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Creative self-efficacy as mediator and cultural context as moderator in empowerment, mindset, and creative behavior

Yusmedi Nurfaizal[1*], Agapito Barros[2]
[1] Universitas Amikom Purwokerto, Purwokerto, Indonesia
[2] Universidade da Paz, Dili, Timor Leste
faizal@amikompurwokerto.ac.id
[*]Correspondent Author

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ABSTRACT

Creativity is increasingly recognized as a vital skill in digital education, influenced by both psychological and sociocultural factors. This study investigates how psychological empowerment and growth mindset influence creative behavior among digital business students, examining creative self-efficacy as a mediator and cultural context as a moderator. Using stratified proportional random sampling, data were collected from 100 students at Universitas Amikom Purwokerto and analyzed through Partial Least Squares Structural Equation Modeling with Smart PLS version 4. Results reveal that psychological empowerment and growth mindset both directly and indirectly enhance creative behavior via creative self-efficacy. Creative self-efficacy emerges as a significant mediating mechanism that amplifies these effects. Furthermore, cultural context moderates the model, with stronger pathways observed in individualistic cultures. These findings underscore the importance of nurturing self-efficacy and mindset within supportive and culturally responsive environments to foster student creativity. Theoretically, this study advances social cognitive theory, self-determination theory, and growth mindset theory by clarifying the joint influence of psychological and cultural factors. Practically, it suggests that creativity development programs centered on empowerment and mindset cultivation should be adapted to fit cultural orientations. This research offers a robust foundation for future investigations into creativity's psychological and sociocultural antecedents in digital learning contexts.

1. Introduction

In the era of accelerating technological disruption and heightened global competition, creativity has emerged as a foundational competency for both individual and organizational innovation. Defined as the capacity to generate original and valuable ideas, creative behaviour is a crucial asset in digital and educational ecosystems, shaping problem solving and innovation outcomes (Ahmad & Oon, 2025). Contemporary organisations and academic

institutions, especially within the expanding framework of the creative economy, increasingly prioritise individuals who can contribute innovative ideas rather than merely execute routine tasks. This shift underscores the importance of examining psychological and contextual factors that foster creativity (Boğa & Topcu, 2020).

Among the internal psychological variables, psychological empowerment and a growth mindset have gained attention as predictors of creativity. Psychological empowerment refers to intrinsic motivation derived from feelings of autonomy, competence, meaningfulness, and perceived impact (Spreitzer 1995; Gelaidan et al. 2022). Empowered individuals are more likely to take initiative and proactively behave in traits linked to creative performance (Al-Ajlouni, 2021). In parallel, a growth mindset, the belief that one's abilities can be developed through effort and learning, fosters perseverance, adaptive cognition, and openness to feedback conditions conducive to creative functioning (Li & Li, 2025; Caratozzolo et al., 2025).

However, possessing empowerment or a growth mindset alone may not fully explain the emergence of creative behaviour. Creative self-efficacy, an individual's belief in their creative capacity, has been proposed as a key mediating variable linking psychological empowerment and growth mindset to creative expression (Fang & Chang, 2023; Su et al., 2024). Theoretically grounded in social cognitive theory (SCT) by Bandura (1997), creative self-efficacy strengthens motivation and confidence in ideation and problem-solving, facilitating risk-taking and persistence in creative tasks (Ting & Yeh, 2024). Empirical studies confirm that individuals with high creative self-efficacy exhibit stronger creative performance, particularly when supported by psychological empowerment or growth-oriented beliefs (Branca et al., 2025; Zeng, 2025).

Complementing this cognitive framework, the self-determination theory (SDT) (Huang et al., 2025) explains how autonomy and competence core elements of empowerment activate intrinsic motivation, a vital precursor to creative behaviour. The synergistic role of these two theories offers a comprehensive psychological basis to understand how internal beliefs and motivational states shape creativity. Despite theoretical progress, the cultural context remains an underexplored moderator in creativity research. In Western individualistic societies, empowerment and growth mindsets often align with cultural values that emphasise autonomy, risk-taking, and personal agency (Chua et al., 2024). Conversely, in collectivist cultures such as Indonesia, social norms that emphasise conformity and group harmony may suppress creative expression, even among empowered or growth-oriented individuals (Iswahyudi et al., 2023; Wen et al., 2023). This highlights a significant research gap in how cultural values moderate the translation of psychological attributes into creative behaviour (Zhang et al., 2022).

Addressing this gap, the present study develops and tests an integrated model in which creative self-efficacy mediates the relationship between psychological empowerment and growth mindset with creative behaviour, and in which cultural context moderates these pathways. This dual perspective of mediation and moderation represents a methodological and theoretical advancement over prior work that tends to analyse variables in isolation. This study focuses on digital business students at Universitas Amikom Purwokerto, a population particularly relevant because of their exposure to digital tools and innovation-centric learning. While these students receive academic training in digital innovation and entrepreneurship, many face challenges in transforming their theoretical understanding into creative applications (Marampa et al., 2024; Abuzaid et al., 2024). Their ability to think creatively is crucial for success in future digital careers, yet limited research has explored how psychological and cultural factors interact to foster creativity in this context. In summary, this study contributes by clarifying how creative self-efficacy mediates the relationship between empowerment, growth mindset, and creativity and demonstrates how cultural context moderates these pathways. These findings are expected to inform both

theory and practice by offering insights into culturally responsive strategies for developing creativity in higher education, particularly in Indonesia.

2. Literature Review and Hypothesis Development

2.1. Literature Review

2.1.1. Creative Behavior

Creative behaviour is broadly defined as the consistent exhibition of novel, useful, and contextually appropriate ideas or actions across academic, professional, and social tasks. In the education sector, it plays a pivotal role in preparing students for adaptive and innovative performance amid the growing demands of a knowledge-driven economy (Ahmad & Oon, 2025). Creative behaviour enables learners to not only generate original ideas, but also critically evaluate, refine, and implement them in diverse problem-solving scenarios. In a rapidly evolving digital context, in which new technologies disrupt conventional methods, creative behaviour is increasingly valued as a fundamental graduate attribute.

Several empirical studies have confirmed the importance of creative behaviour in enhancing students' learning experience and long-term success. Ahmad and Oon (2025) emphasize that an agile mindset, paired with cognitive flexibility, fosters innovative behavior in dynamic learning ecosystems. Similarly, Huang (2025) found that students who perceive greater autonomy support from instructors tend to exhibit higher levels of creative behaviour mediated through their intrinsic motivation and cognitive engagement. Creative behaviour also correlates positively with entrepreneurship, teamwork, and adaptive learning strategies, highlighting its multidimensional benefits in higher education settings.

Furthermore, creative behaviour is influenced by both personal and contextual factors. Psychological empowerment (Nguyen & Doan, 2023), creative self-efficacy (Fang & Chang, 2023; Su et al., 2024), and a growth mindset (Burnette et al., 2020) serve as psychological enablers, transforming potential into creative performance. Environmental factors, including institutional support, learning design, and cultural orientation, play an important role in shaping how students act on their creative intentions (Wen et al., 2023; Huang, 2025). Therefore, creative behaviour should be examined as an outcome of both internal motivation and external stimulation in culturally specific contexts.

2.1.2. Psychological Empowerment

Psychological empowerment refers to an individual's intrinsic motivation, which is characterised by perceptions of meaning, competence, self-determination, and impact (Spreitzer, 1995). In academic settings, psychological empowerment occurs when students feel that their learning activities are personally meaningful, that they possess the capability to succeed, and that they can influence outcomes through their efforts. Nguyen and Doan (2023) found that psychological empowerment among university students enhanced creative engagement by fostering intrinsic motivation and increasing involvement in creative processes.

Empirical research has consistently demonstrated a strong relationship between psychological empowerment and innovation. Gelaidan et al. (2022) demonstrated that empowered individuals are more likely to engage in non-routine, proactive behaviors that contribute to creativity and innovation, especially in rapidly changing environments. Similarly, Bantha and Nayak (2023) highlight psychological empowerment as a crucial mediator between workplace spirituality and employee creativity, underscoring its motivational role. Meta-analytic findings by Llorente-Alonso

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et al. (2024) further confirm that psychological empowerment significantly predicts a range of positive organizational outcomes, including creativity, job satisfaction, and engagement.

Additionally, the influence of empowerment is shaped by social and institutional dynamics. Abuzaid et al. (2024) showed that ethical and empowering leadership enhance psychological empowerment, which in turn drives innovative behaviour. In academic institutions, teacher behaviours that convey trust and grant autonomy can foster student empowerment, thus encouraging creative contributions. Marampa et al. (2024) also emphasized the role of kinship engagement and psychological empowerment in enhancing innovative behavior, suggesting that both internal and relational factors must be aligned to optimize creative output. Therefore, psychological empowerment functions as a key mechanism that links learning environments to creative outcomes.

2.1.3. Growth Mindset

A growth mindset is the belief that intelligence and abilities can be developed through effort, perseverance, and learning from challenges (Dweck 2016). In educational settings, this mindset influences how students interpret setbacks and feedback, shaping their motivation and behaviour. Students with a growth mindset are more likely to persist in the face of difficulty, embrace academic challenges, and apply diverse strategies for problem-solving. Burnette et al. (2020) demonstrated that interventions aimed at fostering a growth mindset significantly enhance students' entrepreneurial self-efficacy and creativity, illustrating its transformative potential in higher education.

The positive impact of a growth mindset on creativity has been well-documented in recent studies. Zeng (2025) confirmed that students with strong growth beliefs are more likely to engage in creative thinking and information and communication technology related innovation, particularly when supported by environmental factors. He and Chiang (2024) further identified creativity motivation as a mediator between growth mindset and creative performance, indicating that mindset influences not only cognitive processing, but also emotional investment in creative tasks. The capacity to sustain creative efforts over time, especially in the face of failure or ambiguity, is enhanced by the belief in one's ability to grow and improve.

Importantly, the growth mindset does not operate in isolation, but interacts with institutional and cultural contexts. Kong et al. (2025) developed a validated growth mindset assessment for nursing students, highlighting its adaptability across disciplines. Similarly, Li and Li (2025) emphasised that school climate plays a crucial role in translating the growth mindset into creative outcomes via self-efficacy. Educational strategies that emphasise reflection, process-oriented feedback, and challenge-based learning have been found to amplify the effects of a growth mindset on creativity (Yeh et al., 2024). Thus, cultivating a growth mindset within supportive environments can significantly enhance students' creative capacity.

2.1.4. Creative Self-Efficacy

Creative self-efficacy refers to an individual's belief in their ability to generate original and useful ideas (Bandura, 1997). It plays a pivotal role in transforming creative potential into creative action by influencing one's willingness to take intellectual risks, persevere through failure, and experiment with unconventional ideas. Drawing from SCT, creative self-efficacy is regarded as a proximal motivational factor that bridges internal resources and behavioural expression. Su et al. (2024) found that

students with high creative self-efficacy were more likely to engage in innovative behavior, especially when supported by positive teacher–student relationships and proactive personality traits.

Empirical findings have consistently shown that creative self-efficacy mediates the effects of various psychological factors on creativity. Fang and Chang (2023) revealed that college students' creative performance was significantly influenced by their level of creative self-efficacy, particularly when the institutional climate supported innovation. Similarly, Liu et al. (2024) demonstrated that creative self-efficacy significantly predicted innovation behaviour in a nursing context, serving as a conduit between personal competencies and creative outcomes. These findings reinforce the assertion that creative self-efficacy is not only an outcome of mindset or empowerment, but also a critical mechanism through which these variables translate into behavioural creativity.

Furthermore, contextual variables such as organizational climate, leadership style, and learning environment can either amplify or inhibit the effect of creative self-efficacy. Al-Ajlouni (2021) argued that high-performance work systems enhance creative performance by fostering psychological engagement, which is in turn shaped by creative self-efficacy. Likewise, Puente-Díaz and Cavazos-Arroyo (2017) emphasised that creative mindsets significantly predict creative self-efficacy and creative achievement goals among business students. These findings suggest that creative self-efficacy is not a static trait, but can be cultivated through targeted interventions, including feedback, reflection, and exposure to creative tasks. Therefore, creative self-efficacy is a vital psychological link that mediates the transformation of cognitive and affective resources into creative behaviour.

2.1.5. Cultural Context

The cultural context, particularly the dimension of individualism versus collectivism, exerts a significant moderating influence on how psychological attributes translate into behaviour. Individualistic cultures prioritise autonomy, self-expression, and personal achievement, which tends to reinforce the effects of empowerment and mindset on creativity (Żemojtel-Piotrowska & Piotrowski, 2023). By contrast, collectivist cultures emphasise social harmony, conformity, and group cohesion, which may constrain creative expression. Wen et al. (2023) found that cultural orientation moderated the impact of psychological empowerment on engagement, suggesting that the same psychological constructs may operate differently across cultures.

This cultural variability is especially salient in creativity research, in which autonomy and freedom are often cited as prerequisites for innovation. Chua et al. (2024) observed that both formal and informal cultural tightness within organizations significantly affected employee creativity, with stricter cultural norms limiting idea expression. Zhang et al. (2022) also reported that vertical collectivism moderates the relationship between performance-based pay and creativity, revealing that creativity can be suppressed in cultures that discourage deviation from group norms. These findings imply that, in collectivist settings, students may require additional cultural or social support to fully activate the empowering effects of mindset or self-efficacy.

Moreover, cultural context influences how learners interpret autonomy, risk-taking, and feedback elements essential for creative engagement. He and Zhang (2024) discovered that cultural orientation moderates the link between growth mindset and self-efficacy, with stronger effects observed in individualist-leaning individuals. In Indonesia, where collectivist values are predominant, such as maintaining respect for authority and group consensus, these dynamics are particularly relevant. Therefore,

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examining cultural context as a moderator helps clarify the cultural conditions under which psychological empowerment and growth mindset are most effective in fostering creative behaviour.

2.2. Hypothesis Development

2.2.1. Positive Effect of Psychological Empowerment on Creative Behavior

Psychological empowerment is a motivational state in which individuals perceive themselves as autonomous, competent, purposeful, and capable of exerting a meaningful influence within their environment (Nguyen & Doan, 2023). Rooted in SDT, this construct emphasises the intrinsic psychological needs of autonomy, competence, and relatedness that foster sustained engagement and creativity (Standage et al., 2025). Empirical evidence confirms that empowered individuals are more likely to pursue innovative and value-driven actions because of a heightened sense of purpose and control (Gelaidan et al., 2022). For instance, Khattak et al. (2024) found that psychological empowerment encourages original and useful contributions in the workplace, whereas Qu et al. (2024) noted its role in amplifying intrinsic motivation as an essential trigger for creative behaviour. Complementing this, Fang and Chang (2023) and Su et al. (2024) linked empowerment to increased ideation and persistence, reinforcing its predictive power in creative contexts. Cognitive-motivational mechanisms also explain this link, as empowerment enhances self-efficacy and proactive engagement, both of which are central to the creative process (Żemojtel-Piotrowska & Piotrowski, 2023). Therefore, when individuals feel psychologically empowered, they are more inclined to initiate, persist, and effectively execute innovative ideas. **H_1: Psychological Empowerment Has a Positive Effect on Creative Behavior**

2.2.2. Positive Effect of Growth Mindset on Creative Behavior

A growth mindset refers to the belief that intelligence and abilities can be developed through sustained effort, learning, and persistence, which significantly influences creative behaviour (Dweck, 2016). Individuals with a growth mindset tend to approach challenges as opportunities rather than threats, displaying resilience, receptivity to feedback, and adaptability in the face of setbacks (Zeng 2025). Grounded in Bandura's (1997) SCT, this mindset framework posits that self-beliefs about personal development shape motivation and action. Empirical findings support its critical role in creativity. Li and Li (2025) observed that students endorsing a growth mindset exhibited stronger creative problem-solving, while Zeng (2025) found they were more likely to pursue novel ideas and demonstrate originality. Azkarate-Iturbe et al. (2024) further reported that individuals with this mindset possess higher creative self-efficacy, which amplifies their innovation performance. Similarly, Puente-Díaz and Cavazos-Arroyo (2017) highlighted that growth-minded individuals tolerate ambiguity better and take more intellectual risks, both of which are essential for creative output. These findings are echoed in both academic and organizational settings. Zeng (2025) showed that growth mindset interventions improved students' creative thinking, and Yeh et al. (2024) confirmed its positive effect on employee innovation. This relationship is also consistent with self-determination theory by Standage et al. (2025), which asserts that when individuals believe their potential is expandable through effort, they become intrinsically motivated to engage in cognitively demanding tasks, such as creativity. **H_2: Growth Mindset Has a Positive Effect on Creative Behavior**

2.2.3. Positive Effect of Creative Self-Efficacy on Creative Behavior

Creative self-efficacy defined as an individual's belief in their ability to generate original and valuable ideas, is widely acknowledged as a core psychological driver of creative behaviour across academic and professional domains. Rooted in SCT by Bandura (1997), creative self-efficacy functions as a motivational construct that influences how individuals approach challenges, persist in problem solving, and engage in idea generation. Individuals with high creative self-efficacy tend to embrace the risk, experimentation, and ambiguity attributes that are central to creativity (Liu et al., 2024). In educational contexts, students with strong creative self-efficacy display higher confidence in navigating complex tasks, offering novel solutions, and sustaining engagement in creative processes despite setbacks (Ting and Yeh 2023). Empirical findings have also demonstrated that creative self-efficacy not only directly enhances creative performance but also strengthens the effects of other psychological enablers such as psychological empowerment and growth mindset on creativity (Zeng, 2025; Liu et al., 2024). This is especially salient in digital learning environments where innovation, autonomy, and adaptability are critical for success. Su et al. (2024) emphasized that students with high creative self-efficacy are more likely to take initiative, manage uncertainty, and sustain creative engagement in such contexts. Therefore, students with elevated levels of creative self-efficacy are expected to show greater creative behaviour, particularly in innovation-centric academic environments, such as digital businesses. **H_3: Creative Self-Efficacy Has a Positive Effect on Creative Behavior**

2.2.4. Positive Effect of Psychological Empowerment on Creative Self-Efficacy

Psychological empowerment is defined as a set of motivational cognitions encompassing autonomy, competence, meaning, and impact that collectively enhance intrinsic motivation and perceived control over tasks (Nguyen & Doan, 2023). In creativity-reliant environments, these perceptions play a critical role in shaping the self-beliefs that drive creative behaviour. According to Bandura's (1997) SCT, feelings of empowerment contribute to self-efficacy through mastery experiences, verbal encouragement, and positive emotional feedback. Empowered individuals are more likely to believe in their capacity to creatively generate original ideas and approach problems. The empirical evidence supports this view. Meirun et al. (2024) found that psychological empowerment significantly predicts creative self-efficacy, particularly when individuals are granted autonomy and responsibility. Complementing this, Llorente-Alonso et al. (2024) highlighted that empowerment enhances one's internal locus of control, which in turn reinforces cognitive confidence in creative expression. Thus, empowerment functions not only as a motivational force but also as a psychological resource that fosters belief in one's creative potential. **H_4: Psychological Empowerment Has a Positive Effect on Creative Self-Efficacy**

2.2.5. Positive Effect of Growth Mindset on Creative Self-Efficacy

A growth mindset, as defined by Kong et al. (2025), refers to the belief that intelligence and abilities can be developed through continuous effort, learning, and persistence. This mindset promotes resilience, adaptive coping, and a constructive attitude toward feedback traits that are fundamental to developing creative capabilities (Llorente-Alonso et al., 2024). Central to this relationship is creative self-efficacy, or an individual's confidence in their ability to produce novel and valuable ideas (Li & Li, 2025). Based on Bandura's (1997) SCT, beliefs about personal growth influence self-efficacy through the reinterpretation of setbacks as learning experiences. A growth

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mindset enhances creative self-efficacy by reinforcing mastery-oriented thinking and reducing the fear of failure. Empirical studies provide strong support for this pathway, and Zeng (2025) reported that individuals with a growth mindset display higher levels of creative self-efficacy when solving complex problems. Li and Li (2025) showed that this mindset promotes motivational strategies such as goal orientation and perseverance that translate into elevated confidence in one's creative potential. Therefore, those who adopt a growth mindset are more likely to believe in and act on their ability to perform creatively. **H_5: Growth Mindset Has a Positive Effect on Creative Self-Efficacy**

2.2.6. Creative Self-Efficacy as a Mediator Between Psychological Empowerment and Creative Behavior

Creative self-efficacy defined as an individual's belief in their ability to generate original and useful ideas (Llorente-Alonso et al., 2024), serves as a central motivational mechanism in the translation of psychological resources into creative behavior. Rooted in SCT by Bandura (1997), creative self-efficacy strengthens individuals' perceived competence and agency, enabling them to act on creative intentions. Psychological empowerment comprising autonomy, meaning, competence, and impact has been shown to significantly enhance creative self-efficacy, as empowered individuals tend to develop stronger confidence in their creative capabilities (Su et al., 2024). Empirical findings support this mediating pathway, Khattak et al. (2024) demonstrated that creative self-efficacy plays a crucial role in channeling the influence of empowerment into creative behavior. Puente-Díaz and Cavazos-Arroyo (2017) found that individuals with high empowerment levels are more likely to exhibit elevated creative self-efficacy, which fosters risk-taking and innovation. These results underscore that empowerment alone does not directly lead to creativity unless individuals also believe in their creative ability to act. **H_6: Creative Self-Efficacy Mediates the Effect of Psychological Empowerment on Creative Behavior**

2.2.7. Creative Self-Efficacy as a Mediator Between Growth Mindset and Creative Behavior

The growth mindset, as defined by Kong et al. (2025), reflects the belief that intelligence and abilities can be developed through sustained effort, learning, and perseverance, an orientation that promotes adaptive motivation and constructive response to challenges. Based on Bandura's (1997) SCT, such beliefs shape efficacy expectations by reinforcing perceptions of personal growth potential. Thus, individuals who embrace a growth mindset are more inclined to believe in their capacity to perform creatively, thereby strengthening their creative self-efficacy (Zeng, 2025). Recent studies confirm this mediating link, and Zeng (2025) found that students with strong growth beliefs demonstrate higher creative self-efficacy, which in turn elevates their creative performance. Complementing this, Barua et al. (2024) emphasised that creative self-efficacy acts as a psychological conduit that enables individuals to take initiative, persist through obstacles, and effectively execute creative tasks. This relationship is also aligned with SDT (Standage et al., 2025), which explains that the fulfilment of competence, a need enhanced by a growth mindset, supports sustained creativity. Therefore, creative self-efficacy functions as a critical mediator that channels growth-oriented beliefs into observable creative behaviour. **H_7: Creative Self-Efficacy Mediates the Effect of Growth Mindset on Creative Behavior**

2.2.8. Cultural Context as a Moderator Between Psychological Empowerment and Creative Behavior

The cultural context, particularly the distinction between individualistic and collectivist orientations, significantly moderates the relationship between psychological empowerment and creative behaviour. Nguyen and Doan (2023) argue that psychological empowerment consists of perceived autonomy, competence, meaning, and impact, which are known to enhance creative performance by increasing intrinsic motivation and self-confidence (Su et al., 2024). However, the degree to which empowerment fosters creativity is influenced by cultural norms. In individualistic cultures that emphasise personal autonomy and self-expression, empowerment aligns closely with prevailing values, thereby encouraging creative risk-taking and the generation of original ideas (Kyambade et al., 2024). By contrast, collectivist cultures prioritise social harmony and conformity, which can suppress the behavioural manifestation of empowerment despite internal motivation. Bandura (1997) underscores how sociocultural environments interact with psychological factors to shape behaviour. The empirical evidence supports this cultural moderation. Wen et al. (2023) and Su et al. (2024) found that the impact of psychological empowerment on creativity was significantly stronger in individualistic settings than in collectivist ones, where fear of social sanctions may inhibit idea expression. Żemojtel-Piotrowska and Piotrowski (2023) further noted that even empowered individuals in collectivist contexts might restrain creative behaviour to preserve group cohesion. These findings demonstrate that the cultural context affects how psychological empowerment translates into creative outcomes. **H_8: Cultural Context Moderates the Effect of Psychological Empowerment on Creative Behavior**

2.2.9. Cultural Context as a Moderator Between Growth Mindset and Creative Behavior

The relationship between growth mindset and creative behaviour is influenced by the cultural context, particularly the contrast between individualistic and collectivist orientations. The growth mindset belief that abilities can be developed through effort and learning (Dweck, 2016) is a well-established driver of creativity, but behavioural outcomes vary depending on sociocultural norms. In individualistic cultures that emphasise autonomy, personal achievement, and independent thought, individuals with a growth mindset are more likely to express creativity, as cultural values reinforce intellectual risk taking and self-improvement (He & Zhang, 2024; Li & Li, 2025). Conversely, in collectivist cultures, where conformity, group cohesion, and social harmony are prioritised, expressing novel or divergent ideas may be discouraged even among those with strong beliefs in personal growth due to fear of social judgment or disruption of group stability (Wen et al., 2023; He & Chiang, 2024). These differences are aligned with Bandura's (1997) SCT, and the interaction between individual beliefs and sociocultural environments influences whether growth-oriented cognition is actualised through creative behaviour. Empirical studies support this moderation effect, Jiang (2025) found a stronger impact of growth mindset on creativity in individualistic contexts, while He and Zhang (2024) and He and Chiang (2024) demonstrated that collectivist norms can dampen this effect. **H_9: Cultural Context Moderates the Effect of Growth Mindset on Creative Behavior**

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2.3. Research Model

The proposed research model investigates the interplay between psychological empowerment, growth mindset, creative self-efficacy, cultural context, and creative behaviour. It posits that psychological empowerment and a growth mindset both directly and indirectly influence creative behaviour through the mediating role of creative self-efficacy. Furthermore, the model incorporates cultural context as a moderator, hypothesising that cultural values shape the strength of the direct relationships. This integrated framework is grounded in SCT, SDT, and growth mindset theory and offers a comprehensive view of how internal psychological resources and external sociocultural factors jointly affect creativity. The Figure 1 as model aims to provide nuanced insights into the antecedents of creative behaviour, particularly in the context of digital business students in collectivist academic settings.

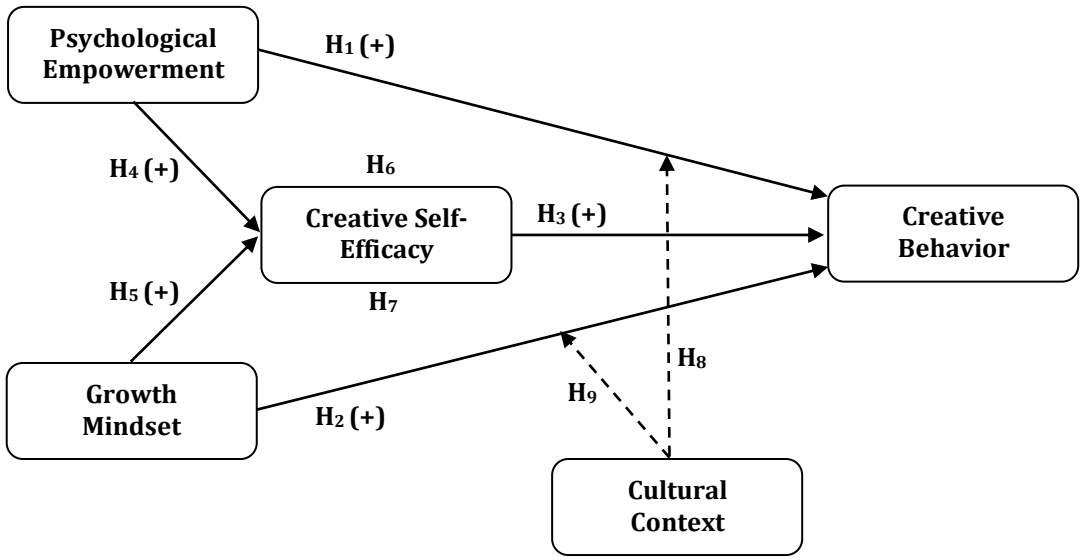

Figure 1. Research Framework

3. Research Methods

3.1. Research Design

This study adopts a quantitative approach with a cross-sectional survey design to analyse the effects of psychological empowerment and growth mindset on creative behaviour among digital business students. Creative self-efficacy was examined as a mediating variable that explains how these psychological constructs translate into creative outcomes. Furthermore, this study incorporates cultural context as a moderating variable, which is hypothesised to influence the strength of the relationships between psychological empowerment, growth mindset, and creative behaviour. Data were collected using a structured questionnaire distributed to students at the University of Amikom Purwokerto in February 2025. This design enables researchers to capture a real-time snapshot of participants' cognitive and behavioural states within a specific educational and cultural context, allowing for the assessment of direct, indirect, and moderated effects within the research framework.

3.2. Population and Sampling Method

The population of this study comprised 331 undergraduate students enrolled in the Digital Business Program at Universitas Amikom Purwokerto during the 2024/2025 academic year. This population was chosen because students in this field are intensively engaged in digital innovation, entrepreneurship, and project-based learning domains, where creativity is essential. Investigating psychological factors that foster creativity within this population provides timely and contextually relevant insights into digital-era education. To ensure that the sample reflected diversity within this population, stratified proportional random sampling was employed. Stratification was based on the students' academic year (1st to 4th year) to ensure proportional representation of each cohort in the sample. This approach was chosen to reduce sampling bias, increase statistical precision, and enhance the generalisability of the findings across different stages of student development. Within each academic stratum, participants were randomly selected, thereby preserving the benefits of random sampling while maintaining the structural proportions of the population. A total of 100 students were selected as respondents, representing an adequate sample size for the ((PLS-SEM). According to Hair et al. (2019), the minimum sample size should be at least five times the number of indicators associated with the most complex construct.

3.3. Data Collecting Method

This research utilized A structured questionnaire was used as the primary tool for collecting data, employing a 5-point Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree) to record participant responses. The instrument was divided into four sections, each designed to measure the central construct of the study's conceptual model. Psychological empowerment was measured using five items adapted from Spreitzer (1995), while growth mindset was assessed using five items adapted from Sigmundsson and Haga (2024). Creative self-efficacy was measured using five items from Shaw et al. (2021) and creative behaviour was measured using 5 a modified version of the instrument developed by Bantha and Nayak (2023). The cultural context variable was operationalised using five items adapted from Triandis and Gelfand (1998), capturing individual-level perceptions of cultural orientation. The responses were then dichotomised into two categories (0 = collectivist, 1 = individualist) based on median-split scoring to allow for moderation analysis. The questionnaire was distributed online in February 2025 to students enrolled in the Digital Business program at the University of Amikom Purwokerto. The survey link was disseminated through institutional communication platforms including email and social media. The participants were briefed on the purpose of the study, assured of confidentiality, and invited to participate voluntarily and anonymously, ensuring compliance with ethical standards and promoting honest responses.

3.4. Data Analysis Method

To evaluate the adequacy of the measurement model, several criteria were applied to ensure its validity and reliability. First, indicator reliability was assessed by examining outer loadings, with items retained if standardised loadings were ≥ 0.70, following the threshold recommended by Hair et al. (2021). Indicators with lower loadings were considered for removal if they compromised the construct reliability. Internal consistency was measured using both Cronbach's alpha and composite reliability (CR), with values exceeding 0.7 indicated acceptable internal consistency across all constructs. Convergent validity was confirmed through average variance extracted (AVE), where all constructs achieved AVE values greater than 0.50, signifying that more than half of the variance in

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indicators was captured by their latent constructs (Fornell & Larcker, 1981). Discriminant validity was tested using two approaches: the Fornell-Larcker criterion, which compares the square root of AVE to inter-construct correlations, and the heterotrait-monotrait ratio (HTMT), which requires values below 0.9 (Henseler et al., 2015). Both criteria confirmed satisfactory discriminant validity, establishing that each construct was empirically distinct and valid for further structural model analyses.

Following confirmation of the measurement model adequacy, the structural model was evaluated to test the hypothesised relationships among the constructs. Path coefficients were calculated to determine the direction and strength of influence of the variables, providing insight into the predictive relationships within the model. Statistical significance was assessed using the bootstrapping method with 5,000 subsamples, as recommended by variance-based SEM procedures (Hair et al., 2021). Hypotheses were considered supported if the resulting t-values exceeded 1.96 and p-values were below 0.05, indicating a statistically significant effect at the 5% confidence level.

To further assess the explanatory power of the model, the coefficient of determination (R^2) was examined for all endogenous variables. R^2 values closer to 1 suggest greater predictive accuracy, with thresholds of 0.25 (weak), 0.5 (moderate), and 0.75 (substantial) often used as benchmarks (Hair et al. 2021). Additionally, the effect size (f^2) was analysed to evaluate the practical contribution of each exogenous variable, where values of 0.02, 0.15, and 0.35 are interpreted as small, medium, and large effects, respectively. A mediation analysis was conducted to assess the indirect effect of psychological empowerment and growth mindset on creative behaviour through creative self-efficacy. Moderation analysis tested the interaction effects of cultural context on the selected path relationships using interaction terms. The significance of both mediation and moderation was determined based on the path coefficient, t-values, and confidence intervals, in line with recommendations for PLS-SEM-based moderation-mediation models (Henseler et al., 2015).

4. Results and Discussion

4.1. Characteristics of Respondents

Table 1 presents a comprehensive summary of the demographic characteristics of 100 digital business students from University Amikom Purwokerto who participated in this study. The gender distribution indicated that 63% of respondents were male (n = 63), while 37% were female (n = 37), reflecting a modest predominance of male participants. This composition may mirror the actual gender balance within a university's digital business program. All participants fell within the age range of 18 to 21 years, a developmental stage commonly associated with accelerated cognitive growth, heightened self-awareness, and emerging creative capabilities (Wong et al. 2024). More specifically, 20% of the respondents were aged 18, 25% were 19, 30% were 20, and the remaining 25% were 21 years old. This relatively even distribution ensures that the sample represents students at various stages of early adulthood, which is a critical period for cultivating creative thinking and self-efficacy (Holt et al., 2024).

In terms of academic standing, the sample was well balanced across academic years: 35% of students were in their first year, 35% in their second year, and 30% in their third year of study. This diversity enables this study to capture insights from students with differing levels of academic exposure. First-year students may demonstrate openness to new ideas and learning approaches, whereas those in later years may exhibit greater academic maturity and refined cognitive strategies (Benerji et al., 2024). The demographic attributes of the sample are highly pertinent to the focus of the study, which centres on psychological empowerment, a growth mindset, creative self-efficacy, and creative

behaviour. As university students in a digital business program, respondents are likely to be actively engaged in creativity-driven learning environments. Moreover, their age and academic background align with developmental theories suggesting that creative competencies and motivational beliefs, such as self-efficacy, are particularly dynamic during this life phase (Bandura, 1997). Overall, the diversity in gender, age, and academic year among the participants enhanced the reliability and generalisability of the study's findings. It also provides a solid contextual basis for analysing the psychological and cognitive determinants of creativity in higher education settings, particularly within technology-oriented disciplines.

Table 1. Characteristics of Respondents

Characteristic	Frequency	Percentage
Gender		
Male	63	63%
Female	37	37%
Age		
18 years	20	20%
19 years	25	25%
20 years	30	30%
21 years	25	25%
Year of Study (Study Period)		
1st Year (1 year)	35	35%
2nd Year (2 years)	35	35%
3rd Year (3 years)	30	30%

4.2. Validity Test Result

Table 2 presents the outer loadings for each measurement item associated with the latent constructs in this study, providing empirical support for the indicator reliability and convergent validity. According to Hair et al. (2021), an outer loading value of 0.7 or higher is generally considered acceptable for confirming that an item reliably measures its intended construct. All items included in this study exceeded this threshold, with loadings ranging from 0.876 to 0.979, demonstrating strong correlations between indicators and their respective latent variables. Specifically, the construct of creative behaviour (CB) is measured by five items (CB 1 – CB 5), all of which exhibit exceptionally high outer loadings between 0.974 and 0.979. This indicates that these items are highly representative of the construct, thus reinforcing its reliability. Likewise, the construct creative self-efficacy (CSE) comprises five indicators (CSE 1 – CSE 5) with loadings ranging from 0.876 to 0.928, all surpassing the recommended cut-off, thus affirming the construct's robustness in capturing the respondents' confidence in their creative capabilities.

The growth mindset (GM) construct was similarly validated by five items (GM 1 – GM 5), with loadings between 0.943 and 0.964, reflecting a high degree of internal consistency. For psychological empowerment (PE), the five indicators (PE 1 – 5) report outer loadings between 0.940 and 0.965, further substantiating the construct's reliability in measuring dimensions such as autonomy, competence, meaning, and impact. Finally, the cultural context is (CC) operationalised as a binary (dummy) variable and is represented by a single-item indicator with an outer loading of 1.000. While this is typical for categorical constructs, it confirms that the indicator fully corresponds to the intended variable.

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Table 2. Outer Loadings of Measurement Items

Indicator	Creative Behavior	Creative Self-Efficacy	Cultural Context	Growth Mindset	Psychological Empowerment
CB1	0.975				
CB2	0.976				
CB3	0.979				
CB4	0.976				
CB5	0.974				
CSE1		0.919			
CSE2		0.876			
CSE3		0.911			
CSE4		0.928			
CSE5		0.898			
GM1				0.964	
GM2				0.951	
GM3				0.946	
GM4				0.943	
GM5				0.950	
PE1					0.940
PE2					0.965
PE3					0.957
PE4					0.952
PE5					0.946
CC			1.000		

All the indicator loadings were evaluated to ensure that each observed item accurately represented its corresponding latent construct. As shown in Figure 2, all measurement items loaded strongly on their respective constructs, with standardised outer loading values exceeding the minimum acceptable threshold of 0.7 (Hair et al., 2021). Specifically, indicators for creative behavior (CB 1 – CB 5) exhibited exceptionally high loadings, ranging from 0.974 to 0.979, reflecting excellent internal consistency. Similarly, creative self-efficacy items (CSE 1 – CSE 5) ranged from 0.876 to 0.928, and growth mindset items (GM 1 – GM 5) ranged from 0.943 to 0.964, indicating robust indicator reliability across constructs.

Moreover, items measuring psychological empowerment (PE 1 – PE 5) also loaded strongly (0.940–0.965), while cultural context, modelled as a single-item construct, demonstrated a perfect loading of 1.000 by definition. These findings support the unidimensionality of each construct, and confirm that no items need to be eliminated. The visual representation in Figure 2 illustrates these loadings within the measurement model, and affirms the clarity and strength of the indicator construct relationships. Collectively, the outer loading analysis confirmed the reliability of the reflective measurement model and provided a valid foundation for the structural model testing.

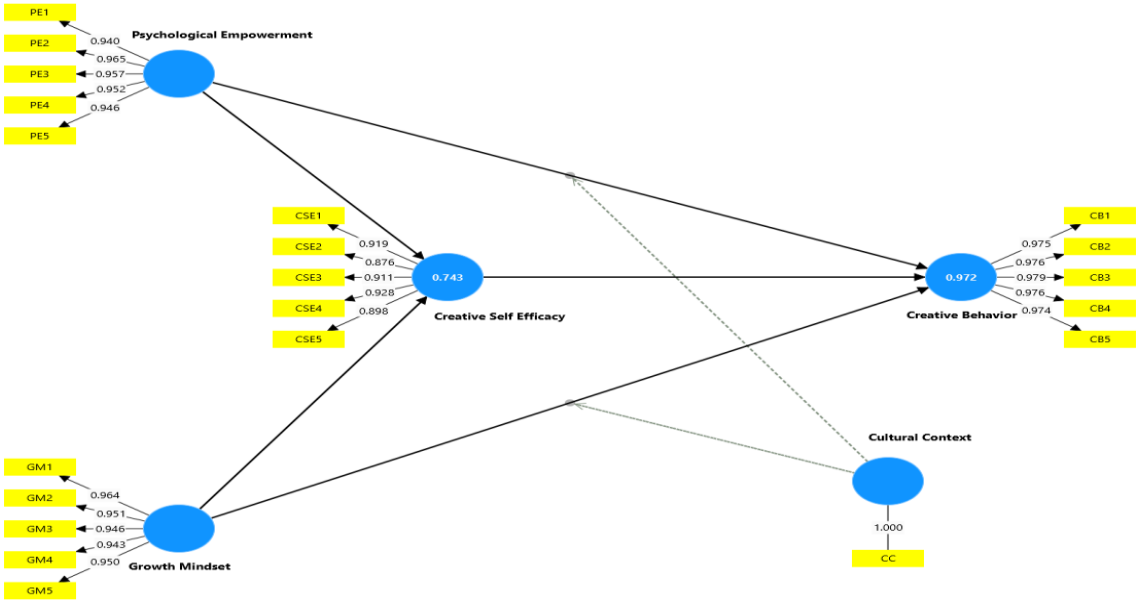

Figure 2. Outer Loading Model

4.3. Reliability Test Result

Evaluation of the measurement model was carried out using PLS-SEM via Smart PLS version 4, in accordance with the methodological recommendations of Hair et al. (2019). Cronbach's alpha and composite reliability were used to assess each construct's internal consistency. As detailed in Table 3, the values of Cronbach's alpha ranged between 0.946 and 0.987, clearly exceeding the standard cut-off point of 0.70, indicating high reliability. Additionally, all composite reliability values were above 0.85, confirming that the measurement instruments used in this study demonstrated strong consistency and reliability.

Table 3. Reliability Test Result

Variable	Cronbach's Alpha	Composite Reliability	Average Variance Extracted
Psychological Empowerment	0.987	0.987	0.952
Growth Mindset	0.946	0.946	0.821
Creative Self-Efficacy	0.973	0.974	0.904
Creative Behavior	0.974	0.974	0.906

To confirm convergent validity, AVE for each construct was reviewed, with all values exceeding the minimum criterion of 0.5. To evaluate discriminant validity, the study applied the Fornell-Larcker technique, which involves comparing the square root of the AVE for each construct with its correlations to other constructs, ensuring that each variable remains conceptually distinct within the measurement model.

Table 4. Fornell-Larcker Criterion Test Result

Constructs	PE	GM	CSE	CB
Psychological Empowerment	0.781			
Growth Mindset	0.552	0.771		
Creative Self-Efficacy	0.641	0.590	0.797	
Creative Behavior	0.672	0.621	0.710	0.813

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Table 4 displays the outcomes of the discriminant validity analysis using the Fornell-Larcker criterion, which asserts that each construct should exhibit stronger correlations with its own indicators than with other latent variables in the model. This criterion is satisfied when the square root of the AVE presented on the diagonal is higher than the corresponding off-diagonal inter-construct correlations. The diagonal AVE values for psychological empowerment (0.781), growth mindset (0.771), creative self-efficacy (0.797), and creative behaviour (0.813) exceeded their correlations with other constructs. Although some associations, such as those between creative self-efficacy and creative behaviour (0.710) and between psychological empowerment and creative self-efficacy (0.641), reflect moderate levels of correlation, these values remain below the AVE thresholds. These findings confirm that the constructs in the model maintain sufficient discriminant validity, thus ensuring their conceptual uniqueness within the structural model.

4.4 Hypothesis Test Result

A structural model was tested to examine the hypothesised relationships between variables. The results, as presented in Table 5, demonstrate that all hypothesised relationships are statistically significant. Table 5 reports the hypothesis-testing outcomes using PLS-SEM with bootstrapping, evaluating the direction, magnitude, and significance of each proposed path. The statistical indicators path coefficient (β), standard deviation (STDEV), t-statistics, and p-values demonstrate that all nine hypotheses are supported, as each path meets the thresholds of $t > 1.96$ and p value < 0.05 (Hair et al., 2021).

The direct effect of psychological empowerment on creative behaviour is positive, confirming that students who perceive themselves as empowered through autonomy, competence, meaning, and impact are more likely to engage in creative actions. This finding underscores the importance of motivational factors in stimulating innovation performance. Similarly, the second hypothesis is supported by the path from a growth mindset to creative behaviour, indicating that students who believe in their ability to develop through effort and learning tend to demonstrate more creative tendencies in academic contexts.

Regarding the third hypothesis, creative self-efficacy has a positive influence on creative behaviour, suggesting that students with higher confidence in their creative capabilities are more willing to take intellectual risk and engage in novel idea generation. This finding reinforces the role of self-efficacy as a direct predictor of creativity. The analysis also supports the fourth hypothesis, which states that psychological empowerment positively predicts creative self-efficacy. This relationship indicates that empowered individuals tend to internalise a stronger sense of creative confidence. In line with this, the fifth hypothesis was also validated by the positive impact of a growth mindset on creative self-efficacy, demonstrating that a belief in personal development directly nurtures students' creative self-beliefs.

Further analysis confirmed the mediating role of creative self-efficacy in both psychological and cognitive pathways. The sixth hypothesis was supported by the significant indirect effect of psychological empowerment on creative behaviour through creative self-efficacy, indicating that self-efficacy transmits the motivational benefits of empowerment into actual creative action. Similarly, the seventh hypothesis is substantiated through the mediation effect of a growth mindset on creative behaviour via creative self-efficacy, reinforcing that belief in one's developmental potential enhances creativity primarily through increased confidence.

The moderation analysis yielded several significant findings. The eighth hypothesis states that cultural context moderates the relationship between psychological

empowerment and creative behaviour, showing that the empowering effect is amplified in individualistic cultures, where personal agency and autonomy are emphasised. Finally, the ninth hypothesis confirms that the relationship between growth mindset and creative behaviour is contingent upon cultural context, with stronger effects observed in environments that value self-expression and personal initiative.

Table 5. Hypothesis Test Result

Hypothesis	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
Creative Self Efficacy → Creative Behavior	0.266	0.265	0.042	6.270	0.000
Growth Mindset → Creative Behavior	0.136	0.137	0.042	3.266	0.001
Growth Mindset → Creative Self Efficacy	0.388	0.390	0.060	6.506	0.000
Psychological Empowerment → Creative Behavior	0.155	0.156	0.043	3.590	0.000
Psychological Empowerment → Creative Self Efficacy	0.670	0.670	0.051	13.047	0.000
Growth Mindset → Creative Self Efficacy → Creative Behavior	0.103	0.103	0.024	4.322	0.000
Psychological Empowerment → Creative Self Efficacy → Creative Behavior	0.178	0.177	0.031	5.751	0.000
Cultural Context X Growth Mindset → Creative Behavior	0.167	0.167	0.050	3.327	0.001
Cultural Context X Psychological Empowerment → Creative Behavior	0.155	0.156	0.040	3.913	0.000

4.5. Discussion

4.5.1. The Positive Effect of Psychological Empowerment on Creative Behavior

This study confirms that psychological empowerment has a positive influence on creative behaviour, reinforcing the notion that when individuals feel autonomous and competent, and that their work is meaningful, they are more likely to demonstrate creativity. Empowered individuals tend to take the initiative, approach problems from novel perspectives, and pursue innovative outcomes. This relationship is well grounded in SDT (Standage et al., 2025), which posits that autonomy and competence are central to intrinsic motivation, which is a key driver of creative engagement. Recent studies echoed these findings in various contexts. Al-Ajlouni (2021) found that psychological empowerment significantly enhanced creative performance among knowledge workers by fostering a sense of ownership and proactive behavior. Meirun et al. (2024) showed that employees who perceived high empowerment were more likely to propose original ideas and implement them in team settings. Additionally, Qu et al. (2024) reported that empowerment increases creative behaviour in higher education environments, particularly when individuals feel trusted and capable of making impactful decisions. These empirical insights suggest that psychological empowerment not only enhances

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individual motivation, but also cultivates the cognitive flexibility and confidence required for creative expression. Thus, institutions aiming to boost creativity should prioritise empowerment strategies that enhance individuals' sense of control, purpose, and competence in their roles.

4.5.2. The Positive Effect of Growth Mindset in Enhancing Creative Behavior

This analysis confirms that individuals with a growth mindset are more likely to exhibit creative behaviour, reinforcing the theoretical perspective that beliefs about the malleability of one's abilities play a pivotal role in creative development. According to Dweck's (2016) growth mindset theory, those who believe that skills can be cultivated through effort, learning, and perseverance tend to be more open to experimentation, embrace setbacks as opportunities to grow, and approach problems with cognitive flexibility traits essential for creativity. Recent empirical studies have strongly supported this relationship. Zeng (2025) demonstrated that students with a growth mindset showed higher resilience and greater originality in creative tasks, particularly in environments that encouraged feedback and reflection. Similarly, Jiang (2025) found that learners who embraced developmental beliefs were more successful in navigating ambiguous problem-solving situations and often produced more innovative solutions than their fixed-mindset peers. Additionally, Li and Li (2025) reported that the presence of a growth mindset increases individuals' engagement in creative pursuits by boosting adaptive motivation and reducing the fear of failure. These findings emphasise that cultivating a growth mindset is not only beneficial for academic success, but also vital for fostering creative engagement. Educational institutions and organisations aiming to enhance innovation should therefore integrate mindset training into their developmental programs, encouraging individuals to view challenges as learning experiences and to persist in the pursuit of novel ideas.

4.5.3. The Positive Effect of Creative Self-Efficacy on Creative Behavior

Creative self-efficacy emerges as a critical psychological construct that empowers individuals to translate their confidence in creative ability into consistent engagement in innovative behaviour. Individuals who believe in their capacity to produce original ideas tend to persist through complex challenges, embrace ambiguity, and actively explore novel solution behaviours that are fundamental to creativity. This belief system acts as a motivational catalyst, shaping how individuals perceive and respond to creative demands. In alignment with Bandura's (1997) SCT, creative self-efficacy serves as a central cognitive-motivational driver, reinforcing one's readiness to take initiative, tolerate failure, and remain committed to creative tasks despite uncertainty. Recent studies have provided empirical evidence to support this view. Zeng (2025) found that individuals with high creative self-efficacy were more likely to demonstrate idea fluency and originality in organizational settings. Likewise, Liu et al. (2024) observed that students with stronger beliefs in their creative capabilities showed higher adaptability in problem solving and greater engagement in project-based innovation. Moreover, Ting and Yeh (2023) emphasised that creative self-efficacy mitigates the adverse effects of psychological barriers, such as fear of failure, allowing individuals to maintain motivation and persistence during creative processes. Together, these findings emphasise that nurturing creative self-efficacy can substantially enhance creative output. This finding has important practical implications, suggesting that educational programs and organizational practices should aim to build confidence in creative abilities through mastery experiences, constructive feedback, and psychologically safe environments that support experimentation.

4.5.4. The Positive Effect of Psychological Empowerment on Creative Self-Efficacy

Psychological empowerment contributes significantly to the development of creative self-efficacy by fostering the belief that one possesses the capability to generate innovative and original ideas. This relationship is grounded in the motivational structure of empowerment, which encompasses autonomy, competence, meaning, and perceived impact factors that collectively reinforce individuals' confidence in their creative abilities. Empowered individuals feel a greater sense of control over their environment, and are more inclined to see themselves as effective agents of change. This finding is theoretically consistent with SDT (Standage et al., 2025), which emphasises that feelings of competence and autonomy enhance intrinsic motivation, key ingredients in cultivating a strong sense of creative self-efficacy. Recent empirical studies have substantiated this connection. Meirun et al. (2024) found that individuals working in psychologically empowering environments reported higher levels of creative self-efficacy and were more proactive in generating innovative solutions. Similarly, Gelaidan et al. (2022) demonstrated that employees who perceive their work as meaningful and impactful exhibit stronger creative confidence and a higher commitment to creative tasks. Llorente-Alonso et al. (2024) noted that psychological empowerment nurtures a sense of internal locus of control, which serves as a foundation for building and sustaining creative self-efficacy. These insights affirm that psychological empowerment does more than just motivate action and actively shapes how individuals perceive their creative capacities. Thus, organisations and educational institutions that prioritise empowerment practices such as promoting autonomy, task ownership, and meaningful engagement are likely to enhance creative confidence among their members, ultimately leading to increased innovative behaviour.

4.5.5. The Positive Effect of Growth Mindset on Creative Self-Efficacy

The study's findings establish a clear and positive linkage between a growth mindset and creative self-efficacy, suggesting that individuals who believe in their capacity to improve through dedication and learning are more likely to develop confidence in their creative abilities. A growth-oriented mindset encourages individuals to perceive failures not as fixed limitations, but as opportunities for development. This adaptive orientation fosters resilience, openness to feedback, and persistence traits that are instrumental in shaping one's belief in creative potential. This relationship is underpinned by Bandura's (1997) SCT, who posits that self-efficacy is shaped by mastery experiences, social persuasion, and psychological states, all of which are influenced by a growth mindset. Individuals who internalise the belief that intelligence and abilities are malleable are more inclined to engage with challenges and view them as pathways to competence, thereby enhancing their creative self-efficacy. The empirical evidence supports this association. Chua et al. (2024) found that individuals with a strong growth mindset responded to creative challenges with greater resilience and flexibility, enhancing their confidence in performing creative tasks. Burnette et al. (2020) demonstrated that students who embraced growth-oriented beliefs displayed higher levels of creative self-efficacy, especially when navigating uncertainty. Zeng (2025) noted that a growth mindset fosters adaptive motivation, such as goal setting, persistence, and effort investment, which play a pivotal role in reinforcing self-beliefs related to creativity. These findings underscore the importance of integrating growth-mindset interventions in educational and organizational settings. By cultivating a culture that embraces learning from mistakes and emphasises personal development,

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institutions can strengthen creative self-efficacy and consequently foster more innovative behaviours.

4.5.6. The Mediating Role of Creative Self-Efficacy between Psychological Empowerment and Creative Behavior

This study confirms that creative self-efficacy serves as a mediating mechanism linking psychological empowerment to creative behaviour. When individuals feel empowered to experience autonomy, competence, and sense of meaning, they are more likely to develop confidence in their creative potential. This heightened belief in their ability to generate original ideas motivates them to engage in creative tasks persistently and effectively. This process is consistent with Bandura's (1997) SCT, which posits that self-efficacy beliefs mediate the translation of internal psychological resources into observable behaviour. Empirical studies have supported this mediating relationship. Khattak et al. (2024) found that psychological empowerment indirectly promotes creative engagement by enhancing creative self-efficacy among employees in innovation-driven sectors. Similarly, Fang and Chang (2023) reported that empowered students in higher education settings develop stronger creative confidence, which leads to improved creative outcomes. Su et al. (2024) further demonstrated that individuals with high levels of psychological empowerment exhibit greater creative behavior specifically because they believe in their ability to contribute creatively. These findings suggest that fostering empowerment in academic and professional settings not only motivates direct action but also strengthens individuals' internal belief systems, thereby reinforcing their capacity and willingness to engage in creative expressions. Cultivating this internal belief is essential for sustaining long-term creative engagement, particularly in dynamic or high-pressure environments.

4.5.7. The Mediating Role of Creative Self-Efficacy between Growth Mindset and Creative Behavior

The findings of this study reveal that creative self-efficacy significantly mediates the relationship between growth mindset and creative behaviour. Individuals who possess a growth mindset, believing that abilities and intelligence can be developed through effort, are more likely to cultivate confidence in their capacity to think creatively. In turn, this belief enhances their engagement in creative activities. Theoretically, this pathway aligns with Bandura's (1997) SCT, which emphasises the mediating role of self-efficacy in converting cognitive dispositions into meaningful actions. Recent research supports this mechanism. Zeng (2025) found that students with a growth mindset demonstrated stronger creative self-efficacy, which subsequently predicted higher creative performance. Likewise, Barua et al. (2024) observed that growth-oriented learners not only embraced intellectual challenges, but also translated their positive beliefs into creative action through enhanced self-confidence. Kong et al. (2025) further highlighted that creative self-efficacy serves as a psychological bridge, empowering growth-minded individuals to persist through ambiguity and uncertainty inherent in creative endeavors. These findings underscore that a growth mindset alone may not be sufficient to foster creativity, unless accompanied by a strong sense of creative self-belief. Educational and organizational programs aimed at boosting creativity should therefore focus not only on promoting growth-oriented attitudes, but also on building individuals' creative self-efficacy through feedback, mastery experiences, and autonomy-supportive environments.

4.5.8. The Moderating Role of Cultural Context in the Relationship between Psychological Empowerment and Creative Behavior

This study highlights that the cultural context, specifically the distinction between individualism and collectivism, significantly moderates the effect of psychological empowerment on creative behaviour. In individualistic cultures, where values such as autonomy, self-direction, and personal achievement are emphasised, the impact of psychological empowerment on creativity is amplified. Individuals in these cultural environments are more inclined to take initiative, assert their ideas, and explore novel approach behaviours that are intrinsically supported by psychological empowerment. These findings are consistent with Hofstede's cultural dimensions theory (2001), which posits that empowerment-driven autonomy resonates more strongly in cultures that prioritise individual agency. Supporting this, Wen et al. (2023) found that in individualistic settings, empowerment fosters greater creative engagement due to alignment with cultural norms that favour personal expression and independence. Similarly, Su et al. (2024) demonstrated that individualistic orientations enhance the motivational impact of psychological constructs such as empowerment on creative output. By contrast, in collectivist cultures, where group cohesion, conformity, and social harmony are prioritised, the effects of psychological empowerment on creativity may be restrained. Individuals may feel less encouraged to express divergent ideas or challenge group norms, even when they feel empowered, thus limiting the expression of creative behaviour. Kim and Song (2024) echoed this, noting that in collectivist contexts, the drive for innovation is often mediated by group expectations and approval, which can dilute the empowerment-creativity link. These insights underscore the need for culturally responsive strategies when implementing empowerment-based creative programs. Although empowerment enhances creativity, its effectiveness is shaped by a broader cultural context. Thus, organisations and educators in collectivist societies may need to balance individual autonomy with group-based incentives to achieve optimal creative outcomes.

4.5.9. The Moderating Role of Cultural Context Relationship between Psychological Empowerment and Creative Behavior

The study reveals that cultural context significantly shapes the influence of a growth mindset on creative behaviour, particularly by strengthening this relationship in individualistic cultures. In societies where individualism is dominant, such as in many Western countries, individuals are encouraged to pursue personal goals, embrace intellectual risks, and express original ideas. These cultural values align closely with the core principles of a growth mindset, which emphasises personal development through effort and resilience (Dweck, 2016). As such, individuals in these settings are more likely to activate their creative potential when adopting a growth-oriented belief system. This result is supported by recent research indicating that individualistic values enhance the expression of creativity by reinforcing self-direction and internal motivation (Wen et al., 2023; He & Zhang, 2024). Individuals in these contexts are more comfortable deviating from group norms and exploring unconventional solutions as essential components of creativity nurtured by a growth mindset. By contrast, in collectivist cultures, which emphasise group harmony, social cohesion, and conformity, the influence of a growth mindset on creative behaviour may be subdued. Individuals may hesitate to express novel ideas if they perceive that doing so could disrupt group consensus despite believing in their ability to improve and learn. Furthermore, studies have shown that the motivational benefits of a growth mindset can be inhibited in environments where risk aversion and norm adherence are culturally reinforced,

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limiting the behavioural translation of mindset beliefs into action (Chua et al., 2024; He & Chiang, 2024). This suggests that culture acts not merely as a background variable but also as a dynamic moderator that either enables or constrains the behavioural outcomes of psychological traits such as growth mindset.

5. Conclusion

This study provides a thorough analysis of the psychological and cultural factors influencing creative behaviour among digital business students. The findings highlight the central roles of psychological empowerment, growth mindset, and creative self-efficacy, as well as the moderating influence of the cultural context. Students who perceive themselves as autonomous, competent, and impactful show a greater tendency to engage in creative endeavours, reflecting the motivational foundations of SDT (Standage et al., 2025). The impact of the growth mindset is similarly evident, reinforcing Dweck's (2016) theory that belief in personal development through effort contributes to creative persistence and adaptability. Creative self-efficacy functions as a crucial mediator, channelling internal psychological resources into outwards creative action, in line with Bandura's (1997) SCT. Moreover, cultural context was found to significantly shape these relationships. In individualistic cultures that emphasise autonomy and self-direction, both empowerment and mindset exert stronger effects on creativity. In collectivist environments, where group norms and harmony are prioritised, these effects are comparatively muted, supporting Hofstede's (2001) framework on cultural dimensions.

This study meaningfully contributes to multiple psychological theories. This enhances SCT by identifying creative self-efficacy as a central mechanism that translates internal beliefs into creative actions. It builds on the growth mindset theory by showing that belief in the ability to grow enhances creativity through improved self-efficacy. Furthermore, it substantiates SDT by illustrating how empowerment fosters intrinsic motivation–a key driver of creative engagement. The moderation findings offer new cross-cultural insights, emphasising the need to account for cultural values in creativity models.

Despite its contributions, this study had several limitations. It focused solely on digital business students from a single institution, which limits its generalisability. Future studies should include a broader and more diverse academic population. Moreover, the current study adopted a cross-sectional design, restricting its ability to observe changes over time. Longitudinal studies are recommended to explore how empowerment, mindset, and self-efficacy develop and influence creativity over the long term. Future work may also incorporate other cultural dimensions, such as power distance or uncertainty avoidance, to provide a richer understanding of the contextual factors that shape creative behaviour.

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