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Perceived positive humorous leadership and university students' creativity: The mediating role of creative self-efficacy

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Abstract: This study investigates the mediating role of creative self-efficacy in the relationship between perceived positive humorous leadership and creativity among university students. A total of 591 undergraduate students from two universities in China participated in the research. Data were collected using validated instruments, including the Positive Humorous Leadership Scale, the Creative Self-Efficacy Scale, and the Creativity Scale. Descriptive statistics and correlation analyses indicated significant and positive associations among perceived positive humorous leadership, creative self-efficacy, and creativity. Mediation analysis using structural equation modeling further revealed that creative self-efficacy partially mediated the relationship between perceived positive humorous leadership and creativity. Specifically, students who perceived their instructors as using positive humor were more likely to exhibit higher levels of creative self-efficacy, which in turn was linked to greater creative performance. These findings underscore the importance of instructors' use of positive humor as a supportive interpersonal resource that fosters students' confidence in their creative potential and enhances their overall creative output. The study offers valuable theoretical contributions to leadership and creativity research in educational contexts and provides practical implications for promoting creativity through humor-based leadership strategies in higher education settings.

Keywords: *Creative self-efficacy, Creativity, Perceived positive humorous leadership.*

1. Introduction

Humor is a widely recognized form of social interaction that plays a functional role in organizational contexts by reducing tension, promoting communication, and enhancing group cohesion [1]. Within leadership research, humor has increasingly been conceptualized as a purposeful leadership behavior—referred to as humorous leadership. Prior studies have demonstrated that humorous leadership contributes to the development of a relaxed and friendly organizational climate, thereby improving member satisfaction and fostering collaborative intent [2, 3]. However, the effects of humorous leadership are not uniformly positive and largely depend on how humor is expressed. Inappropriate humor may lead to misunderstandings, strain interpersonal relationships, and erode organizational trust [4, 5]. Existing research distinguishes between positive humor and negative humor, based on their expressive forms [6, 7]. Positive humor reflects supportive and inclusive expressions that strengthen trust and interaction, whereas negative humor often carries sarcastic or belittling tones that may undermine psychological safety. Leader positive humor, in particular, has been shown to promote an open and inclusive atmosphere, thereby fostering psychological safety and creative potential among members [8]. In educational contexts, teachers' use of humor is seen as a valuable strategy for cultivating a relaxed classroom climate and enhancing student engagement [9]. In higher education, empirical evidence further suggests that instructional use of light-hearted and affirming humor not only stimulates students' learning motivation but also deepens their understanding and cognitive engagement [10, 11]. Accordingly, the use of positive humorous leadership by university instructors may contribute to an open and supportive learning

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environment, although the specific mechanisms underlying this effect warrant further empirical investigation.

Prior studies have demonstrated that leaders' use of positive humor can enhance group innovation and problem-solving capabilities by fostering flexible thinking, eliciting positive emotional responses, and cultivating a psychologically safe environment [8, 12]. According to Pundt [13] leader positive humor contributes to the creation of an approachable and affiliative climate, breaks down hierarchical barriers, and facilitates open communication and knowledge sharing—ultimately fostering creativity and innovative behavior among group members. Within higher education, Garner [11] found that when instructors integrate humor that is both relevant to course content and positively toned, it significantly improves students' attention and classroom engagement. Expanding on this, Beghetto [14] noted that teachers' use of supportive and encouraging humor helps create a safe and relaxed classroom atmosphere, reinforces students' sense of trust and expressive freedom, and in turn encourages the articulation of novel ideas and original perspectives. Collectively, these findings suggest that perceived positive humorous leadership is likely to be positively associated with university students' creativity, thereby offering a robust theoretical and empirical foundation for the present study's hypotheses.

Creativity refers to the capacity to generate ideas, solutions, or products that are both novel and useful within academic or professional contexts [15]. It is also regarded as a crucial psychological competency that enables university students to respond effectively to the demands of a rapidly changing society and evolving career challenges [16]. According to Social Cognitive Theory [17, 18]self-efficacy represents a fundamental psychological cognitive mechanism, reflecting individuals' belief in their ability to successfully complete specific tasks. Creative self-efficacy, a domain-specific extension of this construct, refers to individuals' confidence in their ability to produce creative outcomes [19]. This sense of efficacy plays a pivotal role in sustaining motivation and resilience in the face of uncertainty and challenge, thereby facilitating the development of creativity [20, 21]. In higher education, students with high levels of creative self-efficacy are more inclined to pursue novel ideas, articulate original perspectives, and exhibit greater exploratory motivation and cognitive flexibility—traits that support effective creative problem-solving [22, 23]. Consequently, creative self-efficacy is widely recognized as a key psychological factor underlying creativity among university students [24].

Emerging evidence has shown that leader positive humor can significantly enhance individuals' self-efficacy. Humor has been found to reduce situational stress, communicate trust and support, and strengthen individuals' confidence in facing challenges [25, 26]. In educational settings, the use of positive humor by teachers fosters a relaxed classroom atmosphere, which not only promotes students' sense of psychological safety but also enhances their engagement and self-belief [27, 28]. As a task-specific belief, creative self-efficacy has been shown to be significantly associated with creativity [29] and to serve as a critical mediating variable in the relationship between contextual factors and creativity. For instance, research has demonstrated that creative self-efficacy mediates the effects of supervisory leadership style [22] and school support [30] on students' creativity. Taken together, perceived positive humorous leadership is likely to be positively associated with university students' creative self-efficacy, which, in turn, is positively related to their creativity. Accordingly, the present study posits that creative self-efficacy serves as a mediator in the relationship between perceived positive humorous leadership and students' creativity.

In sum, this study aims to examine the relationships among perceived positive humorous leadership, creative self-efficacy, and creativity in university students. Grounded in the integrated framework of Social Cognitive Theory, the following hypotheses are proposed: (1) Perceived positive humorous leadership is positively associated with students' creativity (Hypothesis 1); (2) Creative self-efficacy is positively associated with students' creativity (Hypothesis 2); and (3) Creative self-efficacy mediates the relationship between perceived positive humorous leadership and creativity (Hypothesis 3). By introducing creative self-efficacy as a key psychological variable, this study seeks to shed light on the underlying psychological mechanism through which perceived positive humorous leadership is linked to students' creativity. These findings are expected to not only deepen the theoretical understanding of

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creativity development but also offer practical insights for fostering students' creative potential in higher education settings.

2. Method

2.1. Participants and Procedure

Data were collected using an online questionnaire hosted on Wenjuanxing (https://www.wjx.cn), a widely used professional survey platform in China that generates either a hyperlink or QR code for distribution. The platform is commonly adopted in experimental and survey-based research across various disciplines [31, 32]. Prior to distribution, we contacted faculty members responsible for survey coordination at each participating college and requested that they share the questionnaire's QR code with students. The survey was administered in classroom settings, and instructors informed students that their participation was anonymous. Participants were assured that they could decline or withdraw from the survey at any time without any negative consequences.

A convenience sampling strategy was employed, and the survey was conducted concurrently at two colleges located in Guangzhou. Data collection took place between March 25 and May 15, 2024. A total of 826 questionnaires were distributed. After eliminating responses with inconsistent answers or unrealistically short completion times, 591 valid responses were retained, resulting in a response rate of 71.55%. Of these, 404 participants were male (68.4%) and 187 were female (31.6%). The sample included 312 freshmen (52.8%), 199 sophomores (33.7%), and 80 juniors (13.5%). In terms of academic discipline, 376 students (63.6%) were enrolled in STEM majors, while 215 students (36.4%) were from Non-STEM fields.

2.2. Measures

All questionnaire items were adapted from previously validated instruments. Variables were measured using a 5-point Likert scale (1 = "strongly disagree" to 5 = "strongly agree"). As the original instruments were developed in English and all participants were native Chinese speakers, the items were translated into Chinese. To ensure conceptual and linguistic equivalence within the Chinese context, a back-translation procedure was conducted in accordance with Brislin [33] guidelines.

2.3. Perceived positive humorous leadership

Perceived positive humorous leadership was measured using a five-item scale adapted from Avolio, et al. [3] which evaluates the extent to which individuals perceive their managers as engaging in humorous behaviors (α = .917).

2.4. Creative self-efficacy

Creative self-efficacy was assessed using the six-item scale developed by Karwowski, et al. [34] which measures individuals' confidence in their ability to handle tasks that demand creative thinking and performance (α = .891).

2.5. Creativity

Creativity was measured using the 13-item scale developed by Zhou and George [15] which captures the degree of individuals' creative behaviors and performance (α = .927).

2.6. Common Method Variance

To minimize the potential impact of common method variance (CMV), multiple procedural remedies were incorporated into both the design and implementation stages of the study. These included obtaining institutional support from university administrators, ensuring voluntary participation, and emphasizing participant anonymity and data confidentiality to reduce social desirability bias and the likelihood of inaccurate responses. Additionally, careful attention was paid to the structure and wording of the

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questionnaire to limit method-related bias. These practices were informed by established guidelines for survey design in educational and psychological research [35] and contributed to enhancing the overall reliability and validity of the study. In line with Williams, et al. [36] confirmatory factor analysis was used to examine whether CMV was a concern in this study. As presented in Table 5, the chi-square value of the three-factor model ($\chi^2 = 550.296$) was considerably lower than that of the one-factor model ($\chi^2 = 3016.734$), and the model fit improved significantly ($\Delta\chi^2 = 2466.438$, $\Delta df = 3$, $p < .001$). These results indicate that CMV was not a serious threat to the validity of the study's findings.

Table 1.
Comparison of the multi-factor model and the single-factor model.

Model	χ^2	df	$\Delta\chi^2$	Δdf
Single-Factor Model	3016.734	252	2466.438	3
Multi-Factor Model	550.296	249		

2.7. Correlation Analysis

Table 1 reports the descriptive statistics, intercorrelations, and Cronbach's alpha coefficients for all variables. The correlation results revealed significant positive associations among the constructs. To assess discriminant validity, the square root of the average variance extracted (AVE) for each construct was compared to the squared correlation coefficients between constructs. For all variable pairs, the square root of each AVE exceeded the corresponding squared inter-construct correlation, satisfying the threshold proposed by Fornell and Larcker [37] for establishing adequate discriminant validity. These results provide empirical support for the use of structural equation modeling (SEM) to examine the relationship between perceived positive humorous leadership and creativity.

Table 2.
Means, standard deviation, and correlation.

Variable	M	SD	PPHL	CSE	CRE
PPHL	3.518	0.891	**0.829**		
CSE	3.550	0.747	0.308***	**0.762**	
CRE	3.629	0.648	0.402***	0.606***	**0.706**

Note: Cronbach's α in parentheses along the diagonal; PPHL= Perceived positive humorous leadership, CSE= Creative self-efficacy, CRE= Creativity. The diagonal elements are the square root of AVE. ***p<.001.

2.8. Measurement Model

Additionally, a measurement model was specified and tested to assess overall model fit. Model fit was evaluated using several commonly recommended indices, including χ^2/df, SRMR, RMSEA, CFI, and TLI. According to established guidelines, acceptable fit is indicated by χ^2/df < 3, SRMR and RMSEA < .080, and CFI and TLI > .900 [21, 38]. As shown in Table 3, the structural model exhibited good fit across all indices for the measured constructs.

Table 3.
Fit indices for the measurement models.

	χ^2/df	GFI	AGFI	NFI	CFI	RMR
PPHL	7.139	0.978	0.933	0.983	0.985	0.021
CSE	1.903	0.990	0.977	0.990	0.995	0.014
CRE	3.178	0.950	0.930	0.948	0.964	0.023

Note: PPHL= Perceived positive humorous leadership, CSE= Creative self-efficacy, CRE= Creativity.

2.9. Structural Model

The proposed mediation model demonstrated an acceptable overall fit: $\chi^2 = 550.296$, df = 249, $p < .001$, CFI = .963, TLI = .959, SRMR = .037. As shown in Figure 1, perceived positive humorous leadership was significantly positively associated with both creativity ($\beta = .237$, $p < .001$) and creative

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self-efficacy ($\beta = .346$, $p < .001$). In turn, creative self-efficacy was significantly positively associated with creativity ($\beta = .584$, $p < .001$).

The significance of the mediation effect was further tested using a bootstrapping approach, as reported in Table 4. The results revealed that creative self-efficacy significantly mediated the relationship between perceived positive humorous leadership and creativity, with an indirect effect of .202, accounting for 39.45% of the total effect. The 95% confidence interval [.148, .263] did not include zero, providing evidence for a statistically significant partial mediation.

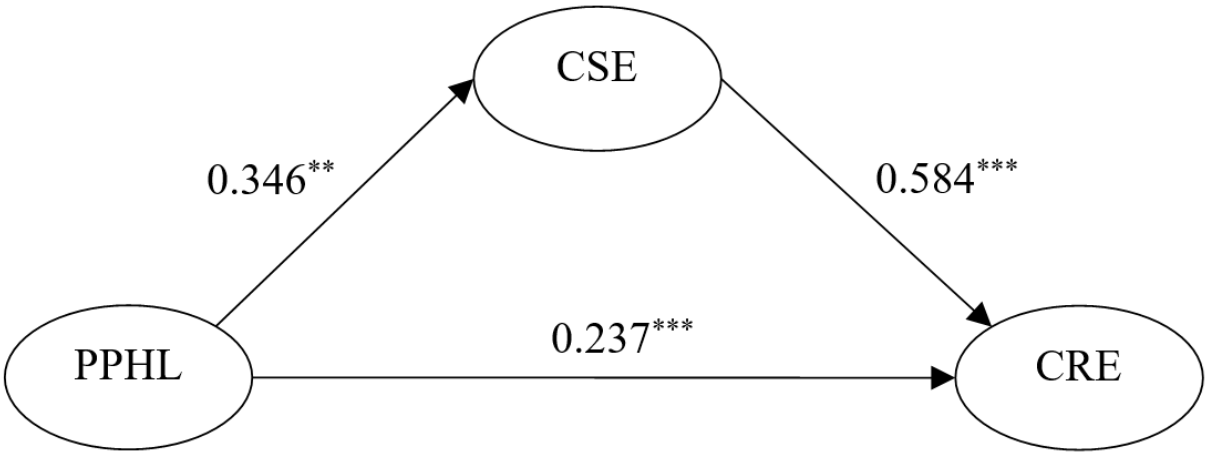

Figure 1.
Structural equation model.
Note: PPHL= Perceived positive humorous leadership, CSE= Creative self-efficacy, CRE= Creativity. ***$p < 0.001$.

Table 4.
Standardized direct, indirect, and total effects for explanatory variables on creativity.

Variable			**95%CI**	
Path	***β***	***SE***	**Lower**	**Upper**
Standardized direct effect				
PPHL-CRE	0.237	0.039	0.157	0.312
PPHL-CSE	0.346	0.043	0.257	0.427
CSE-CRE	0.584	0.042	0.497	0.661
Standardized indirect effect				
PPHL-CSE-CRE	0.202	0.029	0.148	0.263
Standardized total effect				
PPHL-CRE	0.439	0.040	0.356	0.512

Note: PPHL= Perceived positive humorous leadership, CSE= Creative self-efficacy, CRE= Creativity.

3. Discussion

This study investigated the potential underlying psychological mechanism through which perceived positive humorous leadership influences creativity in university students, with a specific focus on the mediating role of creative self-efficacy. First, the findings revealed a significant positive association between perceived positive humorous leadership and creativity, lending support to Hypothesis 1. This result is consistent with prior research by Holmes [39] and Pundt [2] both of whom noted that positive humorous leadership is often associated with enhanced creative thinking and elevated positive emotional states. A likely explanation is that positive humorous leadership creates a more open, relaxed, and psychologically safe environment that fosters emotional arousal and encourages students to express novel ideas and explore diverse problem-solving strategies [11, 14]. Additionally, when teachers employ humor to reduce perceived authority in the classroom, it may enhance students' sense of engagement and motivation to be creative [9]. Second, the study found a significant positive relationship between creative

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self-efficacy and creativity, supporting Hypothesis 2. This result aligns with findings from Tierney and Farmer [19], Gong, et al. [20]and He and Wong [21] all of whom identified creative self-efficacy as a key psychological construct closely linked to creative performance. This association may arise from the fact that high levels of creative self-efficacy reflect a strong belief in one's creative potential, which promotes greater persistence and proactive engagement in the face of complex or ambiguous tasks [18]. Moreover, creative self-efficacy is strongly tied to intrinsic motivation, encouraging individuals to invest cognitive resources, engage in active thinking, and explore and integrate novel ideas—ultimately contributing to creative output [14].

Importantly, this study revealed that creative self-efficacy serves as a significant mediating mechanism in the relationship between perceived positive humorous leadership and university students' creativity, thereby confirming Hypothesis 3. The findings suggest that perceived positive humorous leadership is not only directly associated with higher levels of creativity but also indirectly facilitates creativity by enhancing students' creative self-efficacy. This underscores the underlying psychological pathway through which humorous leadership influences creative outcomes. This result aligns with a core proposition of Social Cognitive Theory—that individuals' beliefs in their own capabilities (i.e., self-efficacy) constitute a fundamental mechanism shaping their motivation, emotional states, and behaviors [17, 18]. Within the context of this study, when teachers utilize positive humor to foster a relaxed and inclusive classroom climate that communicates acceptance and support, students are more likely to experience psychological safety and a sense of belonging. These conditions in turn enhance students' confidence in their ability to engage in creative tasks [26, 28]. This increased confidence makes them more willing to share novel ideas, experiment with innovative approaches, and ultimately demonstrate higher levels of creativity [19, 20]. These findings are also consistent with previous studies. For instance, Gu, et al. [22] identified creative self-efficacy as a partial mediator between supervisory leadership style and graduate students' creativity, while Chang, et al. [30] demonstrated that creative self-efficacy functions as a critical mediating variable in the relationship between school support and students' creativity. Taken together, the current study advances the understanding of how perceived positive humorous leadership fosters student creativity through the key psychological construct of creative self-efficacy.

4. Practical Implications

The findings of this study offer valuable insights for enhancing teaching and learning practices in higher education. First, universities are encouraged to develop faculty development programs that include systematic training in positive humorous leadership, with the goal of equipping instructors to use humor contextually and appropriately in classroom settings [9, 11].

By fostering a light-hearted and supportive classroom atmosphere, positive humor can strengthen teacher–student relationships and promote students' psychological safety, thereby encouraging more open and creative expression [14].

Second, instructors should actively support the development of students' creative self-efficacy by providing constructive feedback, nurturing their autonomous motivation, and cultivating a classroom climate that is both emotionally supportive and intellectually stimulating.

Prior research has demonstrated that such conditions enhance students' confidence in their creative potential [14]. For instance, designing learning tasks that promote exploration and reflection can help students experience a sense of competence during the learning process, which, in turn, fosters deeper engagement and the generation of innovative ideas [23].

5. Limitations and Future Research Directions

While this study yields meaningful insights, several limitations should be acknowledged, each of which presents opportunities for future research. First, the sample was drawn primarily from university students in China, which may limit the generalizability of the findings. Future research should consider including more diverse populations to enhance the external validity of the results. Second, the cross-

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sectional design used in this study precludes the ability to draw causal inferences. To strengthen the robustness of the conclusions, future studies could employ longitudinal or experimental designs.

Third, the data relied exclusively on self-reported measures, which may be subject to subjective bias. Future studies may benefit from incorporating multi-method approaches, such as performance-based tasks or third-party ratings, to improve the objectivity and reliability of the findings.

Despite these limitations, the current study offers important contributions by identifying creative self-efficacy as a mediating mechanism in the relationship between perceived positive humorous leadership and students' creativity. These findings underscore the value of further investigating how students' perceptions of humorous leadership relate to their creative outcomes and the psychological mechanisms that drive this association.

Informed Consent Statement:

Informed consent was obtained from all participants included in the study. Participants were provided with detailed information about the purpose, procedures, and potential risks of the study.

Data Availability Statement:

The datasets generated and analyzed during this study are available from the corresponding author upon reasonable request or through the Open Science Framework repository.

Transparency:

The authors confirm that the manuscript is an honest, accurate, and transparent account of the study; that no vital features of the study have been omitted; and that any discrepancies from the study as planned have been explained. This study followed all ethical practices during writing.

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