# Visualization analysis of the impact of act training on emotional labor competency based on bibliometric analysis

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## Abstract

This study aims to employ bibliometric analysis methods to systematically examine the knowledge structure, core themes, and cutting-edge developments in the fields of "emotional labor" and "emotional competency." The primary objective is to objectively and quantitatively validate the existing knowledge gap regarding "act training" as a systematic intervention for emotional competency in current research, thereby providing robust data support and a space for theoretical innovation to explore its unique value in enhancing individual emotional labor capabilities. To achieve this goal, the study utilizes VOSviewer bibliometric software to conduct co-author and co-keyword analyses on 232 relevant core articles from the Web of Science Core Collection. The results indicate that the field has formed a mature academic community centered around scholars such as Humphrey et al. [1] and Ashforth and Humphrey [2] with research themes revolving around "emotional labor," "emotional intelligence," "job burnout," and "job satisfaction." Five major research clusters were identified, and the research focus has evolved from early concerns about negative outcomes (e.g., stress, burnout) to recent positive psychological resources (e.g., work engagement, psychological resilience). However, all visualization maps consistently confirm the absence of research linking "act training" with the core concepts of emotional labor. Therefore, this study concludes that while emotional labor is a mature and evolving field, introducing "act training" as a key variable represents a significant and underexplored frontier. The findings have important theoretical and practical implications: theoretically, they call for interdisciplinary dialogue among performance studies, organizational psychology, and education to enrich existing models; practically, they suggest that higher education should recognize and leverage the disciplinary strengths of performance students, while corporate organizations can draw on the principles of act training to develop new programs aimed at enhancing employees' emotional regulation skills and mental health.

**Keywords:** Act training, Bibliometric analysis, Emotional competency, Emotional labor, Knowledge mapping.

# 1. Introduction

## 1.1. Research Background and Problem Statement

Amid the wave of the contemporary service economy and experience economy, emotional labor, as a core concept in the fields of organizational behavior and psychology, has become increasingly prominent. Within the context of Chinese culture, emotional labor is not only a crucial professional skill but also an essential tool for individual success. It extensively influences individuals' job burnout, job satisfaction, and physical and mental health. Numerous studies have confirmed that inappropriate emotional labor strategies are closely linked to individuals' mental health issues, potentially leading to emotional dysregulation, job burnout, depressive symptoms, and even physical and mental health impairments [3, 4]. Therefore, how to enhance individuals' emotional labor capacity has become a significant topic of shared interest in both educational and organizational management fields.

The origins of emotional labor theory are deeply connected to artistic practice. When constructing the theoretical framework, its founder, Hochschild, explicitly drew upon Freud's affect signal theory in psychology, as well as Goffman's dramaturgical theory in sociology and the performance theory of theater theorist Stanislavski. Particularly, Stanislavski's "System" of acting, with its emphasis on deep emotional immersion and precise control of character emotions, lies at the heart of this connection. The training system for performance majors in Chinese higher education institutions is generally built upon this theoretical foundation, indicating that students in performance disciplines have developed significant disciplinary advantages in emotional cognition, experience, and regulation through long-term training.

However, a notable disconnect between theory and practice lies in the fact that, despite the deep theoretical roots linking act training to emotional labor, existing research predominantly focuses on examining how inherent personality traits or psychological resources influence emotional labor. There remains a significant research gap regarding how "act training," a highly specialized, learnable emotional skill, can systematically enhance an individual's capacity for emotional labor. Current literature rarely delves into the perspective of talent development, exploring how the disciplinary advantages of performance students can be translated into universal emotional labor competencies, leading to a situation where these advantages are "wasted" upon entering society.

To map the knowledge structures of the two major research fields, "emotional labor" and "emotional competence," and objectively validate the research gap concerning "act training" within them, while providing solid data support for the entry point of this study, we employed bibliometric analysis. This research aims to objectively and quantitatively reveal the intellectual foundations, core themes, and cutting-edge trends in the field through visualized knowledge graphs, thereby precisely identifying the theoretical contribution space of this study.

## 1.2. Data Collection and Research Tools

Bibliometrics is an interdisciplinary field that applies mathematical and statistical methods to quantitatively analyze literature information, thereby revealing the developmental patterns of a particular academic discipline. Knowledge Mapping, as its core visualization technique, can present complex knowledge networks in an intuitive graphical form. This study employs VOSviewer as the primary bibliometric analysis tool. Developed by the CWTS center at Leiden University in the Netherlands, VOSviewer excels in processing large-scale literature data and generating clear, aesthetically pleasing, and easily interpretable network maps. It specializes in analyzing co-occurrence, co-citation, and other relationships among units such as authors, keywords, and countries/regions through algorithms, visually displaying core forces, thematic structures, and interrelationships within a research field in the form of a node-link-cluster. It is currently one of the mainstream tools for literature visualization analysis in the international academic community.

To ensure the authority, completeness, and standardization of the data, this study selects the Web of Science (WoS) Core Collection database as the sole data source. This database includes high-quality academic journals from around the world and provides complete citation data, making it an ideal source for in-depth analyses such as author co-citation and bibliographic coupling. The literature search follows the principle of combining systematicity and precision. Based on the core constructs of this study, the following English keyword groups were established:

Topic 1 (Emotional Labor): "emotional labor" OR "emotional work" OR "emotional labor"

Theme 2 (Emotional Competence): "emotional regulation" OR "emotional intelligence"

The search process of this study reflects the exploration of research gaps. During preliminary searches, when combining "act training" ("act* training" OR "drama education", etc.) as the third core theme using the AND operator, only

one highly relevant piece of literature was retrieved. This study ultimately adopted the following search strategy: in the Web of Science Core Collection database, using "Topic" as the search field, executing TS=(Theme 1) AND TS=(Theme 2). The search timeframe was limited to all years, with document types restricted to "Article" and "Review Article." After screening, 232 highly relevant English-language articles were ultimately obtained as the data sample for this bibliometric analysis. Complete records of all articles (including cited references) were exported in plain text format for analysis using VOSviewer software.

## 2. Results and Discussion

### 2.1. Author Co-occurrence Analysis

Author co-occurrence analysis aims to identify core scholars and academic communities within a research field. This study conducted co-occurrence analysis on authors of 232 papers, setting the minimum publication threshold at 2 papers per author, ultimately screening 46 core authors for network analysis. The collaboration network graph and core author data are shown in Figure 1 and Table 1, respectively.

**Table 1.**
Statistics on Publication Counts and Citation Frequencies of Core Authors (Partial).

| Id | Author | Documents | Citations | Total Link Strength |
|----|--------|-----------|-----------|---------------------|
| 1 | abellan hervas, maria jose | 1 | 10 | 2 |
| 2 | achkouty, iris | 1 | 5 | 5 |
| 3 | adams, gary a. | 2 | 148 | 2 |
| 4 | adams, laural l. | 1 | 34 | 2 |
| 5 | akel, marwan | 3 | 118 | 19 |
| 6 | akhmetniyaz, pana | 1 | 0 | 6 |
| 7 | akhmetova, makpal | 1 | 0 | 6 |
| 8 | alcover, carlos m. | 1 | 173 | 3 |
| 9 | aldrup, karen | 1 | 30 | 2 |
| 10 | alemdar, melek | 1 | 8 | 1 |
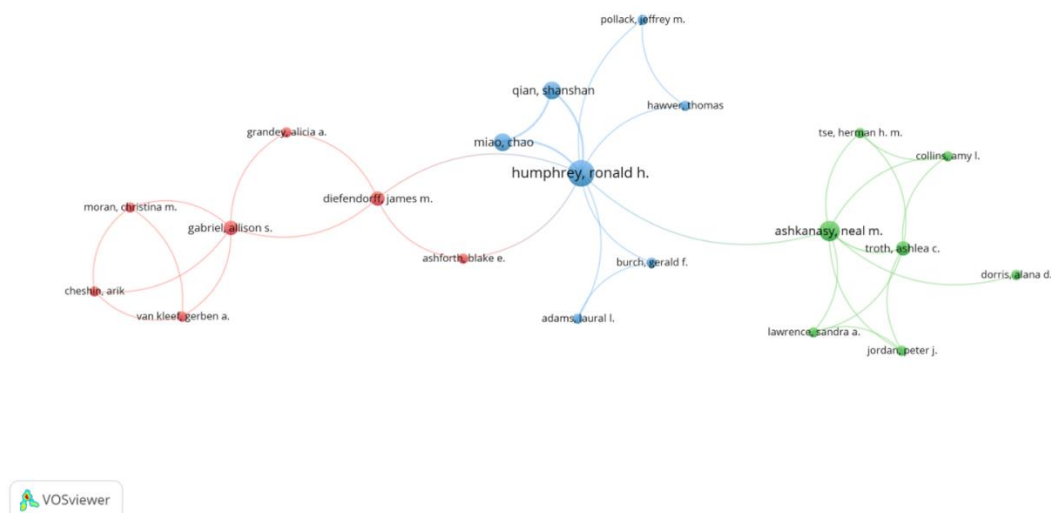


**Figure 1.**
Visualization of Author Co-occurrence Analysis.

Judging from the node size (representing the number of publications) and central position, Humphrey et al. [1] are two core leaders in this field. Their research not only has a large number of publications and high citation frequency but also occupies a central position in the cooperative network, which has an important impact on the development of the field. In addition, Diefendorff et al. [5] are also the mainstays of this field. Different colors on the map represent closely connected academic communities. Three main cooperative groups can be clearly identified:

Green community: Centered on Ashforth and Humphrey [2], connecting scholars such as Jordan, Peter J., and Troth, Ashlea C., forming an important school of emotional intelligence and emotional labor research.

Red community: Centered on Grandey, Diefendorff and Gosserand [6], these two scholars have made outstanding contributions to the construction of theoretical models of emotional labor, forming another important research group.

The blue community, centered around Humphrey et al. [1] connects scholars such as Morris and Feldman [7] playing a crucial bridging role in the entire network and promoting the intersection and integration of different research directions.

The author's co-occurrence analysis reveals that several mature academic communities, centered around specific scholars, have formed in the research field of "emotional labor and emotional ability." However, the map also powerfully demonstrates that a scholar collaboration network with the themes of "act training" or "drama education" has not yet been

established. Research that systematically links act training and emotional labor has not yet become an influential academic field, providing a clear, innovative space and theoretical value for the entry point of this study.

*2.2. Keyword Co-occurrence Analysis*

Keywords are a distillation of the core content of literature. Co-occurrence analysis of keywords can reveal the core themes, internal structure, and evolution trends of a research field. This study analyzes the 47 core keywords that were screened, along with the co-occurrence network diagram, density map, cluster analysis results, and timeline view are shown in Figure 2, Figure 3, Table 2, and Figure 4, respectively.
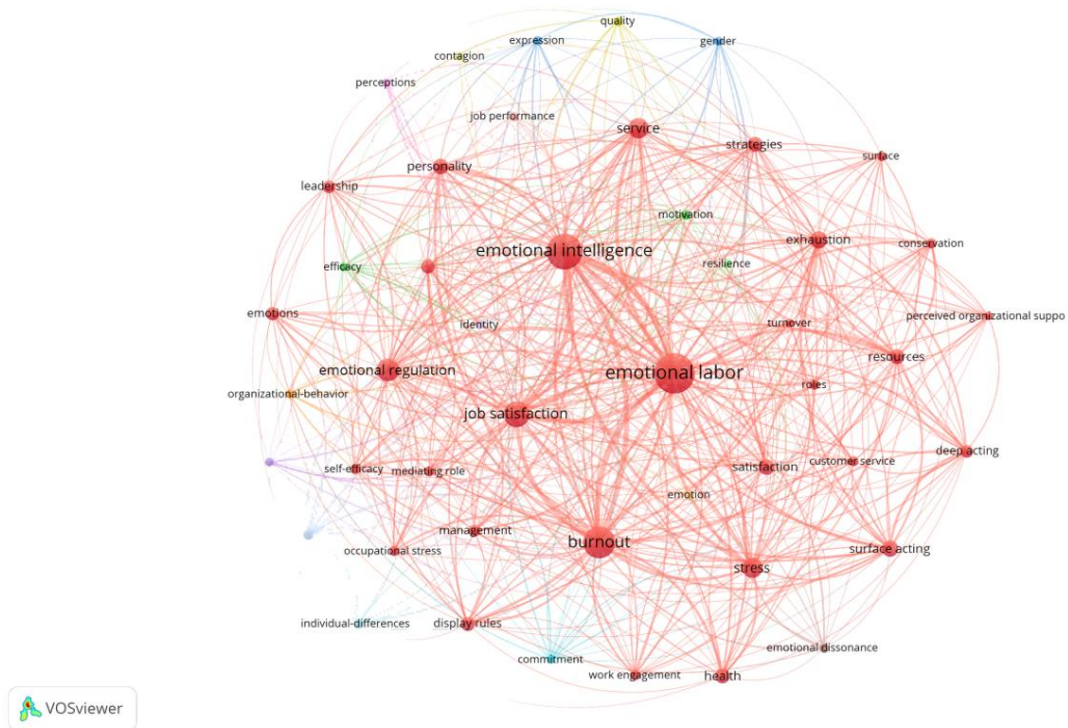


**Figure 2.**
Keyword Co-occurrence Network Diagram.
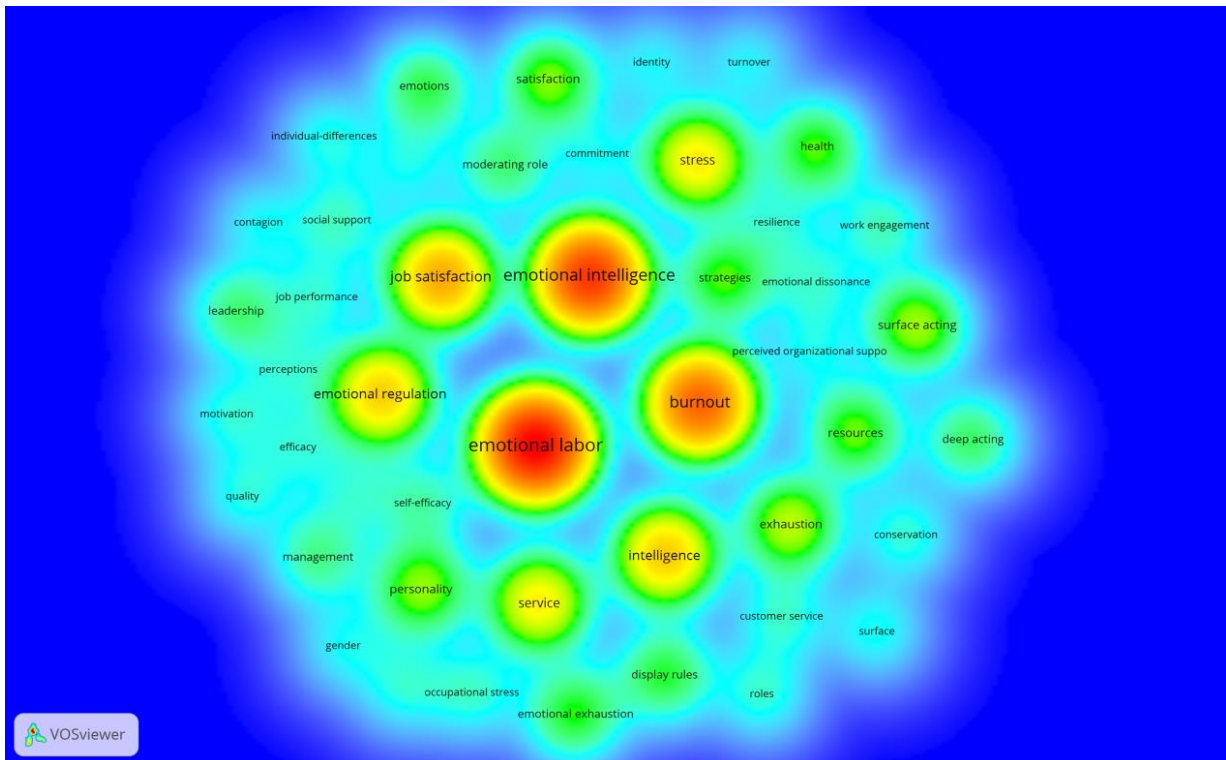


**Figure 3.**
Keyword Density Map.

As shown in the network diagram in Figure 2 and the density map in Figure 3, the nodes for the four keywords emotional labor, emotional intelligence, burnout, and job satisfaction are the largest, the density colors are the brightest, and they are located in the center of the entire network. This indicates that the main research focus in this field revolves around emotional labor, with an emphasis on how individual abilities, represented by emotional intelligence, affect the emotional labor process, ultimately impacting employee well-being and work attitudes, as represented by burnout and job satisfaction. These four major themes constitute the key components of research in this field.

To further explore the internal research areas within this field, this study conducted a cluster analysis of keywords (cluster resolution Resolution=2.0), ultimately identifying five distinct research clusters. The specific results are shown in Table 2.

**Table 2.**
Results of Keyword Cluster Analysis.

| Cluster # | Cluster Theme | Core Keywords | No. of Items |
|---|---|---|---|
| Cluster #1 | Antecedents of Emotional Labor: Individual Differences and Perceptions | personality, gender, perceptions, commitment, contagion, service | 9 |
| Cluster #2 | Core Processes and Stress Outcomes of Emotional Labor | emotional labor, burnout, stress, emotional exhaustion, display rules, turnover | 9 |
| Cluster #3 | Emotional Organizational Behavior: Job Satisfaction and Leadership | job satisfaction, organizational behavior, transformational leadership, resilience | 7 |
| Cluster #4 | Emotion as a Managerial Resource and Capability | emotional intelligence, leadership, management, motivation, self-efficacy | 6 |
| Cluster #5 | Emotional Labor Strategies and Organizational Support | deep acting, surface acting, perceived organizational support | 6 |

Cluster #1 and cluster #4 together constitute the antecedent variable section of emotional labor, representing relatively stable individual traits (such as personality, gender) and manageable individual abilities (such as emotional intelligence, self-efficacy), respectively.

Cluster #2 and cluster #5 constitute the action process and outcome section of emotional labor, clearly illustrating the complete pathway from organizational requirements (display rules) to individuals adopting different strategies (deep/surface acting), and ultimately leading to stress-related consequences (burnout, stress).

Cluster #3 represents the organizational level impact of emotional labor, focusing on its effect on macro indicators such as job satisfaction and organizational behavior.
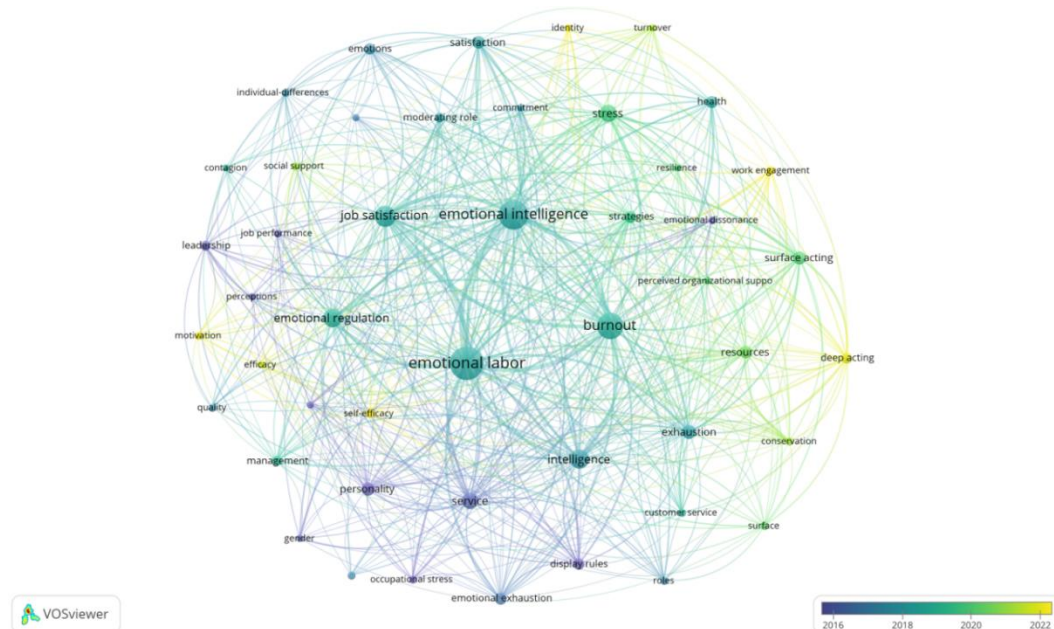


**Figure 4.**
Keyword Timeline View.

As shown in the timeline view in Figure 4 (with colors transitioning from blue/around 2016 to yellow/around 2022), the research hotspots in this field exhibit a clear evolutionary trend. Early studies (nodes with bluish colors) focused more on the core constructs of emotional labor itself, stress, burnout, and so on. In recent years, emerging hotspots (nodes with yellowish colors) have shifted more towards work engagement, resilience, deep acting, and perceived organizational support. This trend indicates that the research paradigm in this field is shifting in a positive direction: from initially focusing on revealing the negative effects of emotional labor to gradually exploring how to enhance employee work

engagement and well-being through effective strategies (such as deep acting), individual resources (such as resilience), and organizational support.

## 3. Literature Discussion

Following the macroscopic analysis of the knowledge map, this chapter will delve into the specific theoretical and empirical literature to provide a more detailed foundation for the research hypotheses of this study. The content is primarily derived from the literature review conducted in the preliminary stages of this research.

### 3.1. The Linkage between Act Training, Emotion, and Social Competence

Act training [8] supports students in developing self-awareness, emotional memory, attention, relaxation, and imagination [9]. The Stanislavski system emphasizes the actor's inner experience and emotional memory, and stimulates the actor's organic nature through a variety of exercises and techniques, enabling him or her to express the role more realistically. This system assumes that an actor's performance must be both emotionally engaged and rationally controlled, and this philosophy influences the training of actors in drama education in the balance between emotion and technique.

Empirical studies have shown that acting has a potential impact on social cognition and social learning abilities through understanding and modeling a role. Two studies by psychologists have shown that actors understand and play roles as an empathic and emotionally regulated activity [10]. Researchers studying the neural basis of simulated roles have also found that brain networks recruited in social cognitive tasks are similarly activated in simulation tasks [11]. When comparing the results of actors (with varying degrees of acting training and acting experience) to those of the general population, scholars have found that professional actors scored higher than the general population on extroversion, empathy, and Theory of Mind tasks. This provides strong support for research on the impact of acting training to enhance the emotional labor capacity of drama acting students. [12] also investigated in their study whether an acting training course positively impacted socio-emotional competence, with 99% of students identifying the course as supportive and inspirational, helping them to reflect on their own communication skills and improve their emotional regulation and emotional labor.

### 3.2. The Conceptual Evolution of Emotional Labor

The concept of emotional labor was first introduced by sociologist Hochschild [13]. Hochschild defined emotional labor as face-to-face or voice-to-speech interactions and considered it to be 'the management of emotions to create a publicly visible facial and bodily expression Hochschild [13]. Hochschild once proposed two emotional labor strategies: surface acting and deep acting. Surface acting refers to adjusting external emotional expressions (such as facial expressions, etc.) to meet the expectations of the company, while the actual emotional feelings inside will not produce any changes. Deep acting emphasizes that employees take the initiative to make their actual emotional experiences consistent with the organization's requirements through cognitive changes Hochschild [13].

Following Hochschild's introduction of the concept, many scholars have explored it in depth from different perspectives. Ashforth and Humphrey [2] defined emotional labor as 'exhibiting appropriate emotional behavior', emphasizing that emotional labor is behavior that can be observed by others, rather than internal emotional feelings. Morris and Feldman [7] argued from the perspective of mutual interaction that the production of emotions is largely determined by the social context, and defined emotional labor as 'the process of interpersonal interaction in which an individual, through effort, planning, and control, makes himself or herself display emotions that meet the requirements of the organization. Grandey [14] argues that despite holding different perspectives, all researchers include the same theme that individuals can regulate the expression of their emotions in the workplace and identify surface and deep behaviors as the two dimensions of emotional labor.

### 3.3. Key Antecedents and Consequences of Emotional Labor

The results of the research show that there are many factors affecting emotional labor, which can be broadly divided into individual factors and organizational factors.

Individual Factors: At the individual level, personality traits and emotional intelligence are considered key predictive variables. Research has shown that personality traits such as workers' emotional stability, responsibility, pleasantness, and openness influence emotional labor strategies. Self-monitoring personality traits also have a positive effect on emotional labor. Emotional intelligence is another crucial factor. Individuals with high emotional intelligence are better able to actively manage their own emotional expression behavior, as well as control and adjust their emotions more effectively, which can regulate inner negative emotions and reduce emotional exhaustion [15, 16].

Organizational and situational factors: From an organizational management perspective, factors such as job autonomy, organizational support, and peer support influence individuals' perceptions of emotional labor [14]. For example, employees who receive high levels of perceived organizational support (POS) can still exhibit high levels of cooperative organizational behaviors even if they camouflage their emotions [17]. School climate, as an organizational factor, has also been shown to have a relationship with emotional labor [18].

Consequences of Emotional Labor: The consequences of emotional labor are a central theme of research. Hochschild initially argued that emotional labor caused alienation of the self, setting a negative tone. Subsequent research has extensively documented negative outcomes such as emotional exhaustion, burnout, and reduced job satisfaction [19]. However, other researchers have argued that emotional labor does not necessarily alienate workers from themselves, and in some cases, it can enhance their sense of achievement and values at work [14, 20].

*3.4. Theoretical Foundations for the Current Study*
This study is grounded in several key theories that explain the mechanisms of emotional labor and regulation.

Emotion Regulation Theory (ERT): Proposed by Gross [21] ERT examines the process of emotion regulation, which refers to the process by which individuals influence what kind of emotions they have, when they occur, and how they experience and express them. The theory focuses on how individuals influence their psychological and behavioral responses by regulating their emotions. Gross proposed several major emotion regulation strategies, such as cognitive reappraisal and expression inhibition, which directly correspond to the concepts of deep acting and surface acting in emotional labor. The difference is that emotion regulation occurs in all settings, whereas emotional labor is limited to the workplace [12].

Cybernetics Theory: Proposed by Wiener [22], this theory provides a framework for understanding self-regulating systems. Diefendorff and Gosserand [6] explain the emotional labor process based on cybernetics: the display rules are equivalent to the criteria, and the individual's self-perceptions of emotional performance are the inputs. When there is a discrepancy between the input and the criterion, affective regulation strategies can be used to adjust the emotional performance. This model highlights the dynamic nature of emotional labor and explains the internal mechanisms of emotional regulation during an individual's emotional labor.

By integrating these established theories with the findings from the bibliometric analysis, this study aims to build a comprehensive framework to investigate the unique role of act training in enhancing the emotional labor capabilities of university students.

## 4. Development and Conclusion
### 4.1. Research Findings
This study, through literature review and bibliometric analysis, arrives at two conclusions. First, the research fields of emotional labor and emotional intelligence are quite mature, characterized by a well-established theoretical framework, a unique academic community, and a clear development trajectory. The research paradigm has shifted from initially focusing on the negative consequences of emotional labor (such as burnout and stress) to exploring positive psychological resources and organizational support mechanisms.

Second, in the analysis of author collaboration, keyword co-occurrence, and thematic evolution, research that connects "acting training" or "drama education" with the core concepts of emotional labor is significantly lacking. This indicates that, despite the profound theoretical connection between performing arts and emotional labor, the potential of professional acting training as a systematic intervention to enhance emotional labor skills has been largely overlooked by mainstream academia.

### 4.2. Conclusion
While the study of emotional labor is a mature and evolving field, the introduction of "act training" as a key variable represents a significant and underexplored frontier. The existing body of knowledge has extensively depicted the antecedents, processes, and consequences of emotional labor, but has not sufficiently investigated how specific skills training rooted in the performing arts can cultivate emotional labor capabilities.

Therefore, this study validates its own necessity and innovativeness. Positioned at the intersection of a mature research area and a novel practical methodology, it aims to bridge the documented gap between performance studies and organizational psychology. This research is not merely an incremental addition but a pioneering effort aimed at integrating a powerful, theoretically grounded training methodology into the existing framework of emotional labor.

### 4.3. Implications
The review in this study has significant theoretical and practical implications. Theoretically, this study calls for an interdisciplinary dialogue between performance studies, psychology, and pedagogy. It suggests that theories such as embodiment, performance, and aesthetic experience can provide new perspectives for understanding and enhancing emotional labor, enriching the existing "antecedent-process-consequence" model. This study opens up new avenues for theorizing how professional skills (especially those involving deep emotional engagement) can be transformed into generic professional competencies.

At the practical level, the implications are direct and actionable. For higher education, it highlights the need to identify and leverage the unique emotional strengths of performing arts students, translating their disciplinary advantages into transferable skills to enhance their competitiveness in a wide range of careers. For organizations and industries, it suggests that innovative corporate training programs can be developed from the principles and practices of acting training, aimed at improving employees' emotional regulation, empathy, and overall well-being, offering a creative and effective alternative to traditional psychological counseling or skills training.

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