroszko, P. A. (2023). A solution for factorial validity testing of three-item scales: An example of tau-equivalent strict measurement invariance of three-item loneliness scale. *Current Psychology*, *42*(2), 1652-1664. https://doi.org/0.1007/s12144-021-01554-5

Da, S., Zhu, Z., Cen, H. Y., Gong, X. M., Siu, O. L., & Zhang, X. C. (2021). Psychological Capital, Positive Affect, and Organizational Outcomes A Three-

Wave Cross-Lagged Study. *Journal of Pacific Rim Psychology*, *15*. https://doi.org/10.1177/18344909211010514

Dash, G., & Paul, J. (2021). CB-SEM vs PLS-SEM methods for research in social sciences and technology forecasting. *Technological Forecasting and Social Change*, *173*, 121092. https://doi.org/10.1016/j.techfore.2021.121092

De Clercq, D., & Belausteguigoitia, I. (2019). Reducing the harmful effect of work overload on creative behaviour: Buffering roles of energy-enhancing resources. *Creativity and Innovation Management*, *28*(1), 5-18. https://doi.org/10.1111/caim.12278

De Rooij, A. (2023). Inner Speaking and Uncertainty during Idea Generation. *Journal of Creative Behavior*, *57*(3), 376-396. https://doi.org/10.1002/jocb.584

De Spiegelaere, S., Van Gyes, G., De Witte, H., & Van Hootegem, G. (2015). Job design, work engagement and innovative work behavior: A multi-level study on Karasek's learning hypothesis. *Management Revue*, 123-137. https://doi.org/10.5771/0935-9915-2015-2-123

Doci, E., Knappert, L., Nijs, S., & Hofmans, J. (2023). Unpacking psychological inequalities in organisations: Psychological capital reconsidered. *Applied Psychology*, *72*(1), 44-63. https://doi.org/10.1111/apps.12379

Dong, F., & Liu, Y. (2020). Policy evolution and effect evaluation of new-energy vehicle industry in China. *Resources Policy*, *67*, 101655. https://doi.org/10.1016/j.resourpol.2020.101655

Dormann, C., & Griffin, M. A. (2015). Optimal time lags in panel studies. *Psychological methods*, *20*(4), 489. https://doi.org/10.1037/met0000041

Dudasova, L., Prochazka, J., Vaculik, M., & Lorenz, T. (2021). Measuring psychological capital: Revision of the Compound Psychological Capital Scale (CPC-12). *PloS one*, *16*(3). https://doi.org/10.1371/journal.pone.0247114

Dul, J., Ceylan, C., & Jaspers, F. (2011). Knowledge workers' creativity and the role of the physical work environment. *Human resource management*, *50*(6), 715-734. https://doi.org/10.1002/hrm.20454

Dweck, C. (2016). What having a "growth mindset" actually means. *Harvard Business Review*, *13*(2), 2-5.

Dweck, C. S. (2006). *Mindset: The new psychology of success*. Random house.

Dwivedi, Y. K., Sharma, A., Rana, N. P., Giannakis, M., Goel, P., & Dutot, V. (2023). Evolution of artificial intelligence research in Technological Forecasting and Social Change: Research topics, trends, and future directions. *Technological Forecasting and Social Change*, *192*, 122579. https://doi.org/10.1016/j.techfore.2023.122579

Dzienis, A. M., & McCaleb, A. (2025). Digital and green transitions and automotive industry reconfiguration: evidence from Japan and China. *Journal of Contemporary Asia*, *55*(4), 618-644. https://doi.org/10.1080/00472336.2024.2384704

Eagly, A. H. (1987). Reporting sex differences. *American psychologist*, *42*(7), 756-757. https://doi.org/10.1037/0003-066X.42.7.755

Eagly, A. H., & Karau, S. J. (2002). Role congruity theory of prejudice toward female leaders. *Psychological review*, *109*(3), 573. https://doi.org/10.1037//0033-295x.109.3.573

Eagly, A. H., Nater, C., Miller, D. I., Kaufmann, M., & Sczesny, S. (2020). Gender stereotypes have changed: A cross-temporal meta-analysis of US public

opinion polls from 1946 to 2018. *American psychologist*, *75*(3), 301. https://doi.org/10.1037/amp0000494

Eagly, A. H., & Wood, W. (2012). Social role theory. *Handbook of theories of social psychology*, *2*(9), 458-476. https://doi.org/10.4135/9781483346274.n306

Eagly, A. H., Wood, W., & Diekman, A. B. (2000). Social role theory of sex differences and similarities: A current appraisal. *The developmental social psychology of gender*, *12*(174), 9781410605245-9781410605212. https://doi.org/10.4324/9781410605245-12

Eatough, V., & Smith, J. A. (2017). Interpretative phenomenological analysis. *The Sage handbook of qualitative research in psychology*, 193-209.

Eftekhari, S., Karimi, L., Sharifian, S. A., Aminian, O., Rasooli, S. R., & Zia, G. (2025). Association between occupational stress and mental health in an automobile manufacturing factory in Iran. *International Journal of Occupational Safety and Health*, *15*(1), 1-14. https://doi.org/10.3126/ijosh.v15i1.61572

Elisondo, R. (2016). Creativity is always a social process. *Creativity. Theories–Research-Applications*, *3*(2), 194-210. https://doi.org/10.1515/ctra-2016-0013

Ely, R. J. (1994). The effects of organizational demographics and social identity on relationships among professional women. *Administrative science quarterly*, 203-238. https://doi.org/10.2307/2393234

Fan, Y., Chen, J., Shirkey, G., John, R., Wu, S. R., Park, H., & Shao, C. (2016). Applications of structural equation modeling (SEM) in ecological studies: an updated review. *Ecological Processes*, *5*, 1-12. https://doi.org/10.1186/s13717-016-0063-3

Faul, F., Erdfelder, E., Buchner, A., & Lang, A.-G. (2009). Statistical power analyses using G* Power 3.1: Tests for correlation and regression analyses. *Behavior research methods*, *41*(4), 1149-1160. https://doi.org/10.3758/brm.41.4.1149

Finney, C., Stergiopoulos, E., Hensel, J., Bonato, S., & Dewa, C. S. (2013). Organizational stressors associated with job stress and burnout in correctional officers: a systematic review. *Bmc Public Health*, *13*(1), 82. https://doi.org/10.1186/1471-2458-13-82

Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of marketing research*, *18*(1), 39-50. https://doi.org/10.2307/3150979

Fredrickson, B. L. (2001). The role of positive emotions in positive psychology: The broaden-and-build theory of positive emotions. *American psychologist*, *56*(3), 218. https://doi.org/10.1037//0003-066x.56.3.218

Fuller, A., & Unwin, L. (2004). Expansive learning environments: integrating organizational and personal development. In *Workplace learning in context* (pp. 142-160). Routledge.

Fuller, A., & Unwin, L. (2011). Workplace learning and the organization. *The SAGE handbook of workplace learning*, 46-59.

Fuller, C. M., Simmering, M. J., Atinc, G., Atinc, Y., & Babin, B. J. (2016). Common methods variance detection in business research. *Journal of business research*, *69*(8), 3192-3198. https://doi.org/10.1016/j.jbusres.2015.12.008

Gafni, R., & Geri, N. (2010). Time management: Procrastination tendency in individual and collaborative tasks. *Interdisciplinary Journal of Information, Knowledge, and Management*, *5*, 115. https://doi.org/10.28945/1127

Ganster, D. C., & Rosen, C. C. (2013). Work stress and employee health: A multidisciplinary review. *Journal of Management*, *39*(5), 1085-1122. https://doi.org/10.1177/0149206313475815

Gao, Q. Y., Wu, C. S., Wang, L. C., & Zhao, X. Y. (2020). The Entrepreneur's Psychological Capital, Creative Innovation Behavior, and Enterprise Performance. *Frontiers in Psychology*, *11*. https://doi.org/10.3389/fpsyg.2020.01651

García, R. A. G., Ruiz, A. S., Carrera, A. d. J. S., Rico, N. A. V., Tovar, M. N. A., Berbena, M. A. Z., Acevedo, M. A. E., Pérez, M. A. P., & Martínez, K. I. M. (2026). Depression, anxiety, burnout, and substance use disorders among auto workers and COVID-19 as a stressor in Mexico. *Frontiers in Public Health*, *13*, 1723282. https://doi.org/10.3389/fpubh.2025.1723282

Garvin, D. A., Edmondson, A. C., & Gino, F. (2008). Is yours a learning organization? *Harvard Business Review*, *86*(3), 109.

George, J. M., & Zhou, J. (2001). When openness to experience and conscientiousness are related to creative behavior: an interactional approach. *Journal of Applied psychology*, *86*(3), 513. https://doi.org/10.1037/0021-9010.86.3.513

George, J. M., & Zhou, J. (2002). Understanding when bad moods foster creativity and good ones don't: the role of context and clarity of feelings. *Journal of Applied Psychology*, *87*(4), 687. https://doi.org/10.1037//0021-9010.87.4.687

Ghafoor, A., & Haar, J. (2022). Does job stress enhance employee creativity? Exploring the role of psychological capital. *Personnel Review*, *51*(2), 644-661. https://doi.org/10.1108/Pr-08-2019-0443

Ghaleb, M., & Yaslioglu, M. (2024). Structural Equation Modeling (SEM) for Social and Behavioral Sciences Studies: Steps Sequence and Explanation. *Journal of Organizational Behavior Review*, *6*(1), 69-108. https://izlik.org/JA38PC86NA

Ghasemi, A., & Zahediasl, S. (2012). Normality tests for statistical analysis: a guide for non-statisticians. *International journal of endocrinology and metabolism*, *10*(2), 486. https://doi.org/10.5812/ijem.3505

Ghowrui, A., & Mukherjee, P. (2024). Effect of gender discrimination on resilience and motivation of women. *IJPS*, *6*(1), 27-30. https://doi.org/10.33545/26648377.2024.v6.i1a.39

Gladstone, A., Keilman, J., & Klein, J. X. (2025, October 12). Behind the Collapse of an Auto-Parts Giant: $2 Billion Hole and Mysterious CEO. *The Wall Street Journal*. https://www.wsj.com/business/first-brands-collapse-patrick-james-306d7869

Glaser, J., Seubert, C., Hornung, S., & Herbig, B. (2015). The impact of learning demands, work-related resources, and job stressors on creative performance and health. *Journal of Personnel Psychology*. https://doi.org/10.1027/1866-5888/a000127

Glăveanu, V. P. (2020). A sociocultural theory of creativity: Bridging the social, the material, and the psychological. *Review of General Psychology*, *24*(4), 335-354. https://doi.org/10.1177/1089268020961763

Glaveanu, V. P., Hanchett Hanson, M., Baer, J., Barbot, B., Clapp, E. P., Corazza, G. E., Hennessey, B., Kaufman, J. C., Lebuda, I., & Lubart, T. (2020). Advancing creativity theory and research: A socio-cultural manifesto. *The Journal of Creative Behavior*, *54*(3), 741-745. https://doi.org/10.1002/jocb.395

Glick, P., & Fiske, S. T. (1999). The ambivalence toward men inventory: Differentiating hostile and benevolent beliefs about men. *Psychology of women quarterly*, *23*(3), 519-536. https://doi.org/10.1111/j.1471-6402.1999.tb00379.x

Gloster, A. T., Block, V. J., Klotsche, J., Villanueva, J., Rinner, M. T., Benoy, C., Walter, M., Karekla, M., & Bader, K. (2021). Psy-Flex: A contextually sensitive measure of psychological flexibility. *Journal of Contextual Behavioral Science*, *22*, 13-23. https://doi.org/10.1016/j.jcbs.2021.09.001

Gong, Y., Huang, J.-C., & Farh, J.-L. (2009). Employee learning orientation, transformational leadership, and employee creativity: The mediating role of employee creative self-efficacy. *Academy of Management Journal*, *52*(4), 765-778. https://doi.org/10.1108/dlo.2010.08124bad.003

Goretzko, D., Siemund, K., & Sterner, P. (2024). Evaluating model fit of measurement models in confirmatory factor analysis. *Educational and Psychological Measurement*, *84*(1), 123-144. https://doi.org/10.1177/00131644231163813

Green, A. E., Beaty, R. E., Kenett, Y. N., & Kaufman, J. C. (2024). The process definition of creativity. *Creativity Research Journal*, *36*(3), 544-572. https://doi.org/10.1080/10400419.2023.2254573

Greene, J. C., Caracelli, V. J., & Graham, W. F. (1989). Toward a conceptual framework for mixed-method evaluation designs. *Educational evaluation and policy analysis*, *11*(3), 255-274.

Gross, J. J., & John, O. P. (2003). Individual differences in two emotion regulation processes: implications for affect, relationships, and well-being. *Journal of personality and social psychology*, *85*(2), 348. https://doi.org/10.1037/0022-3514.85.2.348

Grover, S. L., Teo, S. T. T., Pick, D., Roche, M., & Newton, C. J. (2018). Psychological capital as a personal resource in the JD-R model. *Personnel Review*, *47*(4), 968-984. https://doi.org/10.1108/Pr-08-2016-0213

Gu, X. J., Tong, D. D., Shi, P. Q., Zou, Y. C., Yuan, H., Chen, C., & Zhao, G. Q. (2023). Incorporating STEAM activities into creativity training in higher education. *Thinking Skills and Creativity*, *50*. https://doi.org/10.1016/j.tsc.2023.101395

Guo, H. F., Zhou, Z., & Ma, F. Q. (2025). Exploring the roles of paradoxical tensions, paradoxical thinking, and team psychological capital on the creativity of engineering university students. *Bmc Psychology*, *13*(1). https://doi.org/10.1186/s40359-025-02427-3

Gupta, V., & Singh, S. (2014). Psychological capital as a mediator of the relationship between leadership and creative performance behaviors: Empirical evidence from the Indian R&D sector. *The International Journal of Human Resource Management*, *25*(10), 1373-1394. https://doi.org/10.1080/09585192.2013.870311

Haase, J., Hanel, P. H. P., & Gronau, N. (2023). Creativity enhancement methods for adults: A meta-analysis. *Psychology of Aesthetics, Creativity, and the Arts*. https://doi.org/10.1037/aca0000557

Haase, J., Hoff, E. V., Hanel, P. H., & Innes-Ker, Å. (2018). A meta-analysis of the relation between creative self-efficacy and different creativity measurements. *Creativity Research Journal*, *30*(1), 1-16. https://doi.org/10.1080/10400419.2018.1411436

Hael, M., Belhaj, F. A., & Zhang, H. L. (2024). Organizational learning and innovation: A bibliometric analysis and future research agenda. *Heliyon*, *10*(11). https://doi.org/10.1016/j.heliyon.2024.e31812

Hair, J. F., Ringle, C. M., & Sarstedt, M. (2011). PLS-SEM: Indeed a silver bullet. *Journal of Marketing theory and Practice*, *19*(2), 139-152. https://doi.org/10.2753/mtp1069-6679190202

Hair Jr, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). Multivariate data analysis. In *Multivariate data analysis* (pp. 785-785).

Hair Jr, J. F., Hult, G. T. M., Ringle, C. M., Sarstedt, M., Danks, N. P., & Ray, S. (2021). An introduction to structural equation modeling. *Partial least squares structural equation modeling (PLS-SEM) using R: a workbook*, 1-29. https://doi.org/10.1007/978-3-030-80519-7_1

Hair Junior, J. F., Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. L. (1998). Multivariate data analysis. *New Jersey*, *5*(3), 207-219.

Halbesleben, J. R., & Demerouti, E. (2005). The construct validity of an alternative measure of burnout: Investigating the English translation of the Oldenburg Burnout Inventory. *Work & Stress*, *19*(3), 208-220. https://doi.org/10.1080/02678370500340728

Halbesleben, J. R. B., Neveu, J. P., Paustian-Underdahl, S. C., & Westman, M. (2014). Getting to the "COR": Understanding the Role of Resources in Conservation of Resources Theory. *Journal of Management*, *40*(5), 1334-1364. https://doi.org/10.1177/0149206314527130

Hammond, M. M., Neff, N. L., Farr, J. L., Schwall, A. R., & Zhao, X. (2011). Predictors of individual-level innovation at work: A meta-analysis. *Psychology of Aesthetics, Creativity, and the Arts*, *5*(1), 90. https://doi.org/10.1037/a0018556

Harms, P. D., Vanhove, A., & Luthans, F. (2017). Positive Projections and Health: An Initial Validation of the Implicit Psychological Capital Health Measure.

Applied Psychology-an International Review-Psychologie Appliquee-Revue Internationale, *66*(1), 78-102. https://doi.org/10.1111/apps.12077

Harter, J. K., Schmidt, F. L., & Keyes, C. L. (2003). Well-being in the workplace and its relationship to business outcomes: A review of the Gallup studies.

Harvey, S., & Berry, J. W. (2023). Toward a meta-theory of creativity forms: How novelty and usefulness shape creativity. *Academy of management review*, *48*(3), 504-529. https://doi.org/10.5465/amr.2020.0110

Hayes, A. F. (2017). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach*. Guilford publications.

Hayes, A. F., & Preacher, K. J. (2010). Quantifying and testing indirect effects in simple mediation models when the constituent paths are nonlinear. *Multivariate behavioral research*, *45*(4), 627-660. https://doi.org/10.1080/00273171.2010.498290

He, W.-j., & Wong, W.-c. (2021a). Gender differences in creative self-efficacy: Findings of mean and variability analyses. *Thinking Skills and Creativity*, *42*, 100955. https://doi.org/10.1016/j.tsc.2021.100955

He, W.-j., & Wong, W.-c. (2021b). Gender Differences in the Distribution of Creativity Scores: Domain-Specific Patterns in Divergent Thinking and Creative Problem Solving [Original Research]. *Frontiers in Psychology*, *Volume 12 - 2021*. https://doi.org/10.3389/fpsyg.2021.626911

He, W.-j., Wong, W.-c., Li, Y., & Xu, H. (2013). A study of the greater male variability hypothesis in creative thinking in Mainland China: Male superiority exists. *Personality and Individual Differences*, *55*(8), 882-886. https://doi.org/10.1016/j.paid.2013.07.017

He, W. J. (2024). Psychological capital mediates the mindfulness-creativity link: the perspective of positive psychology. *Frontiers in Psychology*, *15*. https://doi.org/10.3389/fpsyg.2024.1389909

Heidegger, M., Macquarrie, J., & Robinson, E. (1962). Being and time. https://doi.org/10.1515/9780773598126-008

Heilman, M. E. (2012). Gender stereotypes and workplace bias. *Research in organizational behavior*, *32*, 113-135.

Heilman, M. E., Wallen, A. S., Fuchs, D., & Tamkins, M. M. (2004). Penalties for success: reactions to women who succeed at male gender-typed tasks. *Journal of Applied Psychology*, *89*(3), 416. https://doi.org/10.1037/0021-9010.89.3.416

Helzer, E. G., & Kim, S. H. (2019). Creativity for workplace well-being. *Academy of Management Perspectives*, *33*(2), 134-147. https://doi.org/10.5465/amp.2016.0141

Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the academy of marketing science*, *43*, 115-135. https://doi.org/10.1007/s11747-014-0403-8

Herttalampi, M., Wiese, B., & Feldt, T. (2023). Leaders' intensified job demands: Their multi-level associations with leader-follower relationships and follower well-being. *Work & Stress*, *37*(1), 78-99. https://doi.org/10.1080/02678373.2022.2080776

Hing, L. S. S., Sakr, N., Sorenson, J. B., Stamarski, C. S., Caniera, K., & Colaco, C. (2023). Gender inequities in the workplace: A holistic review of organizational

processes and practices. *Human Resource Management Review*, *33*(3), 100968. https://doi.org/10.1016/j.hrmr.2023.100968

Hobfoll, S. E. (1989). Conservation of resources: A new attempt at conceptualizing stress. *American psychologist*, *44*(3), 513. https://doi.org/10.1037//0003-066x.44.3.513

Hobfoll, S. E. (2001). The influence of culture, community, and the nested-self in the stress process: Advancing Conservation of Resources theory. *Applied Psychology-an International Review-Psychologie Appliquee-Revue Internationale*, *50*(3), 337-370. https://doi.org/10.1111/1464-0597.00062

Hobfoll, S. E. (2011). Conservation of resource caravans and engaged settings. *Journal of Occupational and Organizational Psychology*, *84*(1), 116-122. https://doi.org/10.1111/j.2044-8325.2010.02016.x

Hobfoll, S. E., Halbesleben, J., Neveu, J.-P., & Westman, M. (2018). Conservation of resources in the organizational context: The reality of resources and their consequences. *Annual Review of Organizational Psychology and Organizational Behavior*, *5*, 103-128. https://doi.org/10.1146/annurev-orgpsych-032117-104640

Hobfoll, S. E., & Shirom, A. (2000a). Conservation of resources theory: Applications to stress and management in the workplace. In *Handbook of organization behavior*.

Hobfoll, S. E., & Shirom, A. (2000b). Conservation of resources theory: Applications to stress and management in the workplace. *Handbook of organization behavior*, *2*, 57-81.

Hong, Y., Zhang, Y., Xue, P., Fang, X., Zhou, L., Wei, F., Lou, X., & Zou, H. (2022). The influence of long working hours, occupational stress, and well-being on

depression among couriers in Zhejiang, China. *Frontiers in Psychology*, *13*, 928928. https://doi.org/10.3389/fpsyg.2022.928928

Hoobler, J. M., Lemmon, G., & Wayne, S. J. (2014). Women's managerial aspirations: An organizational development perspective. *Journal of management*, *40*(3), 703-730. https://doi.org/10.1177/0149206311426911

Hora, S., Badura, K., Lemoine, G. J., & Grijalva, E. (2022). A meta-analytic examination of the gender difference in creative performance. *Journal of Applied psychology*, *107*(11), 1926-1950. https://doi.org/10.1037/apl0000999

Hora, S., Lemoine, G. J., Xu, N., & Shalley, C. E. (2021). Unlocking and closing the gender gap in creative performance: A multilevel model. *Journal of Organizational Behavior*, *42*(3), 297-312. https://doi.org/10.1002/job.2500

Horan, K. A., Nakahara, W. H., DiStaso, M. J., & Jex, S. M. (2020). A review of the challenge-hindrance stress model: Recent advances, expanded paradigms, and recommendations for future research. *Frontiers in Psychology*, *11*, 560346. https://doi.org/10.3389/fpsyg.2020.560346

House, J. S. (1974). Occupational stress and coronary heart disease: A review and theoretical integration. *Journal of health and social behavior*, 12-27.

House, J. S., Wells, J. A., Landerman, L. R., McMichael, A. J., & Kaplan, B. H. (1979). Occupational stress and health among factory workers. *Journal of health and social behavior*, 139-160.

Hsiao, S. W., Wang, M. F., & Chen, C. W. (2017). Time pressure and creativity in industrial design. *International Journal of Technology and Design Education*, *27*(2), 271-289. https://doi.org/10.1007/s10798-015-9343-y

Hsu, M. L. A., & Fan, H. L. (2008). Challenging Work as a Mediator of the Relationship between Time Pressure and Employee Creativity in R&D

Organizations. *Ieem: 2008 International Conference on Industrial Engineering and Engineering Management, Vols 1-3*, 882-885. https://doi.org/10.1109/Ieem.2008.4737996

Hsu, M. L. A., & Fan, H. L. (2010). Organizational Innovation Climate and Creative Outcomes: Exploring the Moderating Effect of Time Pressure. *Creativity Research Journal*, *22*(4), 378-386. https://doi.org/10.1080/10400419.2010.523400

Hu, Z., & Yuan, J. (2018). China's NEV market development and its capability of enabling premium NEV: Referencing from the NEV market performance of BMW and Mercedes in China. *Transportation Research Part A: Policy and Practice*, *118*, 545-555. https://doi.org/10.1016/j.tra.2018.10.010

Huang, L., & Luthans, F. (2015). Toward better understanding of the learning goal orientation–creativity relationship: The role of positive psychological capital. *Applied Psychology*, *64*(2), 444-472. https://doi.org/10.1111/apps.12028

Huang, S., Mustafa, M. J., Hughes, M., & Virga, D. (2025). Editorial: Innovative and creative behaviours in the modern workplace: causes and consequences [Editorial]. *Frontiers in Psychology*, *Volume 16 - 2025*. https://doi.org/10.3389/fpsyg.2025.1647616

Hughes, D. J., Lee, A., Tian, A. W., Newman, A., & Legood, A. (2018). Leadership, creativity, and innovation: A critical review and practical recommendations. *The Leadership Quarterly*, *29*(5), 549-569. https://doi.org/10.1016/j.leaqua.2018.03.001

Husserl, E., Moran, D., Findlay, t. J., & Dummett, M. (2013). *Logical Investigations Volume 2*. Routledge.

Ikhide, J. E., Timur, A. T., & Ogunmokun, O. A. (2022). The potential and constraint of work gamification for employees' creative performance. *Service Industries Journal*, *42*(5-6), 360-382. https://doi.org/10.1080/02642069.2022.2045278

Indiran, L., Lei, J., Baskaran, S., Yaacob, T. Z., Kohar, U. H. A., & Senin, A. A. (2023). Disruptive Innovation: A Case Study of BYD's Business Model Canvas. *International journal of academic research in business and social sciences*, *13*(9). https://doi.org/10.6007/ijarbss/v13-i9/17822

Islam, G., & Zyphur, M. (2015). *Critical industrial psychology: What is it and where is it?* SSRN.

Jabeen, Q., Nadeem, M. S., Raziq, M. M., & Sajjad, A. (2022). Linking individuals' resources with (perceived) sustainable employability: Perspectives from conservation of resources and social information processing theory. *International Journal of Management Reviews*, *24*(2), 233-254. https://doi.org/10.1111/ijmr.12276

Jahanger, A., Ozturk, I., Chukwuma Onwe, J., Joseph, T. E., & Razib Hossain, M. (2023). Do technology and renewable energy contribute to energy efficiency and carbon neutrality? Evidence from top ten manufacturing countries. *Sustainable Energy Technologies and Assessments*, *56*, 103084. https://doi.org/https://doi.org/10.1016/j.seta.2023.103084

Ji, Y., Wu, X., Sun, S., & He, G. (2017). Unequal care, unequal work: Toward a more comprehensive understanding of gender inequality in post-reform urban China. *Sex roles*, *77*(11), 765-778. https://doi.org/10.1007/s11199-017-0751-1

Ji, Y., & Yeung, W.-J. J. (2014). Heterogeneity in contemporary Chinese marriage. *Journal of Family Issues*, *35*(12), 1662-1682. https://doi.org/10.1177/0192513x14538030

Jin, J., Li, H., Song, W., Jiang, N., Zhao, W., & Wen, D. (2020). The mediating role of psychological capital on the relation between distress and empathy of medical residents: a cross-sectional survey. *Medical education online*, *25*(1), 1710326. https://doi.org/10.1080/10872981.2019.1710326

Juergensen, J. J., Love, J. H., Surdu, I., & Narula, R. (2024). Learning-by-exporting: The strategic role of organizational innovation. *International Business Review*, *33*(6). https://doi.org/10.1016/j.ibusrev.2024.102339

Kalyar, M. N., Usta, A., & Shafique, I. (2020). When ethical leadership and LMX are more effective in prompting creativity The moderating role of psychological capital. *Baltic Journal of Management*, *15*(1), 61-80. https://doi.org/10.1108/Bjm-02-2019-0042

Karatepe, O. M., Ampofo, E. T., Kim, T. T., & Oh, S. (2024). The trickle-down effect of leader psychological capital on follower creative performance: the mediating roles of job crafting and knowledge sharing. *International Journal of Contemporary Hospitality Management*. https://doi.org/10.1108/Ijchm-06-2023-0807

Karwowski, M. (2011). It Doesn't Hurt to Ask ... But Sometimes It Hurts to Believe: Polish Students' Creative Self-Efficacy and Its Predictors. *Psychology of Aesthetics Creativity and the Arts*, *5*(2), 154-164. https://doi.org/10.1037/a0021427

Kasirye, F. (2024). An overview of mixed and multi method research. *Authorea Preprints*. https://doi.org/10.31124/advance.14681643

Katz-Buonincontro, J., & Anderson, R. C. (2020). A Review of Articles Using Observation Methods to Study Creativity in Education (1980-2018). *Journal of Creative Behavior*, *54*(3), 508-524. https://doi.org/10.1002/jocb.385

Kaufman, J. C., & Beghetto, R. A. (2009). Beyond Big and Little: The Four C Model of Creativity. *Review of General Psychology*, *13*(1), 1-12. https://doi.org/10.1037/a0013688

Khedhaouria, A., Montani, F., & Thurik, R. (2017). Time pressure and team member creativity within R&D projects: The role of learning orientation and knowledge sourcing. *International Journal of Project Management*, *35*(6), 942-954. https://doi.org/10.1016/j.ijproman.2017.04.002

Khliefat, A., Chen, H., Ayoun, B., & Eyoun, K. (2021). The impact of the challenge and hindrance stress on hotel employees interpersonal citizenship behaviors: psychological capital as a moderator. *International Journal of Hospitality Management*, *94*, 102886. https://doi.org/10.1016/j.ijhm.2021.102886

Khushk, A., Zhiying, L., Yi, X., & Aman, N. (2026). AI-driven HR transformation in Chinese automotive industry: strategies and implications. *Business Process Management Journal*, *32*(1), 30-50. https://doi.org/10.1108/bpmj-11-2023-0915

Klijn, M., & Tomic, W. (2010). A review of creativity within organizations from a psychological perspective. *Journal of Management Development*, *29*(4), 322-343. https://doi.org/10.1108/02621711011039141

Kline, R. B. (2023). *Principles and practice of structural equation modeling*. Guilford publications.

Klotz, A., Swider, B., & Kwon, S. (2023). Back-translation practices in organizational research: Avoiding loss in translation. *Journal of Applied psychology*, *108*(5), 699-727. https://doi.org/10.1037/apl0001050

Kock, N. (2015). Common method bias in PLS-SEM: A full collinearity assessment approach. *International Journal of e-Collaboration (ijec)*, *11*(4), 1-10. https://doi.org/10.1007/978-3-319-64069-3_11

Koporcic, N., Sjödin, D., Kohtamäki, M., & Parida, V. (2024). Embracing the "fail fast and learn fast" mindset: Conceptualizing learning from failure in knowledge-intensive SMEs. *Small business economics*, 1-22. https://doi.org/10.1007/s11187-024-00897-0

Köse, S. D., Köse, T., & Ugurluoglu, Ö. (2018). The Antecedent of Organizational Outcomes Is Psychological Capital. *Health & Social Work*, *43*(3), 155-164. https://doi.org/10.1093/hsw/hly020

Kossek, E. E., Su, R., & Wu, L. (2017). "Opting out" or "pushed out"? Integrating perspectives on women's career equality for gender inclusion and interventions. *Journal of management*, *43*(1), 228-254. https://doi.org/10.1177/0149206316671582

Kranthi, A. K., Rai, A., & Showry, M. (2024). Linking resonant leadership and learning organizations: The role of psychological empowerment as a mediator in faculty members among higher educational institutions in India. *Acta Psychologica*, *248*. https://doi.org/10.1016/j.actpsy.2024.104365

Kubicek, B., Uhlig, L., Hülsheger, U. R., Korunka, C., & Prem, R. (2023). Are all challenge stressors beneficial for learning? A meta-analytical assessment of differential effects of workload and cognitive demands. *Work & Stress*, *37*(3), 269-298. https://doi.org/10.1080/02678373.2022.2142986

Kuutila, M., Mäntylä, M., Farooq, U., & Claes, M. (2020). Time pressure in software engineering: A systematic review. *Information and Software Technology*, *121*, 106257. https://doi.org/10.1016/j.infsof.2020.106257

Kwon, K., & Kim, T. (2020). An integrative literature review of employee engagement and innovative behavior: Revisiting the JD-R model. *Human Resource Management Review*, *30*(2). https://doi.org/10.1016/j.hrmr.2019.100704

Langley, A., Smallman, C., Tsoukas, H., & Van de Ven, A. H. (2013). Process Studies of Change in Organization and Management: Unveiling Temporality, Activity, and Flow. *Academy of Management journal*, *56*(1), 1-13. https://doi.org/10.5465/amj.2013.4001

Lazarus, R. S. (1974). Psychological stress and coping in adaptation and illness. *The International journal of psychiatry in medicine*, *5*(4), 321-333. https://doi.org/10.2190/t43t-84p3-qdur-7rtp

Lee Cooke, F., & Xiao, Y. (2014). Gender roles and organizational HR practices: The case of women's careers in accountancy and consultancy firms in China. *Human Resource Management*, *53*(1), 23-44. https://doi.org/10.1002/hrm.21566

Lee, M. Y., Badura, K. L., Baker, B., & Sherf, E. N. (2024). Perceived personal and contextual impunity: Conceptualization, antecedents, and implications for workplace misconduct. *Journal of Applied psychology*. https://doi.org/10.1037/apl0001196

Lee, Y.-N., & Walsh, J. P. (2016). Inventing while you work: Knowledge, non-R&D learning and innovation. *Research Policy*, *45*(1), 345-359. https://doi.org/10.1016/j.respol.2015.09.009

LePine, M. A. (2022). The challenge-hindrance stressor framework: An integrative conceptual review and path forward. *Group & Organization Management*, *47*(2), 223-254. https://doi.org/10.1177/10596011221079970

Li, P., Zhang, Z. S., Hopp, M. D., Luo, L., & Wang, C. (2024). Is stereotypical masculinity and femininity in women associated with their creativity? An examination of gender roles and creativity. *Psychology of Aesthetics, Creativity, and the Arts*. https://doi.org/10.1037/aca0000714

Li, Y., Yang, F., Zhang, W., & Zhang, Z. (2023). The mediating role of job satisfaction in the stressor–strain relationship among Chinese government employees. *Humanities and Social Sciences Communications*, *10*(1), 1-8. https://doi.org/10.1057/s41599-023-02386-3

Li, Z., Dai, L., Chin, T., & Rafiq, M. (2019). Understanding the Role of Psychological Capital in Humorous Leadership-Employee Creativity Relations. *Front Psychol*, *10*, 1636. https://doi.org/10.3389/fpsyg.2019.01636

Liu, B. W., Wang, D. Q., Wu, Y. H., Gui, W. D., & Luo, H. (2023a). Effects of self-directed learning behaviors on creative performance in design education context. *Thinking Skills and Creativity*, *49*. https://doi.org/10.1016/j.tsc.2023.101347

Liu, J., Liu, G., Cui, H., & Chen, Y. (2023b). The Chinese automobile industry's research and development capability and innovative performance [Original Research]. *Frontiers in Psychology*, *Volume 13 - 2022*. https://doi.org/10.3389/fpsyg.2022.1093305

Liu, J.-h., & Meng, Z. (2017). Innovation model analysis of new energy vehicles: taking Toyota, Tesla and BYD as an example. *Procedia engineering*, *174*, 965-972. https://doi.org/10.1016/j.proeng.2017.01.248

Liu, J. J., Ein, N., Gervasio, J., Battaion, M., Reed, M., & Vickers, K. (2020). Comprehensive meta-analysis of resilience interventions. *Clinical psychology review*, *82*, 101919. https://doi.org/10.1016/j.cpr.2020.101919

Liu, M., & Chen, Y. (2023). Blessing or curse? Recontextualizing ‘996’in China's overwork debate. *Critical Discourse Studies*, 1-17. https://doi.org/10.1080/17405904.2023.2289448

Liu, W. L., Pan, Y. G., Luo, X. M., Wang, L. X., & Pang, W. G. (2017). Active procrastination and creative ideation: The mediating role of creative self-efficacy. *Personality and Individual Differences*, *119*, 227-229. https://doi.org/10.1016/j.paid.2017.07.033

Loghman, S., Quinn, M., Dawkins, S., Woods, M., Sharma, S. O., & Scott, J. (2023). The Comprehensive Meta-Analyses of the Nomological Network of Psychological Capital (PsyCap). *Journal of Leadership & Organizational Studies*, *30*(1), 108-128. https://doi.org/10.1177/15480518221107998

Long, H. Y. (2014). An Empirical Review of Research Methodologies and Methods in Creativity Studies (2003-2012). *Creativity Research Journal*, *26*(4), 427-438. https://doi.org/10.1080/10400419.2014.961781

Lu, C.-q., Siu, O.-l., Wang, H.-J., & Lu, L. (2021). Job stressors in Greater China: an explorative study using the qualitative and quantitative approaches. In *Organizational Stress Around the World* (pp. 43-61). Routledge.

Lu, L., Kao, S.-F., Siu, O.-L., & Lu, C.-Q. (2010). Work stressors, Chinese coping strategies, and job performance in Greater China. *International Journal of Psychology*, *45*(4), 294-302. https://doi.org/10.1109/icbbe.2009.5163765

Lua, E., Liu, D., & Shalley, C. E. (2023). Multilevel outcomes of creativity in organizations: An integrative review and agenda for future research. *Journal of organizational Behavior*. https://doi.org/10.1002/job.2690

Ludowyke, L., Lentin, P., & Brown, T. (2023). The Meaning and Purpose of Creativity in the Daily Life Occupations, Activities, Acts and Behaviors Amongst Adults

Living with Mental Health Conditions: A Scoping Review. *Occupational Therapy in Mental Health*. https://doi.org/10.1080/0164212x.2023.2218121

Luksyte, A., Unsworth, K. L., & Avery, D. R. (2018). Innovative work behavior and sex-based stereotypes: Examining sex differences in perceptions and evaluations of innovative work behavior. *Journal of Organizational Behavior*, *39*(3), 292-305. https://doi.org/10.1002/job.2219

Luo, N., Guan, T., & Wang, J. (2023). Is Creativity Masculine? Visual Arts College Students' Perceptions of the Gender Stereotyping of Creativity and Its Influence on Creative Self-Efficacy. *International Journal of Art & Design Education*, *42*(2), 312-326. https://doi.org/10.1111/jade.12454

Lupsa, D., Vîrga, D., Maricutoiu, L. P., & Rusu, A. (2020). Increasing Psychological Capital: A Pre-Registered Meta-Analysis of Controlled Interventions. *Applied Psychology-an International Review-Psychologie Appliquee-Revue Internationale*, *69*(4), 1506-1556. https://doi.org/10.1111/apps.12219

Luthans, B. C., Luthans, K. W., & Avey, J. B. (2014). Building the Leaders of Tomorrow: The Development of Academic Psychological Capital. *Journal of Leadership & Organizational Studies*, *21*(2), 191-199. https://doi.org/10.1177/1548051813517003

Luthans, F. (2002). The need for and meaning of positive organizational behavior. *Journal of Organizational Behavior: The International Journal of Industrial, Occupational and Organizational Psychology and Behavior*, *23*(6), 695-706. https://doi.org/10.1002/job.165

Luthans, F. (2012). Psychological capital: Implications for HRD, retrospective analysis, and future directions. *Human Resource Development Quarterly*, *23*(1). https://doi.org/10.1002/hrdq.21119

Luthans, F., Avey, J. B., Avolio, B. J., Norman, S. M., & Combs, G. M. (2006a). Psychological capital development: toward a micro-intervention. *Journal of Organizational Behavior: The International Journal of Industrial, Occupational and Organizational Psychology and Behavior*, *27*(3), 387-393. https://doi.org/10.1002/job.373

Luthans, F., Avey, J. B., Clapp-Smith, R., & Li, W. (2008a). More evidence on the value of Chinese workers' psychological capital: A potentially unlimited competitive resource? *The International Journal of Human Resource Management*, *19*(5), 818-827. https://doi.org/10.1080/09585190801991194

Luthans, F., Avolio, B. J., Avey, J. B., & Norman, S. M. (2007a). Positive psychological capital: Measurement and relationship with performance and satisfaction. *Personnel psychology*, *60*(3), 541-572. https://doi.org/10.1111/j.1744-6570.2007.00083.x

Luthans, F., Luthans, K. W., & Luthans, B. C. (2004). Positive psychological capital: Beyond human and social capital. *Business Horizons*, *47*(1), 45-50. https://doi.org/10.1016/j.bushor.2003.11.007

Luthans, F., Norman, S. M., Avolio, B. J., & Avey, J. B. (2008b). The mediating role of psychological capital in the supportive organizational climate - employee performance relationship. *Journal of organizational Behavior*, *29*(2), 219-238. https://doi.org/10.1002/job.507

Luthans, F., & Youssef, C. M. (2004). Human, social and now positive psychological capital management: Investing in people for competitive advantage. *Organizational Dynamics*, *33*(2), 143-160. https://doi.org/10.1016/j.orgdyn.2004.01.003

Luthans, F., & Youssef, C. M. (2007). Emerging positive organizational behavior. *Journal of management*, *33*(3), 321-349. https://doi.org/10.1177/0149206307300814

Luthans, F., & Youssef, C. M. (2017). Psychological Capital: An Evidence-Based Positive Approach. *Annual Review of Organizational Psychology and Organizational Behavior, Vol 4*, *4*, 339-366. https://doi.org/10.1146/annurev-orgpsych-032516-113324

Luthans, F., Youssef, C. M., & Avolio, B. J. (2006b). *Psychological capital: Developing the human competitive edge*. Oxford university press.

Luthans, F., Youssef, C. M., & Avolio, B. J. (2007b). Psychological capital: Investing and developing positive organizational behavior. *Positive organizational behavior*, *1*(2), 9-24. https://doi.org/10.4135/9781446212752.n2

Luthans, F., Youssef, C. M., & Rawski, S. L. (2011). A Tale of Two Paradigms: The Impact of Psychological Capital and Reinforcing Feedback on Problem Solving and Innovation. *Journal of Organizational Behavior Management*, *31*(4), 333-350. https://doi.org/10.1080/01608061.2011.619421

Ma, J., Lu, Y., & Tang, J. (2023). The differential effect of learning from others on creative performance over individual tenure: empirical evidence from open innovation communities. *Journal of Knowledge Management*, *27*(9), 2329-2349. https://doi.org/10.1108/jkm-04-2022-0300

Madrid, H. P., Diaz, M. T., Leka, S., Leiva, P. I., & Barros, E. (2018). A finer grained approach to psychological capital and work performance. *Journal of Business and Psychology*, *33*, 461-477. https://doi.org/10.1007/s10869-017-9503-z

Malouff, J. M., & Schutte, N. S. (2017). Can psychological interventions increase optimism? A meta-analysis. *The Journal of Positive Psychology*, *12*(6), 594-604. https://doi.org/10.1080/17439760.2016.1221122

Marsick, V. J., & Watkins, K. (2015). *Informal and incidental learning in the workplace (Routledge Revivals)*. Routledge.

Martín-Brufau, R., & Corbalán, J. (2016). Creativity and psychopathology: Sex matters. *Creativity Research Journal*, *28*(2), 222-228. https://doi.org/10.1080/10400419.2016.1165531

Mathisen, G. E., & Bronnick, K. S. (2009). Creative self-efficacy: An intervention study. *International Journal of Educational Research*, *48*(1), 21-29. https://doi.org/10.1016/j.ijer.2009.02.009

Matovic, N., & Ovesni, K. (2023). Interaction of quantitative and qualitative methodology in mixed methods research: integration and/or combination. *International Journal of Social Research Methodology*, *26*(1), 51-65. https://doi.org/10.1080/13645579.2021.1964857

Matud, M. P., Rodríguez, C., & Grande, J. (2007). Gender differences in creative thinking. *Personality and Individual Differences*, *43*(5), 1137-1147. https://doi.org/10.1016/j.paid.2007.03.006

Maurer, T. J. (2001). Career-relevant learning and development, worker age, and beliefs about self-efficacy for development. *Journal of Management*, *27*(2), 123-140. https://doi.org/10.1177/014920630102700201

Mavin, S., Grandy, G., & Williams, J. (2014). Experiences of women elite leaders doing gender: Intra-gender micro-violence between women. *British Journal of Management*, *25*(3), 439-455. https://doi.org/10.1111/1467-8551.12057

McEwen, R. M., Herman, W. R., & Himes, B. M. (2016). Cultivating hope through learning for the common good. *Christian Higher Education*, *15*(5), 307-319. https://doi.org/10.1080/15363759.2016.1211038

Meade, A. W., & Craig, S. B. (2012). Identifying careless responses in survey data. *Psychological methods*, *17*(3), 437. https://doi.org/10.1037/e518362013-127

Meng, J., & Meng, X. (2025). Psychological Distress Among Chinese Manufacturing Employees: Prevalence and a Symptom Network Analysis. *Psych Journal*, *14*(4), 603-613. https://doi.org/10.1002/pchj.70015

Meyer, K. E. (2009). Motivating, testing, and publishing curvilinear effects in management research. *Asia pacific journal of management*, *26*(2), 187-193. https://doi.org/10.1007/s10490-008-9122-3

Meyer, S.-C., & Hünefeld, L. (2018). Challenging cognitive demands at work, related working conditions, and employee well-being. *International journal of environmental research and public health*, *15*(12), 2911. https://doi.org/10.3390/ijerph15122911

Mikkelsen, A., & Olsen, E. (2019). The influence of change-oriented leadership on work performance and job satisfaction in hospitals - the mediating roles of learning demands and job involvement. *Leadership in Health Services*, *32*(1), 37-53. https://doi.org/10.1108/Lhs-12-2016-0063

Milner, A., Witt, K., LaMontagne, A. D., & Niedhammer, I. (2018). Psychosocial job stressors and suicidality: a meta-analysis and systematic review. *Occupational and environmental medicine*, *75*(4), 245-253. https://doi.org/10.1136/oemed-2017-104531

Mızrak, F. (2024). Effective change management strategies: Exploring dynamic models for organizational transformation. In *Perspectives on artificial*

intelligence in times of turbulence: Theoretical background to applications (pp. 135-162). IGI Global. https://doi.org/10.4018/978-1-6684-9814-9.ch009

Modranský, R., Bočková, K., & Hanák, M. (2020). Project manager and stress in coping with demanding situations in automotive industry. *Emerging Science Journal*, *4*(5), 418-426. https://doi.org/10.28991/esj-2020-01241

Mohammad, S., Sagsan, M., & Sesen, H. (2024). The Impact of "Learning Organizations" on Innovation: The Mediating Role of "Employee Resilience" and Work Engagement. *Sage Open*, *14*(4). https://doi.org/10.1177/21582440241289185

Montiel-Campos, H. (2019). Capitalizing on women's entrepreneurial alertness: The role of human, social and psychological capital. *International Journal of Gender and Entrepreneurship*, *11*(3), 248-272. https://doi.org/10.1108/ijge-03-2019-0051

Moreno, A. G., & Jurado, M. D. M. (2023). Theoretical approach to the notion of creativity: a systematic review. *Revista Colombiana De Ciencias Sociales*, *14*(2), 631-650. https://doi.org/10.21501/22161201.4015

Mustafa, M., J., Coetzer, A., Ramos, H., Melanie., & Fuhrer, J. (2021). Exploring the effects of small-and medium-sized enterprise employees' job satisfaction on their innovative work behaviours: the moderating effects of personality. *Journal of Organizational Effectiveness: People and Performance*, *8*(2), 228-250. https://doi.org/10.1108/JOEPP-07-2020-0133

Mustafa, M., & Ramos, H. M. (2018). The darkness in Janusian thinking: considering the relationship between creativity in the workplace and employee well-being. In *The Palgrave handbook of creativity at work* (pp. 265-286). Springer. https://doi.org/10.1007/978-3-319-77350-6_13

National Bureau of Statistics of China. (2025). *Statistical monitoring report of China National Program for Women's Development (2021–2030) in 2023*. National Bureau of Statistics of China. https://www.stats.gov.cn/english/PressRelease/202502/t20250207_1958577.html

Newman, A., Ucbasaran, D., Zhu, F., & Hirst, G. (2014). Psychological capital: A review and synthesis. *Journal of organizational Behavior*, *35*, S120-S138. https://doi.org/10.1002/job.1916

Ng, T. W., & Feldman, D. C. (2013). A meta-analysis of the relationships of age and tenure with innovation-related behaviour. *Journal of Occupational and Organizational Psychology*, *86*(4), 585-616. https://doi.org/10.1111/joop.12031

Ngo, H. Y., Foley, S., Ji, M. S., & Loi, R. (2014). Linking gender role orientation to subjective career success: The mediating role of psychological capital. *Journal of Career Assessment*, *22*(2), 290-303. https://doi.org/10.1177/1069072713493984

Nguyen, M. T. N., Luong, N., Tian, Y., & Lin, J. (2024). The privilege of being exploited? Overtime work in global factories of market socialist China and Vietnam. *Global Political Economy*, 1-22. https://doi.org/10.1332/26352257y2024d000000027

Nijstad, B. A., De Dreu, C. K. W., Rietzschel, E. F., & Baas, M. (2010). The dual pathway to creativity model: Creative ideation as a function of flexibility and persistence. *European review of social psychology*, *21*, 34-77. https://doi.org/10.1080/10463281003765323

Nixon, A. E., Mazzola, J. J., Bauer, J., Krueger, J. R., & Spector, P. E. (2011). Can work make you sick? A meta-analysis of the relationships between job stressors and physical symptoms. *Work & Stress*, *25*(1), 1-22. https://doi.org/10.1080/02678373.2011.569175

Noe, R. A., Clarke, A. D., & Klein, H. J. (2014). Learning in the twenty-first-century workplace. *Annu. Rev. Organ. Psychol. Organ. Behav.*, *1*(1), 245-275. https://doi.org/10.1146/annurev-orgpsych-031413-091321

Noefer, K., Stegmaier, R., Molter, B., & Sonntag, K. (2009). A Great Many Things to Do and Not a Minute to Spare: Can Feedback From Supervisors Moderate the Relationship Between Skill Variety, Time Pressure, and Employees' Innovative Behavior? *Creativity Research Journal*, *21*(4), 384-393. https://doi.org/10.1080/10400410903297964

Norman, S. M., Avey, J. B., Nimnicht, J. L., & Graber Pigeon, N. (2010). The interactive effects of psychological capital and organizational identity on employee organizational citizenship and deviance behaviors. *Journal of Leadership & Organizational Studies*, *17*(4), 380-391. https://doi.org/10.1177/1548051809353764

Ohly, S., & Fritz, C. (2010). Work characteristics, challenge appraisal, creativity, and proactive behavior: A multi-level study. *Journal of organizational Behavior*, *31*(4), 543-565. https://doi.org/10.1002/job.633

Oldham, G. R., & Cummings, A. (1996). Employee creativity: Personal and contextual factors at work. *Academy of Management Journal*, *39*(3), 607-634. https://doi.org/10.2307/256657

Omair, M., Ullah, M., Ganguly, B., Noor, S., Maqsood, S., & Sarkar, B. (2019). The quantitative analysis of workers' stress due to working environment in the

production system of the automobile part manufacturing industry. *Mathematics*, *7*(7), 627. https://doi.org/10.3390/math7070627

Onah, D. F., Pang, E. L., & Sinclair, J. E. (2020). Cognitive optimism of distinctive initiatives to foster self-directed and self-regulated learning skills: A comparative analysis of conventional and blended-learning in undergraduate studies. *Education and Information Technologies*, *25*(5), 4365-4380. https://doi.org/10.1007/s10639-020-10172-w

Pajares, F. (2002). Gender and perceived self-efficacy in self-regulated learning. *Theory into practice*, *41*(2), 116-125. https://doi.org/10.1207/s15430421tip4102_8

Pan, W., Sun, L.-Y., & Lam, L. W. (2020). Employee–organization exchange and employee creativity: A motivational perspective. *The International Journal of Human Resource Management*, *31*(3), 385-407. https://doi.org/10.1080/09585192.2017.1331368

Pang, S., Chen, F., Liang, X., Cai, D., & Ye, M. (2025). Analysis of factors affecting mental health of automobile manufacturing workers based on structural equation modeling. *WORK*. https://doi.org/10519815251388936

Parker, S. K., Williams, H. M., & Turner, N. (2006). Modeling the antecedents of proactive behavior at work. *Journal of Applied Psychology*, *91*(3), 636. https://doi.org/10.1037/0021-9010.91.3.636

Patton, M. Q. (1999). Enhancing the quality and credibility of qualitative analysis. *Health services research*, *34*(5 Pt 2), 1189. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1089059/pdf/hsresearch00022-0112.pdf

Pavlakou, E. (2023). Enhancing Healthcare Employees' Hope in the Digital Era: The Role of a Training Intervention and Its Impact on Patient Satisfaction. LMDE Conference,

Pesout, O., & Nietfeld, J. L. (2021). How creative am I?: Examining judgments and predictors of creative performance. *Thinking Skills and Creativity*, *40*. https://doi.org/10.1016/j.tsc.2021.100836

Petersen, J., Reinwarth, A. C., Beutel, M. E., Brähler, E., & Decker, O. (2024). Development and validation of a brief three-item form of the perceived social support questionnaire (F-SozU K-3). *International Journal of Clinical and Health Psychology*, *24*(3), 100496. https://doi.org/10.1016/j.ijchp.2024.100496

Peterson, C., & Seligman, M. E. (2004). *Character strengths and virtues: A handbook and classification* (Vol. 1). Oxford university press.

Pietkiewicz, I., & Smith, J. A. (2014). A practical guide to using interpretative phenomenological analysis in qualitative research psychology. *Psychological journal*, *20*(1), 7-14. https://doi.org/10.14691/cppj.20.1.7

Podsakoff, N. P., Freiburger, K. J., Podsakoff, P. M., & Rosen, C. C. (2023). Laying the foundation for the challenge–hindrance stressor framework 2.0. *Annual Review of Organizational Psychology and Organizational Behavior*, *10*(1), 165-199. https://doi.org/10.1146/annurev-orgpsych-080422-052147

Podsakoff, P. M., MacKenzie, S. B., Lee, J.-Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: a critical review of the literature and recommended remedies. *Journal of Applied psychology*, *88*(5), 879. https://doi.org/10.1037/0021-9010.88.5.879

Podsakoff, P. M., MacKenzie, S. B., & Podsakoff, N. P. (2012). Sources of method bias in social science research and recommendations on how to control it. *Annual review of psychology*, *63*(1), 539-569. https://doi.org/10.1146/annurev-psych-120710-100452

Podsakoff, P. M., & Organ, D. W. (1986). Self-reports in organizational research: Problems and prospects. *Journal of management*, *12*(4), 531-544. https://doi.org/10.1177/014920638601200408

Povee, K., & Roberts, L. D. (2015). Attitudes toward mixed methods research in psychology: the best of both worlds? *International Journal of Social Research Methodology*, *18*(1), 41-57. https://doi.org/10.1080/13645579.2013.872399

Prem, R., Ohly, S., Kubicek, B., & Korunka, C. (2018). Thriving on challenge stressors? Exploring time pressure and learning demands as antecedents of thriving at work (vol 38, pg 108, 2017). *Journal of organizational Behavior*, *39*(1), 129-129. https://doi.org/10.1002/job.2255

Prentice, D. A., & Carranza, E. (2002). What women and men should be, shouldn't be, are allowed to be, and don't have to be: The contents of prescriptive gender stereotypes. *Psychology of women quarterly*, *26*(4), 269-281. https://doi.org/10.1111/1471-6402.t01-1-00066

Price, J. H., & Murnan, J. (2004). Research limitations and the necessity of reporting them. In (Vol. 35, pp. 66-67): Taylor & Francis.

Proudfoot, D., Kay, A. C., & Koval, C. Z. (2015). A gender bias in the attribution of creativity: Archival and experimental evidence for the perceived association between masculinity and creative thinking. *Psychological science*, *26*(11), 1751-1761. https://doi.org/10.1177/0956797615598739

Puryear, J. S. (2015). Metacognition as a Moderator of Creative Ideation and Creative Production. *Creativity Research Journal*, *27*(4), 334-341. https://doi.org/10.1080/10400419.2015.1087270

Quan, X. I., Loon, M., & Sanderson, J. (2018). Innovation in the local context: A case study of BYD in China. *International Journal of Innovation and Technology Management*, *15*(02), 1850017. https://doi.org/10.1142/s0219877018500177

Rad, D., & Boco, M. (2024). Advancements in Learning Organizations: A Comprehensive Narrative Review. *Revista Romaneasca Pentru Educatie Multidimensionala*, *16*(2), 418-446. https://doi.org/10.18662/rrem/16.2/865

Ramos, H. M., Mustafa, M., & Badri, S. K. Z. (2022). Job and work context elements in fostering employee creative behavior: exploring the moderating role of work passion. *Journal of Management & Organization*, 1-20. https://doi.org/https://doi.org/10.1017/jmo.2022.52

Raza, A., Saeed, T., & Iftikhar, U. (2022). Impact Of Psychological Capital On Employee Creativity: Mediating Role Of Employee Engagement. *Journal of Positive School Psychology*, *6*(11), 1132-1147. https://doi.org/10.24088/ijbea-2023-83009

Rego, A., Sousa, F., Marques, C., & e Cunha, M. P. (2012). Authentic leadership promoting employees' psychological capital and creativity. *Journal of business research*, *65*(3), 429-437. https://doi.org/10.1016/j.jbusres.2011.10.003

Rhodes, M. (1961). An analysis of creativity. *The Phi delta kappan*, *42*(7), 305-310.

Rietzschel, E. F., Ritter, S. M., & Baas, M. (2024). A Systematic Review of Creativity Evaluation and Creativity Selection Measurement Tasks. *Psychology of Aesthetics Creativity and the Arts*. https://doi.org/10.1037/aca0000638

Robinson, O. (2023). Probing in qualitative research interviews: Theory and practice. *Qualitative research in psychology*, *20*(3), 382-397. https://doi.org/10.1080/14780887.2023.2238625

Robinson, O. C. (2014). Sampling in Interview-Based Qualitative Research: A Theoretical and Practical Guide. *Qualitative research in psychology*, *11*(1), 25-41. https://doi.org/10.1080/14780887.2013.801543

Roxburgh, S. (1996). Gender differences in work and well-being: Effects of exposure and vulnerability. *Journal of Health and Social Behavior*, 265-277. https://doi.org/10.2307/2137296

Rudman, L. A., & Phelan, J. E. (2008). Backlash effects for disconfirming gender stereotypes in organizations. *Research in organizational behavior*, *28*, 61-79. https://doi.org/10.1016/j.riob.2008.04.003

Runco, M. A. (2023). Updating the Standard Definition of Creativity to Account for the Artificial Creativity of AI. *Creativity Research Journal*. https://doi.org/10.1080/10400419.2023.2257977

Ryan, R. M., & Deci, E. L. (2000). Intrinsic and extrinsic motivations: Classic definitions and new directions. *Contemporary educational psychology*, *25*(1), 54-67. https://doi.org/10.1006/ceps.1999.1020

Ryou, H., Kong, J. O., Lee, H. G., Lee, S. J., Chu, S., Jung, Y., & Song, J. (2009). The comparison of job stress factors, psychosocial stress and their association between research and manufacturing workers in an automobile research and developing company. *Annals of occupational and environmental medicine*, *21*(4), 337-345. https://doi.org/10.35371/kjoem.2009.21.4.337

Sahadev, S., Chang, K., Malhotra, N., Kim, J. H., Ahmed, T., & Kitchen, P. (2024). Psychological empowerment and creative performance: Mediating role of

thriving and moderating role of competitive psychological climate. *Journal of Business Research*, *170*. https://doi.org/10.1016/j.jbusres.2023.114310

Sanín-Posada, A. (2018). Happiness and optimism interventions at work: gender differences. *Open Access Library Journal*, *5*(11), 1. https://doi.org/10.4236/oalib.1104842

Schaufeli, W. B., & Taris, T. W. (2014). A Critical Review of the Job Demands-Resources Model: Implications for Improving Work and Health. https://doi.org/10.1007/978-94-007-5640-3_4

Schilbach, M., Haun, V. C., Baethge, A., & Rigotti, T. (2023). The challenging and hindering potential of time pressure: Qualitative job demands as suppressor variables. *Journal of Business and Psychology*, *38*(5), 1061-1075. https://doi.org/10.1007/s10869-022-09844-w

Schleiermacher, F. (1998). *Schleiermacher: hermeneutics and criticism: and other writings*. Cambridge University Press.

Schudson, Z. C., & Morgenroth, T. (2022). Non-binary gender/sex identities. *Current Opinion in Psychology*, *48*, 101499. https://doi.org/10.1016/j.copsyc.2022.101499

Seery, M. D. (2011). Challenge or threat? Cardiovascular indexes of resilience and vulnerability to potential stress in humans. *Neuroscience & Biobehavioral Reviews*, *35*(7), 1603-1610. https://doi.org/10.1016/j.neubiorev.2011.03.003

Seligman, M. E., & Csikszentmihalyi, M. (2000). *Positive psychology: An introduction* (Vol. 55). American Psychological Association.

Seligman, M. E., & Csikszentmihalyi, M. (2014). Positive psychology: An introduction. In *Flow and the foundations of positive psychology: The collected works of Mihaly Csikszentmihalyi* (pp. 279-298). Springer.

Seligman, M. E., Steen, T. A., Park, N., & Peterson, C. (2005). Positive psychology progress: empirical validation of interventions. *American psychologist*, *60*(5), 410. https://doi.org/10.1037/0003-066x.60.5.410

Senge, P. M. (1990). *The art and practice of the learning organization* (Vol. 1). New York: Doubleday.

Serban, A., Kepes, S., Wang, W., & Baldwin, R. (2023). Cognitive ability and creativity: Typology contributions and a meta-analytic review. *Intelligence*, *98*. https://doi.org/10.1016/j.intell.2023.101757

Shalley, C. E., & Gilson, L. L. (2004). What leaders need to know: A review of social and contextual factors that can foster or hinder creativity. *The Leadership Quarterly*, *15*(1), 33-53. https://doi.org/10.1016/j.leaqua.2003.12.004

Shalley, C. E., Zhou, J., & Oldham, G. R. (2004). The effects of personal and contextual characteristics on creativity: Where should we go from here? *Journal of management*, *30*(6), 933-958. https://doi.org/10.1016/j.jm.2004.06.007

Shan, Y., Chin, T., & Mutsvene, N. (2023). The varying effects of four components of employee psychological capital on sustainable-business-model innovation in the new normal. *Sustainability*, *15*(15), 11787. https://doi.org/10.3390/su151511787

Shaw, A., & Choi, J. (2023). Get creative to get ahead? How personality contributes to creative performance and perceptions by supervisors at work. *Acta Psychologica*, *233*. https://doi.org/10.1016/j.actpsy.2023.103835

Shin, M.-H. (2018). Effects of Project-Based Learning on Students' Motivation and Self-Efficacy. *English teaching*, *73*(1), 95-114. https://doi.org/10.15858/engtea.73.1.201803.95

Shou, S., & Li, Y. (2025). Exploring the collaborative innovation operational model of government-industry-education synergy: a case study of BYD in China. *Asian journal of technology innovation*, *33*(2), 389-424. https://doi.org/10.1080/19761597.2024.2366883

Sidanius, J., & Pratto, F. (1999). Social dominance theory. *Handbook of theories of social psychology*, *2*.

Sidelkivska, V., & Bilbao-Calabuig, P. (2023). Conceptualizing cognitive and behavioral elements of individual's creativity and innovation: systematic literature review. *Innovation-the European Journal of Social Science Research*. https://doi.org/10.1080/13511610.2023.2231161

Smith, J. A. (2011). Evaluating the contribution of interpretative phenomenological analysis. *Health psychology review*, *5*(1), 9-27. https://doi.org/10.1080/17437199.2010.510659

Smith, J. A., & Fieldsend, M. (2021). *Interpretative phenomenological analysis*. American Psychological Association.

Smith, J. A., Larkin, M., & Flowers, P. (2021). Interpretative phenomenological analysis: Theory, method and research.

Snyder, C. R., Irving, L. M., & Anderson, J. R. (1991). Hope and health. *Handbook of social and clinical psychology: The health perspective*, *162*(1), 285-305.

Snyder, C. R., & Lopez, S. J. (2001). *Handbook of positive psychology*. Oxford university press.

Snyder, C. R., & Lopez, S. J. (2002). The future of positive psychology. *Handbook of positive psychology*, 751-767.

Solke, N. S., Shah, P., Sekhar, R., & Singh, T. (2022). Machine learning-based predictive modeling and control of lean manufacturing in automotive parts

manufacturing industry. *Global Journal of Flexible Systems Management*, *23*(1), 89-112. https://doi.org/10.1007/s40171-021-00291-9

Song, H. J., Gao, R. J., Zhang, Q., & Li, Y. X. (2023). The nonlinear effect of time pressure on innovation performance: New insights from a meta-analysis and an empirical study. *Frontiers in Psychology*, *13*. https://doi.org/10.3389/fpsyg.2022.1049174

Song, W. H., Ma, Y. Y., Fan, X. C., Jin, X. D., & Peng, X. R. (2024). Servant leadership, workplace well-being and employee creativity: The roles of psychological availability and experienced creative time pressure. *Creativity and Innovation Management*. https://doi.org/10.1111/caim.12595

Sonnentag, S. (2018). The recovery paradox: Portraying the complex interplay between job stressors, lack of recovery, and poor well-being. *Research in organizational behavior*, *38*, 169-185. https://doi.org/10.1016/j.riob.2018.11.002

Sonnentag, S., & Fritz, C. (2015). Recovery from job stress: The stressor-detachment model as an integrative framework. *Journal of organizational Behavior*, *36*(S1), S72-S103. https://doi.org/10.1002/job.1924

Sonnentag, S., Kuttler, I., & Fritz, C. (2010). Job stressors, emotional exhaustion, and need for recovery: A multi-source study on the benefits of psychological detachment. *Journal of Vocational Behavior*, *76*(3), 355-365. https://doi.org/10.1016/j.jvb.2009.06.005

Spiers, J., & Smith, J. (2019). *Interpretative Phenomenological Analysis* https://doi.org/10.4135/9781526421036813346

Springmier, K., Fonseca, C., Krier, L., Premo, R., Smith, H., & Wegmann, M. (2024). A Learning Organization in Action: Applying Senge's Five Disciplines to a

Collections Audit. *Portal-Libraries and the Academy*, *24*(2). https://doi.org/10.1353/pla.2024.a923706

Stajkovic, A. D., & Luthans, F. (1998). Self-efficacy and work-related performance: A meta-analysis. *Psychological bulletin*, *124*(2), 240. https://doi.org/10.1037/0033-2909.124.2.240

Standing, C., Jackson, D., Larsen, A.-C., Suseno, Y., Fulford, R., & Gengatharen, D. (2016). Enhancing individual innovation in organisations: A review of the literature. *International Journal of Innovation and Learning*, *19*(1), 44-62. https://doi.org/10.1504/ijil.2016.073288

Steffgen, G., Sischka, P. E., & Fernandez de Henestrosa, M. (2020). The Quality of Work Index and the Quality of Employment Index: A Multidimensional Approach of Job Quality and Its Links to Well-Being at Work. *International journal of environmental research and public health*, *17*(21), 7771. https://www.mdpi.com/1660-4601/17/21/7771

Sternberg, R. J., & Karami, S. (2021). An 8P Theoretical Framework for Understanding Creativity and Theories of Creativity. *The Journal of Creative Behavior*, *56*(1), 55-78. https://doi.org/10.1002/jocb.516

Stoecker, R., & Avila, E. (2021). From mixed methods to strategic research design. *International Journal of Social Research Methodology*, *24*(6), 627-640. https://doi.org/10.1080/13645579.2020.1799639

Stoltzfus, G., Nibbelink, B. L., Vredenburg, D., & Hyrum, E. (2011). Gender, gender role, and creativity. *Social Behavior and Personality: an international journal*, *39*(3), 425-432. https://doi.org/10.2224/sbp.2011.39.3.425

Sun, Y., Hu, X., & Ding, Y. (2019). Learning or relaxing: how do challenge stressors stimulate employee creativity? *Sustainability*, *11*(6), 1779. https://doi.org/10.3390/su11061779

Sun, Y., & Huang, J. (2019). Psychological capital and innovative behavior: Mediating effect of psychological safety. *Social Behavior and Personality: an international journal*, *47*(9), 1-7. https://doi.org/10.2224/sbp.8204

Sweetman, D., Luthans, F., Avey, J. B., & Luthans, B. C. (2011). Relationship between Positive Psychological Capital and Creative Performance. *Canadian Journal of Administrative Sciences-Revue Canadienne Des Sciences De L Administration*, *28*(1), 4-13. https://doi.org/10.1002/Cjas.175

Tan, C. Y., Chuah, C. Q., Lee, S. T., & Tan, C. S. (2021). Being Creative Makes You Happier: The Positive Effect of Creativity on Subjective Well-Being. *International journal of environmental research and public health*, *18*(14). https://doi.org/10.3390/ijerph18147244

Tapak, L., Hamidi, Y., & Toosi, Z. (2024). Using the learning organization questionnaire in combination with latent profile analysis: an example on how to identify latent classes in an organization to improve learning potential. *Learning Organization*. https://doi.org/10.1108/Tlo-03-2023-0049

Taylor, C. L. (2026). Gender bias in creativity: A process model for understanding the gender gap in creative achievement. *Perspectives on Psychological Science*, *21*(1), 3-24. https://doi.org/10.1177/17456916251360739

Taylor, C. L., Said-Metwaly, S., Camarda, A., & Barbot, B. (2024). Gender differences and variability in creative ability: A systematic review and meta-analysis of the greater male variability hypothesis in creativity. *Journal of personality and social psychology*, *126*(6), 1161. https://doi.org/10.1037/pspp0000484

Teddlie, C., & Yu, F. (2007). Mixed methods sampling: A typology with examples. *Journal of Mixed Methods Research*, *1*(1), 77-100. https://doi.org/10.1177/1558689806292430

Thelwall, M., & Nevill, T. (2021). Is research with qualitative data more prevalent and impactful now? Interviews, case studies, focus groups and ethnographies. *Library & Information Science Research*, *43*(2), 101094. https://doi.org/10.2139/ssrn.3833403

Tho, N. D. (2022). Employees' psychological capital and innovation outputs: the roles of job crafting and proactive personality. *Innovation-Organization & Management*, *24*(2), 333-353. https://doi.org/10.1080/14479338.2021.1979987

Tian, J., Wang, P., & Zhu, D. (2024). Overview of Chinese new energy vehicle industry and policy development. *Green Energy and Resources*, *2*(2), 100075. https://doi.org/10.1016/j.gerr.2024.100075

Tierney, P., & Farmer, S. M. (2002). Creative self-efficacy: Its potential antecedents and relationship to creative performance. *Academy of Management Journal*, *45*(6), 1137-1148. https://doi.org/10.2307/3069429

Tierney, P., Farmer, S. M., & Graen, G. B. (1999). An examination of leadership and employee creativity: The relevance of traits and relationships. *Personnel psychology*, *52*(3), 591-620. https://doi.org/10.1111/j.1744-6570.1999.tb00173.x

Tisdell, E. J., Merriam, S. B., & Stuckey-Peyrot, H. L. (2025). *Qualitative research: A guide to design and implementation*. John Wiley & Sons.

Tomkins, L., & Eatough, V. (2014). Stop 'helping'me! Identity, recognition and agency in the nexus of work and care. *Organization*, *21*(1), 3-21. https://doi.org/10.1177/1350508412461293

Toyama, M., Nagamine, M., Asayama, A., Tang, L., Miwa, S., & Kainuma, R. (2023). Can Persistence Improve Creativity? The Effects of Implicit Beliefs About Creativity on Creative Performance. *Psychology of Aesthetics Creativity and the Arts*. https://doi.org/10.1037/aca0000587

Trivedi, H., & Chan, K. H. (2023). Quality over quantity: How qualitative research informs and improves quantitative research. *Journal of Pediatric Urology*, *19*(5), 655-656. https://doi.org/10.1016/j.jpurol.2023.05.007

Tsai, C. Y., Chang, Y. H., & Lo, C. L. (2018). Learning under time pressure: Learners who think positively achieve superior learning outcomes from creative teaching methods using picture books. *Thinking Skills and Creativity*, *27*, 55-63. https://doi.org/10.1016/j.tsc.2017.11.003

Tsui, A. S., Wang, H., & Xin, K. R. (2006). Organizational culture in China: An analysis of culture dimensions and culture types. *Management and Organization Review*, *2*(3), 345-376. https://doi.org/10.1111/j.1740-8784.2006.00050.x

Tuffour, I. (2017). A critical overview of interpretative phenomenological analysis: A contemporary qualitative research approach. *Journal of healthcare communications*, *2*(4), 52. https://doi.org/10.4172/2472-1654.100093

Tugade, M. M., Fredrickson, B. L., & Feldman Barrett, L. (2004). Psychological resilience and positive emotional granularity: Examining the benefits of positive emotions on coping and health. *Journal of personality*, *72*(6), 1161-1190. https://doi.org/10.1111/j.1467-6494.2004.00294.x

Turner, J. C., & Oakes, P. J. (1986). The significance of the social identity concept for social psychology with reference to individualism, interactionism and social influence. *British journal of social psychology*, *25*(3), 237-252. https://doi.org/10.1111/j.2044-8309.1986.tb00732.x

Tyler, D. E. (1987). A distribution-free M-estimator of multivariate scatter. *The annals of Statistics*, 234-251.

Ullman, J. B., & Bentler, P. M. (2012). Structural equation modeling. *Handbook of Psychology, Second Edition*, *2*.

United Nations. (n.d.). *Transforming our world: the 2030 Agenda for Sustainable Development*. United Nations. https://sdgs.un.org/2030agenda

Utzeri, M. (2019). The dark side of gender equality schemes in management–a deep dive into a german auto manufacturer. *Vezetéstudomány-Budapest Management Review*, *50*(5), 38-47. https://doi.org/10.14267/veztud.2019.05.04

Van Knippenberg, D. (2017). Team Innovation. *Annual Review of Organizational Psychology and Organizational Behavior, Vol 4*, *4*, 211-233. https://doi.org/10.1146/annurev-orgpsych-032516-113240

Van Steenbergen, E. F., van der Ven, C., Peeters, M. C. W., & Taris, T. W. (2018). Transitioning Towards New Ways of Working: Do Job Demands, Job Resources, Burnout, and Engagement Change? *Psychological Reports*, *121*(4), 736-766. https://doi.org/10.1177/0033294117740134

Vedres, B., & Vásárhelyi, O. (2023). Inclusion unlocks the creative potential of gender diversity in teams. *Scientific Reports*, *13*(1), 13757. https://doi.org/10.31235/osf.io/a3wf9

Vroom, V., Porter, L., & Lawler, E. (2015). Expectancy theories. In *Organizational behavior 1* (pp. 94-113). Routledge.

Wadei, K. A., Asaah, J. A., Amoah-Ashyiah, A., & Wadei, B. (2023). Do the Right Thing the Right Way! How Ethical Leaders Increase Employees Creative Performance. *Journal of Leadership & Organizational Studies*, *30*(4), 428-441. https://doi.org/10.1177/15480518231195597

Walia, C. (2019). A dynamic definition of creativity. *Creativity Research Journal*, *31*(3), 237-247. https://doi.org/10400419.2019.1641787

Walumbwa, F. O., Luthans, F., Avey, J. B., & Oke, A. (2014). Authentically leading groups: The mediating role of collective psychological capital and trust (Retraction of vol 32, pg 4, 2011). *Journal of organizational Behavior*, *35*(5), 746-746. https://doi.org/10.1002/job.1936

Wang, K., & Nickerson, J. V. (2017). A literature review on individual creativity support systems. *Computers in Human Behavior*, *74*, 139-151. https://doi.org/10.1016/j.chb.2017.04.035

Wang, Q., Chiang, T.-F., & Xiao, J. J. (2024a). Attitude toward gender inequality in China. *Humanities and Social Sciences Communications*, *11*(1), 353. https://doi.org/10.1057/s41599-024-02857-1

Wang, T., Chen, Y., He, Y., Shen, L., Wang, P., Zhu, M., Zhu, J., & Li, M. (2022). Stressors, coping strategies and intention to leave the nursing profession: A cross-sectional nationwide study in China. *Journal of Nursing Management*, *30*(8), 4398-4408. https://doi.org/10.1111/jonm.13865

Wang, X.-H. F., Kim, T.-Y., & Lee, D.-R. (2016). Cognitive diversity and team creativity: Effects of team intrinsic motivation and transformational leadership.

Journal of business research, *69*(9), 3231-3239. https://doi.org/10.1016/j.jbusres.2016.02.026

Wang, Y., Huang, Q., Davison, R. M., & Yang, F. (2021a). Role stressors, job satisfaction, and employee creativity: The cross-level moderating role of social media use within teams. *Information & Management*, *58*(3), 103317. https://doi.org/10.1016/j.im.2020.103317

Wang, Y. X., & Lau, D. C. (2022). How and why job crafting influences creative performance? A resource allocation explanation of the curvilinear moderated relations. *Asia pacific journal of management*, *39*(4), 1561-1587. https://doi.org/10.1007/s10490-021-09773-x

Wang, Z., Meng, L., Cai, S., & Jiang, L. (2020). Work reflection during leisure time and employee creativity: The role of psychological capital. *Journal of Management & Organization*, *30*(2), 318-330. https://doi.org/10.1017/jmo.2020.10

Wang, Z. N., Guan, C. J., Cui, T., Cai, S. H., & Liu, D. D. (2021b). Servant Leadership, Team Reflexivity, Coworker Support Climate, and Employee Creativity: A Multilevel Perspective. *Journal of Leadership & Organizational Studies*, *28*(4), 465-478. https://doi.org/10.1177/15480518211010769

Wang, Z. N., Meng, L. J., Cai, S. H., & Jiang, L. (2024b). Work reflection during leisure time and employee creativity: The role of psychological capital. *Journal of Management & Organization*, *30*(2), 318-330. https://doi.org/10.1017/jmo.2020.10

Whitcomb, K. M., Kalender, Z. Y., Nokes-Malach, T. J., Schunn, C. D., & Singh, C. (2020). A mismatch between self-efficacy and performance: Undergraduate women in engineering tend to have lower self-efficacy despite earning higher

grades than men. *arXiv preprint arXiv:2003.06006*. https://doi.org/10.48550/arXiv.2003.06006

Widiati, R., Soetjipto, B. W., Siscawati, M., & Jayanagara, O. (2024). The critical role of psychological capital in empowering female managers amid digital innovation. *Aptisi Transactions on Technopreneurship (ATT)*, *6*(3), 537–549-537–549. https://doi.org/10.34306/att.v6i3.500

Williams, J. (2001). *Unbending gender: Why family and work conflict and what to do about it*. Oxford University Press.

Williams, L. J., Hartman, N., & Cavazotte, F. (2010). Method variance and marker variables: A review and comprehensive CFA marker technique. *Organizational research methods*, *13*(3), 477-514. https://doi.org/10.1177/1094428110366036

Wilson, N. (2018). Creativity at work: Who cares? Towards an ethics of creativity as a structured practice of care. In *The Palgrave handbook of creativity at work* (pp. 621-647). https://doi.org/10.1007/978-3-319-77350-6_30

Wong, S. I., Bunjak, A., Cerne, M., & Fieseler, C. (2021). Fostering Creative Performance of Platform Crowdworkers: The Digital Feedback Dilemma. *International Journal of Electronic Commerce*, *25*(3), 263-286. https://doi.org/10.1080/10864415.2021.1942674

Woodhams, C., Xian, H., & Lupton, B. (2015). Women managers' careers in China: Theorizing the influence of gender and collectivism. *Human Resource Management*, *54*(6), 913-931. https://doi.org/10.1002/hrm.21643

Woodman, R. W., Sawyer, J. E., & Griffin, R. W. (1993). Toward a theory of organizational creativity. *Academy of management review*, *18*(2), 293-321. https://doi.org/10.2307/258761

Woodman, R. W., & Schoenfeldt, L. F. (1990). An interactionist model of creative behavior. *The Journal of Creative Behavior*. https://doi.org/10.1002/j.2162-6057.1990.tb00549.x

World Economic Forum. (2024). *Global Gender Gap Report 2024*. World Economic Forum. https://www.weforum.org/publications/global-gender-gap-report-2024/digest/

Wright, T. A., & Bonett, D. G. (2007). Job satisfaction and psychological well-being as nonadditive predictors of workplace turnover. *Journal of Management*, *33*(2), 141-160. https://doi.org/10.1177/0149206306297582

Wu, C. M., Schulz, E., Pleskac, T. J., & Speekenbrink, M. (2022). Time pressure changes how people explore and respond to uncertainty. *Scientific Reports*, *12*(1), 4122. https://doi.org/10.31234/osf.io/dsw7q

Xanthopoulou, D., Bakker, A. B., Demerouti, E., & Schaufeli, W. B. (2007). The role of personal resources in the job demands-resources model. *International Journal of Stress Management*, *14*(2), 121-141. https://doi.org/10.1037/1072-5245.14.2.121

Xu, C., Wei, D., Liu, J., & Zhou, J. (2021). A tale of two capitals: How task-oriented and guanxi-oriented psychological capitals lead to a sustainable workforce in rural China. *Frontiers in Psychology*, *12*, 732445. https://doi.org/10.3389/fpsyg.2021.732445

Xu, X., Xu, Z., Lin, C., & Hu, Y. (2023). Confucian culture, gender stereotype and female entrepreneur: evidence from China. *Applied Economics Letters*, *30*(18), 2565-2575. https://doi.org/10.1080/13504851.2022.2099796

Xu, X. L., & Chen, H. H. (2020). Exploring the innovation efficiency of new energy vehicle enterprises in China. *Clean Technologies and Environmental Policy*, *22*(8), 1671-1685. https://doi.org/10.1007/s10098-020-01908-w

Xu, Y., & Shi, Y. (2023). The Effect of Job Stress on the Innovative Performance of Employees with Different Academic Qualifications—Mediated by Job Withdrawal. *Academic Journal of Business & Management*, *5*(25), 189-196. https://doi.org/10.25236/ajbm.2023.052529

Yang, S., Chen, L., & Bi, X. (2023a). Overtime work, job autonomy, and employees' subjective well-being: Evidence from China [Original Research]. *Frontiers in Public Health*, *11*. https://doi.org/10.3389/fpubh.2023.1077177

Yang, T., Yuan, Z., & Xing, C. (2023b). Research on China's fiscal and taxation policy of new energy vehicle industry technological innovation. *Economic research-Ekonomska istraživanja*, *36*(2). https://doi.org/10.1080/1331677x.2022.2108100

Ying, L. (2023). Research on the Impact of Entrepreneurs' Innovative Spirit on the Strategic Implementation of BYD's New Energy Vehicle Development. *Academic Journal of Business & Management*, *5*(8), 124-130. https://doi.org/10.25236/ajbm.2023.050821

Youssef, C. M., & Luthans, F. (2005). Resiliency development of organizations, leaders and employees: Multi-level theory building for sustained performance. In *Authentic leadership theory and practice: Origins, effects and development* (Vol. 3, pp. 303-343).

Youssef, C. M., & Luthans, F. (2007). Positive organizational behavior in the workplace: The impact of hope, optimism, and resilience. *Journal of Management*, *33*(5), 774-800. https://doi.org/10.1177/0149206307305562

Youssef-Morgan, C. M., & Luthans, F. (2015). Psychological Capital and Well-being. *Stress and Health*, *31*(3), 180-188. https://doi.org/10.1002/smi.2623

Yu, W. N., & Wang, Z. H. (2022). Dual Influencing Paths of Time Pressure on Employee Creativity. *International Journal of Stress Management*, *29*(4), 360-371. https://doi.org/10.1037/str0000267

Yu, X. F., Li, D. H., Tsai, C. H., & Wang, C. H. (2019). The role of psychological capital in employee creativity. *Career Development International*, *24*(5), 420-437. https://doi.org/10.1108/Cdi-04-2018-0103

Yu, Z., Khan, S. A. R., & Umar, M. (2022). Circular economy practices and industry 4.0 technologies: A strategic move of automobile industry. *Business Strategy and the Environment*, *31*(3), 796-809. https://doi.org/10.1002/bse.2918

Zadow, A., Loh, M. Y., Dollard, M. F., Mathisen, G. E., & Yantcheva, B. (2023). Psychosocial safety climate as a predictor of work engagement, creativity, innovation, and work performance: A case study of software engineers. *Frontiers in Psychology*, *14*. https://doi.org/10.3389/fpsyg.2023.1082283

Zavala-Parrales, A., Meléndez-Anzures, F. E., Perez-Suarez, S., & Dominguez, A. (2025). Driving gender equality in the automotive industry: a review of educational strategies. Frontiers in Education,

Zeng, S., Ji, M., & Huang, X. (2025). An empirical study on the impact of tax incentives on the development of new energy vehicles: Case of China. *Energy Policy*, *198*, 114452. https://doi.org/10.1016/j.enpol.2024.114452

Zhang, G. W., Lin, W. F., Song, G. Q., Chen, J. J., Li, H. P., Sun, L. Q., Cheng, B. Z., & Zhang, X. H. (2024). The mediating role of psychological capital on the relationship between authentic leadership and innovative behaviour among Chinese nurses. *Nursing Open*, *11*(3). https://doi.org/10.1002/nop2.2126

Zhang, J., Jin, S., Li, T., & Wang, H. (2021a). Gender discrimination in China: Experimental evidence from the job market for college graduates. *Journal of Comparative Economics*, *49*(3), 819-835. https://doi.org/10.1016/j.jce.2021.01.003

Zhang, L. (2015). Lean production "with Chinese characteristics": A case study of China's automobile industry. *International Journal of Sociology*, *45*(2), 152-170. https://doi.org/10.1080/00207659.2015.1061861

Zhang, L., Jue, F., Benxian, Y., & Zhang, Y. (2019). Correlations among work stressors, work stress responses, and subjective well-being of civil servants: empirical evidence from China. *Iranian Journal of Public Health*, *48*(6), 1059. https://doi.org/10.18502/ijph.v48i6.2904

Zhang, L., & Qin, Q. (2018). China's new energy vehicle policies: Evolution, comparison and recommendation. *Transportation Research Part A: Policy and Practice*, *110*, 57-72. https://doi.org/10.1016/j.tra.2018.02.012

Zhang, Q., Ma, Z., Ye, L., Guo, M., & Liu, S. (2021b). Future work self and employee creativity: the mediating role of informal field-based learning for high innovation performance. *Sustainability*, *13*(3), 1352. https://doi.org/10.3390/su13031352

Zhang, S., Sunindijo, R. Y., & Loosemore, M. (2023a). The influence of personal and workplace characteristics on the job stressors of design professionals in the Chinese construction industry. *Journal of Management in Engineering*, *39*(5), 05023006. https://doi.org/10.1061/jmenea.meeng-5303

Zhang, X., & Bartol, K. M. (2010). The influence of creative process engagement on employee creative performance and overall job performance: a curvilinear assessment. *J Appl Psychol*, *95*(5), 862-873. https://doi.org/10.1037/a0020173

Zhang, Y., Qu, H., Walter, F., Liu, W., & Wang, M. X. (2023b). A new perspective on time pressure and creativity: Distinguishing employees' radical versus incremental creativity. *Journal of organizational Behavior*, *44*(9), 1400-1418. https://doi.org/10.1002/job.2742

Zhang, Z., He, W., & Li, R. (2023c). The effect of informal status on employee creative performance: a moderated mediation model. *Current Psychology*, *42*(32), 28320-28331. https://doi.org/10.1007/s12144-022-03973-4

Zhang, Z., & Zong, Q. (2023). Gender diversity and patent quality: Evidence from Chinese patent data. *International Studies of Economics*, *18*(4), 430-453. https://doi.org/10.1002/ise3.54

Zheng, X., Zhu, W., Zhao, H., & Zhang, C. (2015). Employee well-being in organizations: Theoretical model, scale development, and cross-cultural validation. *Journal of organizational Behavior*, *36*(5), 621-644. https://doi.org/10.1002/job.1990

Zhou, J., & Hoever, I. J. (2014). Research on Workplace Creativity: A Review and Redirection. *Annual Review of Organizational Psychology and Organizational Behavior, Vol 1*, *1*, 333-359. https://doi.org/10.1146/annurev-orgpsych-031413-091226

Zhou, J., & Hoever, I. J. (2023). Understanding the Dynamic Interplay Between Actor and Context for Creativity: Progress and Desirable Directions. *Annual Review of Organizational Psychology and Organizational Behavior*, *10*(1), 109-135. https://doi.org/10.1146/annurev-orgpsych-120920-055457

Zhou, X., Jin, L., Wang, Y., Liao, W., Yang, H., & Li, L. (2022). The Influence of Family Supportive Supervisor Behavior on Employee Creativity: The

Mediating Roles of Psychological Capital and Positive Emotion. *Front Psychol*, *13*, 824840. https://doi.org/10.3389/fpsyg.2022.824840

Zhou, Y. F., Zhang, J. W., Zheng, W. F., & Fu, M. M. (2024). Promoting or Prohibiting? Investigating How Time Pressure Influences Innovative Behavior under Stress-Mindset Conditions. *Behavioral Sciences*, *14*(2). https://doi.org/10.3390/bs14020143

Zhu, L. (2025). Analysis of Technological Innovation and Competitive Advantage in New Energy Vehicle Industry: BYD as an Example. SHS Web of Conferences,

Zubair, A., & Kamal, A. (2015). Work related flow, psychological capital, and creativity among employees of software houses. *Psychological Studies*, *60*, 321-331. https://doi.org/10.1007/s12646-015-0330-x

Appendix

Appendix 1–Ethics Approval for Qualitative Study

University of Nottingham
UK | CHINA | MALAYSIA

Faculty of Arts and Social Sciences
University of Nottingham Malaysia
Jalan Broga
43500 Semenyih
Selangor Darul Ehsan
Malaysia

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nottingham.edu.my

FASS2024_0011/IWOW/HSG20598371

06 January 2025

Huang Sheng
Institute of Work, Organisation and Wellbeing
Faculty of Arts and Social Sciences

Dear Huang Sheng,

FASS Research Ethics Committee Review

Thank you for submitting your proposal on "**The Study on job resources and job demands that may Influence Employee Creativity**". This proposal has now been reviewed by the FASS Research Integrity and Research Ethics Committee (FRIREC) to the extent that it is described in your submission.

I am happy to tell you that the Committee has found no problems with your proposal and able to give approval.

If there are any significant changes or developments in the methods, treatment of data or debriefing of participants, then you are obliged to seek further ethical approval for these changes.

We would remind all researchers of their ethical responsibilities to research participants. If you have any concerned whatsoever during the conduct of your research then you should consult those Code of Practice relevant to your discipline and contact the FASS Research Ethic Committee.

Independently of the Committee procedures, there are also responsibilities for staff and student safety during the projects. Some information can be found in the Safety Office pages of the university website (https://www.nottingham.ac.uk/safety/index.aspx). Particularly relevant may be:

Specific safety guidance on:
Fieldwork https://www.nottingham.ac.uk/safety/documents/fieldwork-policy.pdf.
Lone working https://www.nottingham.ac.uk/safety/documents/lone-working.pdf.
Overseas travel/work https://www.nottingham.ac.uk/safety/documents/overseas-travel.pdf.
Risk management https://www.nottingham.ac.uk/safety/policies-and-guidance/risk-assessment/risk-assessment.aspx.

Responsibility for compliance with the University/National Data Protection Policy and Guidance also lies with the principal investigator or project supervisor.

The FASS Research ethics Committee approval does not alter, replace or remove those responsibilities, nor does it certify that they have been met.

Sincerely,
Siti Khadijah
Dr Siti Khadijah Zainal Badri
On behalf of the FASS FRIREC Committee

University of Nottingham
in Malaysia Sdn Bhd (473520-K)

Appendix 2–Ethics Approval for Quantitative Study

University of Nottingham
UK | CHINA | MALAYSIA

Faculty of Arts and Social Sciences
University of Nottingham Malaysia
Jalan Broga
43500 Semenyih
Selangor Darul Ehsan
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+6 (0)3 8924 8000
nottingham.edu.my

FASS2024_0006/DOAP/HSG20598371

19 September 2024

Huang Sheng
Division of Organisational and Applied Psychology
Faculty of Arts and Social Sciences

Dear Huang Sheng,

FASS Research Ethics Committee Review

Thank you for submitting your proposal on "**The Study on Personal and Contextual factors that may Influence Employee Creativity**". This proposal has now been reviewed by the FASS Research Ethics Committee to the extent that it is described in your submission.

I am happy to tell you that the Committee has found no problems with your proposal and able to give approval.

If there are any significant changes or developments in the methods, treatment of data or debriefing of participants, then you are obliged to seek further ethical approval for these changes.

We would remind all researchers of their ethical responsibilities to research participants. If you have any concerned whatsoever during the conduct of your research then you should consult those Code of Practice relevant to your discipline and contact the FASS Research Ethic Committee.

Independently of the Committee procedures, there are also responsibilities for staff and student safety during the projects. Some information can be found in the Safety Office pages of the university website (https://www.nottingham.ac.uk/safety/index.aspx). Particularly relevant may be:

Specific safety guidance on:
Fieldwork https://www.nottingham.ac.uk/safety/documents/fieldwork-policy.pdf.
Lone working https://www.nottingham.ac.uk/safety/documents/lone-working.pdf.
Overseas travel/work https://www.nottingham.ac.uk/safety/documents/overseas-travel.pdf.
Risk management https://www.nottingham.ac.uk/safety/policies-and-guidance/risk-assessment/risk-assessment.aspx.

Responsibility for compliance with the University/National Data Protection Policy and Guidance also lies with the principal investigator or project supervisor.

The FASS Research ethics Committee approval does not alter, replace or remove those responsibilities, nor does it certify that they have been met.

Sincerely,
Siti Khadijah
Dr Siti Khadijah Zainal Badri
On behalf of the FASS Research Ethics Committee

University of Nottingham
in Malaysia Sdn Bhd (473520-K)

Appendix 3–Participant Information Sheet & Invitation Letter–Qualitative

Faculty of Arts and Social Science Ethics Committee (FASSREC)

University of Nottingham Malaysia

Participant Information Sheet

Title of Project	**The Study on job resources and job demands that may Influence Employee Creativity**
Lead Investigator	Huang Sheng

What is the purpose of this study?

As part of my PhD research program, to study the job resources and job demands that may influence employee creativity

What will participation in this study involve?

to join the one on one site and online interview, answer the questions from interviewer and express his/her own experience and perception relating to the topics. The whole interview process will be audio recorded.

How long will the study take?

90 to 120 minutes for the first interview (on site), 30 minutes for the second interview (online)

What are the benefits of participating in this study? *[E.g., course credit, payment]*

Support scientific research, no identifiable individual benefit

What are the potential risks of participating in this study?

No

What if you do not wish to participate?

Participation in this study is entirely voluntary. Even if you decide to take part, you are free to withdraw at any time, without giving a reason.

Will the collected data be kept confidential?

All information collected about you will be kept strictly confidential. Any information which leaves the research unit will be anonymous–that is, any identifying information will be removed.

The collection of your personal data is carried out in accordance with the terms stated within (i) The University of Nottingham's Royal Charter, (ii) the UK's General Data Protection Regulation (GDPR), (iii) The Malaysian Personal Data Protection Act 2010, (iv) UNM Personal Data Protection and Privacy Policy, and (v) the University's Code of Research Conduct and Research Ethics.(vi) the "Personal Information Protection Law of the People's Republic of China 2021" These collectively spell out the legal basis for processing your personal data, your rights as a data subject as well as data sharing/management arrangements. The full Privacy Notice that spells out your rights as a data subject is available upon request.

Does the study have ethical approval?

Yes. The study has been reviewed and approved by the University of Nottingham Malaysia's Faculty of Arts and Social Science Research Ethics Committee (FASSREC).

Application Identification Number: FASS2024_0011/IWOW/HSG20598371

What if I have any questions?

If you have any questions regarding this research, please contact the researcher(s) and/or the research supervisor(s) below:

Researcher:
Huang Sheng, spxsh1@nottingham.edu.my
Supervisors:
Associate Professor: Michael J Mustafa, michael.mustafa@nottingham.edu.my
Professor: Hazel M Ramos, hazel-melanie.ramos@nottingham.edu.my

Who can I complain to?

If you have a complaint about the study, you can approach the lead investigator. If this doesn't lead to a satisfactory outcome, you can contact the secretary of the Faculty of Arts and Social Science Research Ethics Committee (FASSREC) at FASSresearchethics@nottingham.edu.my

What's the next step?

If you want to take part in the study, please sign the Consent Statement below, confirming that you have read and understood all the information provided to you, and that you agree to participate in the study.

Consent Statement: “I have read and understand the information provided to me. I have been offered a copy of this form.”

Full name	
Signature	
Date	

Invitation Letter

Division of Organisational and Applied Psychology

Project Title: The Study on job resources and job demands that may Influence Employee Creativity

Researcher: Sheng Huang, spxsh1@nottingham.edu.my
Supervisor:
Associate Professor. Michael J Mustafa, michael.mustafa@nottingham.edu.my
Professor. Hazel M Ramos, hazel-melanie.ramos@nottingham.edu.my

Ethics Approval Reference Number: FASS2024_0011/IWOW/HSG20598371

This is an invitation to take part in a research study about ... **The Study on job resources and job demands that may Influence Employee Creativity**

This information is designed to tell you what it will involve.

Your participation is voluntary, and you may change your mind about being involved or decline to answer a particular question at any time and without giving a reason. You are free to withdraw at any point before or during the study.

What is the project about?

……The research examines the job resources and job demands that may support organisations to develop employee creativity.

Who is being asked to take part, and why?

…… employees in R&D related departments in manufacturing companies are invited to take part since the workplace employees in manufacturing companies are the defined study scope of the research.

What will I be asked to do?

…… You will be invited to join the one-on-one site and online interview, answer the questions from the interviewer and express his/her own experience and perception relating to the topics. The whole interview process will be audio-recorded.

Will the research be of any personal benefit to you?

…… No personal benefit was identified; the research may contribute to manufacturing organisations for employee creativity improvement.

What will happen to the information I provide?

……All information you provide will be kept strictly confidential. Your responses will be aggregated and anonymised, ensuring that your identity remains anonymous throughout the research process.

What will the researcher do with the data?

Your data will be used as part of the qualitative research in a PhD thesis and academic journal publication.

If you have any questions or concerns, please don't hesitate to ask. We can be contacted before and after your participation at the above address.

THANK YOU FOR YOUR PARTICIPATION

If you have any queries or complaints about this study, please contact the supervisor of the researcher in the first instance.

We believe there are no known risks associated with this research study; however, as with any online-related activity, the risk of a breach is always possible. We will do everything possible to ensure your answers in this study will remain anonymous. All the data will be protected by a password to minimise any risk.

Appendix 4–Participant Information Sheet & Invitation Letter–Quantitative

Faculty of Arts and Social Science Ethics Committee (FASSREC)

University of Nottingham Malaysia

Participant Information Sheet

Title of Project	**The Study on Personal and Contextual factors that may Influence Employee Creativity**
Lead Investigator	Huang Sheng

What is the purpose of this study?

As part of my PhD research program, to study the personal and contextual factors that may influence employee creativity

What will participation in this study involve?

to answer the questions by fill or select corresponding response base on individual status, experiences and feelings.

How long will the study take?

15 to 20 minutes for each wave questionnaire survey, 3 waves

What are the benefits of participating in this study? *[E.g., course credit, payment]*

No

What are the potential risks of participating in this study?

No

What if you do not wish to participate?

Participation in this study is entirely voluntary. Even if you decide to take part, you are free to withdraw at any time, without giving a reason.

Will the collected data be kept confidential?

All information collected about you will be kept strictly confidential. Any information which leaves the research unit will be anonymous–that is, any identifying information will be removed.

The collection of your personal data is carried out in accordance with the terms stated within (i) The University of Nottingham's Royal Charter, (ii) the UK's General Data Protection Regulation (GDPR), (iii) The Malaysian Personal Data Protection Act 2010, (iv) UNM Personal Data Protection and Privacy Policy, and (v) the University's Code of Research Conduct and Research Ethics.(vi) the "Personal Information Protection Law of the People's Republic of China 2021" These collectively spell out the legal basis for processing your personal data, your rights as a data subject as well as data sharing/management arrangements. The full Privacy Notice that spells out your rights as a data subject is available upon request.

Does the study have ethical approval?

Yes. The study has been reviewed and approved by the University of Nottingham Malaysia's Faculty of Arts and Social Science Research Ethics Committee (FASSREC).

Application Identification Number: FASS2024_0006/DOAP/HSG20598371

What if I have any questions?

If you have any questions regarding this research, please contact the researcher(s) and/or the research supervisor(s) below:

Researcher:
Huang Sheng, spxsh1@nottingham.edu.my
Supervisors:
Associate Professor: Michael J Mustafa, michael.mustafa@nottingham.edu.my
Professor: Hazel M Ramos, hazel-melanie.ramos@nottingham.edu.my

Who can I complain to?

If you have a complaint about the study, you can approach the lead investigator. If this doesn't lead to a satisfactory outcome, you can contact the secretary of the Faculty of Arts and Social Science Research Ethics Committee (FASSREC) at FASSresearchethics@nottingham.edu.my

What's the next step?

If you want to take part in the study, please sign the Consent Statement below, confirming that you have read and understood all the information provided to you, and that you agree to participate in the study.

Consent Statement: “I have read and understand the information provided to me. I have been offered a copy of this form.”

Full name	
Signature	
Date	

Invitation Letter

Division of Organisational and Applied Psychology

Project Title: The Study on Personal and Contextual factors that may Influence Employee Creativity

Researcher: Sheng Huang, spxsh1@nottingham.edu.my
Supervisor:
Associate Professor. Michael J Mustafa, michael.mustafa@nottingham.edu.my
Professor. Hazel M Ramos, hazel-melanie.ramos@nottingham.edu.my

Ethics Approval Reference Number: FASS2024_0006/DOAP/HSG20598371

This is an invitation to take part in a research study about ...**The Study on Personal and Contextual factors that may Influence Employee Creativity**

This information is designed to tell you what it will involve.

Your participation is voluntary, and you may change your mind about being involved, or decline to answer a particular question at any time, and without giving a reason. You are free to withdraw at any point before or during the study.

What is the project about?

……The research aims to examine the factors that may support organisations to develop employee creativity.

Who is being asked to take part, and why?

…… Employees in manufacturing companies are invited to take part since the workplace employees in manufacturing companies are the defined study scope of the research.

What will I be asked to do?

…… You will be invited to answer the questionnaires for three times of survey, each survey will take around 15-20 minutes, the Sojump (Wenjuanxing) questionnaire QR code will be sent to you before the survey.

Will the research be of any personal benefit to you?

…… No personal benefit identified; the research may make a contribution to manufacturing organisations for employee creativity improvement.

What will happen to the information I provide?

……All information you provide will be kept strictly confidential. Your responses will be aggregated and anonymized, ensuring that your identity remains anonymous throughout the research process.

What will the researcher do with the data?

Your data will be used as part of the quantitative research in a PhD thesis and academic journals publication.

If you have any questions or concerns, please don't hesitate to ask. We can be contacted before and after your participation at the above address.

THANK YOU FOR YOUR PARTICIPATION

If you have any queries or complaints about this study, please contact the supervisor of the researcher in the first instance.

We believe there are no known risks associated with this research study; however, as with any online-related activity, the risk of a breach is always possible. We will do everything possible to ensure your answers in this study will remain anonymous. All the data will be protected by a password to minimise any risks.

Appendix 5–Qualitative Study: Study Protocol and Interview Questions

Study protocol

Research Object and Research Questions:

The research aims to examine the resources that employees may use to support coping with challenges during creative processes.

Project name: The Study on Job Resources and Job Demands that May Influence Employee Creativity

Research questions:
RQ1: In the context of time pressure and learning requirements, what are the employees' experiences with their supervisors and co-workers in the process of Ideation?

RQ2: What are the employees' experiences in get ideas implemented when they are facing personal setbacks and failures, and organisational obstacles?

Research Methodologies:

To address RQ 1, the qualitative method is designed to explore and clarify the perceptions and experiences of R&D employees about time pressure and learning requirements during the idea generation process. The qualitative method involves the process of interview questions and procedures, interview data collection, data

analysis, and interpretations of the data (Creswell & Creswell, 2017). The IPA method will be used in this study, the semi-structured interview will be performed, a list of questions will be prepared for the interview, and once the interview starts, the transcription, coding, categorisation, and themes analysis will be performed right after the interview. In case of necessity, questions may be updated for the later interviews. One week to two weeks later, a follow-up interview will be held online to align the transcription and interpretations from the researcher with the interviewee and make modifications based on the interviewee's feedback.

To address RQ 2, a qualitative method is designed to have face-to-face interviews with those who are mostly engaged in the idea implementation process. One week to two weeks after the face-to-face interview, a follow-up online interview will be held to align the transcription and interpretations from the researcher with the interviewee and make modifications based on the interviewee's feedback.
The IPA method will be implemented to reflect the creator's major lived experience (when they are encountering personal setbacks and failures, and organisational obstacles) during the idea implementation process to explore the main themes. The interview aims to receive the voices of employees at the frontier to echo their feelings and perceptions during the process and to identify the factors and themes that may inhibit or enhance employees' idea implementation especially in the situation of when they face personal setbacks and failures An hermeneutic and inductive analysis will be performed to figure out the main themes that will form the answer of the research questions.

Sampling and Data Collection Procedures:

The research plans to select 2 manufacturing companies in China's automotive industry as the study object.
For RQ1, the study is designed as qualitative research. The study aims to get the R&D-related employees in the selected benchmark companies to attend the interview. A typical purposive sampling strategy is planned. According to (Tisdell et

al., 2025), typicality sampling could enhance transferability because others can compare the sample with their own situations. Key positions from different functions in R&D-related departments will be considered the target candidates for the qualitative research, and the whole team will be the target candidates for the qualitative research, since they are the people who are mostly engaged in the company's creativity process and have the most experience and information about the creative processes in this research.

For RQ2, it plans to use the same sampling strategy and the same group of employees (may have certain overlap and differences). It plans to get the R&D-related employees to attend the semi-structured interview. To improve the study's validity, archival files about employees' creative performance records (e.g., patents acquired, annual performance history) will be collected during the data collection phase.

Voluntary participants will be hired by HR heads in each company in R&D-related departments to get 12-15 participants in total for each qualitative study.

Measures:

Study1-RQ1 Semi-Structured Questionnaires:

Part	Category	Questions	Question Rationale
1	Demographic	What is your education background and your work experience ?	To collect information about employee's education level, it may link to employee's capability of Ideation and implementation. Employee work experience can help researcher to understand employee's knowledge and skills acquired in relation to creativity in former work experience
2	Describe and reflect current job and main tasks	Could you please describe your current job role and main tasks?	To understand about to which extent the employee's work is linked to creativity, and how intense it will be based on different positions
3	experiences during Ideation	What are your experiences during the Ideation process in your organisation?	this question can explore the employee's subjective experience in the process of ideation, privide a wide range of freedom to employees to express their feelings and perceptions during creative process in the past.
4	Support seek behavior, attitude, solution to generate ideas	What are your feelings towards the supports from supervisors and co-workers in your ideation process? Prompt: Does the support help you to overcome the problems when you stucked? How does it work?	this question can allow employees to recall their memories, experiences about the social support provided, and allow researcher to interpret the key feelings of employee.
5	Opinions about creative reputation	During the Ideation Process, What are your experiences related to time pressure from your job ? What are your experiences about the support from your supervisor, and your co-workers? What's the meaning you feel about?	the experiences provided by employees may allow researcher to perceive how employees perceive the time pressure and social support from supervisor and co-worker.

Study1-RQ1 Semi-Structured Questionnaires (Continued):

6	Perception about technical tools	what is your experiences and feeling about learning requirements from your creative job which need you to upgrade your theoretical, social and technical skills?	to understand the attitude of the employee toward learning demands.
7	Others	Any other thing you want to talk to me about Ideation?	Maybe there are some other key points which are not in the research's attention, but employee perceive them as major issue in Ideation. This is an exploratory question to catch other missing points.

Study 1 RQ2 Semi-Structured Questionnaires:

Part	Category	Questions	Question Rationale
1	Demographic	What is your education background and your work experience ?	To collect information about employee's education level, it may link to employee's ability of idea generation and implementation. Employee work experience can help researcher to understand employee's knowledge and skills acquired in relation to creativity in former work experience
2	Describe and reflect current job and main tasks	Could you please describe your current job role and main tasks?	To understand about to which extent the employee's work is linked to creativity, and how intense it will be based on different positions
3	Employee's reflextion on setbacks and failures, and organisational obstacles during Idea implementation	What is your experiences in handling personal setbacks and failures during the idea implementation phase?	this question allow employee to express the experiences of their major life event during idea implementation phase, helps the researcher in exploring and interpreting the employee's perception about the setbacks and failures they encountered in the past
		What is your experiences in handling organisational obstacles during the idea implementation phase?	this question can allow employees make their claims in their own term, it can help the researcher in exploring and comprehending the employees' concerns

Study 1 RQ2 Semi-Structured Questionnaires (Continued):

Part	Category	Questions	Question Rationale
4	Perceptions of resources	What strategies do you use when you facing setbacks, failures, and obstacles? What is your experiences in coping with personal setbacks, failures, and obstacles to get the idea implemented?	this question can help the researcher to engage the reflections from employees that when they are encountering important life issues: setbacks and failures, how do they make sense of the personal and contextual resrouces in the process of idea implementation.
5	Others	Any other thing you want to talk to me about idea implementation?	Maybe there are some other key points which are not in the research's attention, but employee perceive them as major issue in idea implementation. This is a exploratory question to catch other missing points.

Appendix 6–Quantitative study: Study Protocol and Survey Questionnaires

Study protocol

Research Object and Research Questions:

The research aims to examine the factors that may support organisations in developing employee creativity.

Project name: Determine how and when job stressors (Learning requirements, Time pressure) and gender influence employee creative performance, workplace well-being and the underlying mechanisms.
Research questions:
1. How and under what conditions do Learning requirements and Time pressure influence employee creative performance?
2. Does creative performance mediate the relationship between psychological capital and workplace well-being?
3. Does gender moderate psychological capital and creative performance?

Research Methodologies:

A quantitative method is structured to answer those questions. Questionnaires are selected to measure the job demands factors of learning demands, time pressure, personal resources of psychological capital, creative process engagement, creative self-efficacy, creative performance, workplace well-being, and work related burnout. The data collected from the questionnaires will be used to analyse the relationship

between the factors and the role of psychological capital and creative performance. Structural Equation Modelling (SEM) will be applied for the data analysis.

Sampling and Data Collection Procedures:

The research selects 2-5 manufacturing industry companies in China as the study object.

A convenience sampling strategy is applied. It plans to use questionnaires as data-collection instruments. The questionnaires will be distributed to employees for the survey in three waves: predictors (independent variables) and mediators in the first wave, moderators and self-rated outcome (dependent variable) in the second wave. The supervisor rated the outcome (dependent variable) in the third wave.

Measures:

The study will use scales with previously published, high-validity measures (see Appendix 1 for detailed items).

Learning demand: it is planned to use the "Learning demands scale", which includes cognitive demands and learning requirements. Three items assess cognitive demands and three items assess learning requirements. 5-point scale from never (1) to almost always (5) (Glaser et al., 2015)

Time pressure: it is planned to use the "Time pressure scale", which includes two items. 5-point scale from never (1) to almost always (5) (Steffgen et al., 2020)

Creative process engagement: it is planned to use the "Creative process engagement (CPE) Scale", which includes 11 items. 5-point scale from never (1) to very frequently (5) (Zhang & Bartol, 2010)

Psychological capital: it is planned to use the "Revision of the compound psychological capital scale", which includes 12 items. 5-point scale from Strongly disagree (1) to Strongly agree (5) (Dudasova et al., 2021).

Creative performance: it is planned to use the “Creative performance scale”, employee self-rate and direct supervisors’ rate creative performance will be performed separately, which includes 3 items. 5-point Likert scale, completely disagree(never)=1 to completely agree (very much) =5 (Oldham & Cummings, 1996)

Work place well-being: it is planned to use the “Work place well-being scale”, which include 6 items, 5-point scale from strongly disagree(1) to strongly agree(5) (Zheng et al., 2015)

Exhaustion: it is planned to use the “Exhaustion scale”, which include 8 items, 5-point scale from never (1) to very always (5) (Halbesleben & Demerouti, 2005)

Contingency and research extension plan:

To build up a contingency plan and research extension plan, a few more questionnaires are prepared as a backup for data collection for employee creativity development:

Idea generation: it is planned to use the “Creative idea generation (reflective) scale”, which includes 4 items, 5-point Likert scales ranging from strongly disagree (1) to strongly agree (5) (Choi et al., 2023)

Idea implementation: it is planned to use the “Idea implementation scale”, which includes 3 items, 5 points Likert scales ranging from never (1) to always (5) (Baer, 2012)

Work overload: it is planned to use the “work overload scale”, which includes 4 items, 5-point Likert scale from strongly disagree (1) to strongly agree (5) (De Clercq & Belausteguigoitia, 2019)

Organisational commitment: it is planned to use the “organisational commitment questionnaire”, which includes 5 items, 5-point Likert scales ranging from strongly disagree (1) to strongly agree (5) (De Clercq & Belausteguigoitia, 2019)

Psychological flexibility: it is planned to use the “Psychological flexibility questionnaire”, which includes 6 items, 5-point scale from very seldom (1) to very often (5) (Gloster et al., 2021)

Emotion regulation: it is planned to use the “Emotion regulation questionnaire (ERQ)”, which includes 10 items, 5-point scale from strongly disagree (1) to strongly agree (5) (Gross & John, 2003)

It is planned to use the translation back-translation procedure to avoid losing the original meaning (Klotz et al., 2023) because all the measures in this study are originally in English.

Research Questionnaires

Thank you very much for taking the time to fill out our survey! Your answers will only be used for academic research. There is no right or wrong answer, and your responses will not have any negative impact on you or any vested interests. Please feel free to answer based on your actual situation. We will anonymize your information in the data handling process and keep your information strictly confidential. Thank you for your support and cooperation!

Name	Department	
Gender	Position	1. normal employee, 2. team leader, 3, supervisor or engineer with team member, 4. manager, 5. director and above
	Education	1. middle school and below, 2, high school/secondary school, 3 diploma, 4, bachelor, 5. maters and above
	Age Range	1. <25，2. 25-34，3. 35-44，4. 45-54，5.≥ 55
	Tenure (start from the beginning of your career, years)	1. <1，2.1-4，3. 5-9，4.10-19，5. ≥20

A style: 1 = never, 2 = rarely, 3 = occasionally, 4 = frequently, 5 = very frequently

B style：1 = strongly disagree, 2=disagree, 3=neutral, 4=agree 5 = strongly agree

		Scale Name	Detail
1	A-1	Learning requirements	Learning requirements: A style: 1. In my work I have to acquire new theoretical knowledge regularly. 2. In my work I have to acquire new social skills regularly. 3. In my work I have to acquire new technical skills regularly.
2	A-1	Cognitive Demands	Cognitive demands: A style： 1. My work requires weighing various aspects in order to complete my tasks. 2. There are always difficulties arising in my work which I have to consider in-depth to overcome them. 3. My work requires reacting to unpredictable developments regularly.
3	A-1	Time Pressure	Time Pressure, A style： 1.How often are you under time pressure or rushed in your work? 2.How often are you required to meet tight deadlines in your work?

4	A-1	Creative Process Engagement	Respondents answered the following question: "In your job, to what extent do you engage in the follow actions when seeking to accomplish an assignment or solve a problem?" A style: Problem identification: 1. I spend considerable time trying to understand the nature of the problem. 2. I think about the problem from multiple perspectives. 3. I decompose a difficult problem/assignment into parts to obtain greater understanding. Information searching and encoding: 4. I consult a wide variety of information. 5. I search for information from multiple sources (e.g., personal memories, others' experience, documenta tion, Internet, etc.). 6. I retain large amounts of detailed information in my area of expertise for future use. Idea generation: 7. I consider diverse sources of information in generat ing new ideas. 8. I look for connections with solutions used in seeming diverse areas. 9. I generate a significant number of alternatives to the same problem before I choose the final solution. 10. I try to devise potential solutions that move away from established ways of doing things. 11. I spend considerable time shifting through information that helps to generate new ideas.

5	A-1	Creative self efficacy	A style: 1. I think I am creative 2. I would describe myself as a talented person 3. I am gifted enough to manage problems
6	A-2	Compound Psychological Capital-12R	B style： 1. I am looking forward to the life ahead of me. 2. Overall, I expect more good things to happen to me than bad. 3. The future hoLRs a lot of good in store for me. 4. If I should find myself in a jam, I could think of many ways to get out of it. 5. I can think of many ways to reach my current goals. 6. Right now, I see myself as being pretty successful. 7. I am confident that I could deal efficiently with unexpected events. 8. I can solve most problems if I invest the necessary effort. 9. I can remain calm when facing difficulties because I can rely on my coping abilities. 10. I consider myself a person who can withstand a lot. 11. Failure does not discourage me. 12. I tend to bounce back quickly after serious life difficulties.
7	A-2	Work Place Well-Being	B style： 1. I am satisfied with my work responsibilities. 2. In general, I feel fairly satisfied with my present job. 3. I find real enjoyment in my work. 4. I can always find ways to enrich my work. 5. Work is a meaningful experience for me. 6. I feel basically satisfied with my work achievements in my current job.

8	A-2	Exhaustion	B style: 1. There are days when I feel tired before I arrive at work 2. After work, I tend to need more time than in the past in order to relax and feel better 3. I can tolerate the pressure of my work very well 4. During my work, I often feel emotionally drained 5. After working, I have enough energy for my leisure activities 6. After my work, I usually feel worn out and weary 7. Usually, I can manage the amount of my work well 8. When I work, I usually feel energized (red: reversed item)
9	A-2	Creative Idea Generation (Self Rating)	B style： 1. I created unique ideas to solve a given problem. 2. I presented alternative ideas to other group members' ideas. 3. I created details to add to other members' ideas. 4. I created many ideas to solve a given problem.

10	A-2	Creative performance (Self Rating)	B style： 1. I am original and practical in my work: Original and practical work refers to developing ideas, methods, or products that are both totally unique and especially useful to the organization; 2. I am adaptive and practical in my work: Adaptive and practical work refers to using existing information or materials to develop ideas, methods, or products that are useful to the organization; and: 3. I am creartive in my work: Creativity refers to the extent to which the employee develops ideas, methods, or products that are both original and useful to the organization.
11	A-3	Creative performance (Supervisor Rating)	Creative performance ratings. Supervisors rated the extent to which each employee produced work that was novel and useful to the organization. A style: 1. How ORIGINAL and PRACTICAL is this person's work? Original and practical work refers to developing ideas, methods, or products that are both totally unique and especially useful to the organization; 2. How ADAPTIVE and PRACTICAL is this person's work? Adaptive and practical work refers to using existing information or materials to develop ideas, methods, or products that are useful to the organization; and 3. How CREATIVE is this person's work? Creativity refers to the extent to which the employee develops ideas, methods, or products that are both original and useful to the organization.

12	A-3	Idea Implementation (Supervisor Rating)	A style: supervisor to rate the frequency with which, in the past, this employee's ideas: 1.have been approved for further development 2. have been transformed into usable products, processes, or procedures, and 3. have been successfully brought to market or have been successfully implemented at the company.