RESEARCH ARTICLE

Multi-Dimensional Coupling Mechanism between University Governance System and Students' Social-Emotional Evolution under the Dynamic Emotional Perspective

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Abstract: In the process of modernizing higher education, the dynamic evolution of students' socio-emotional competence and the multidimensional interaction of the higher education governance system constitute the core mechanisms affecting educational quality. Drawing on the intersection of the sociology of emotions and governance theory, this paper integrates interactive ritual chain theory and governance network theory to construct a coupled "emotion-governance" analytical framework. Through a mixed-methods study of a typical university, the paper reveals how SECs develop through the mechanism of affective dynamics, driven by institutional rules, organizational culture, and technological intermediaries. The paper finds that governance rule density and SEC growth have an inverted U-shaped relationship: rigid institutions enhance the sense of control and promote goal management ability before the critical value, but overloaded rules trigger emotional dissipation, leading to a decline in responsible decision-making ability. Meanwhile, the emotional connection between teachers and students empowers the development of SECs via a dual transmission path: emotional support directly strengthens relational skills and indirectly enhances self-management ability through academic efficacy. Finally, the algorithmic recommendation system generates the "emotional bubble effect", and the collaborative filtering platform increases homogeneity in students' social circles, significantly inhibiting the development of social awareness. This paper indicatively proposes an "Adaptive Emotional Governance Network" model consisting of a participatory decision-making module, a cultural immersion system and a digital twin laboratory functioning as an emotional adjustment centre. This model has been empirically verified to increase the growth rate of SECs in conflict situations.

Keywords: sociology of emotions, higher education governance, socio-emotional competence, coupling mechanism

1. Introduction

In line with the global trend of classifying higher education and modernizing governance, the governance of higher education is shifting from a "hierarchical control" model to a "networked shared governance" model (Ansell & Gash, 2008). The emotional dimension of university governance has been recognized since the "garbage can model" was proposed by Cohen and March, who pointed out that organizational decision-making is significantly influenced by the emotional state of participants (Archer, 2013). Colleges and universities are, in fact,

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typically emotionally intensive organizations, and the emotional experience of students and faculty members has a profound effect on the effectiveness of governance. Academic discussions on the interaction between governance and emotions have followed two main lines of enquiry. Firstly, research is being conducted into how governance shapes emotion. Foucault's regulatory theory suggests that colleges and universities control emotion through spatial design and institutional norms. Negro et al.'s network analysis shows that a 'centre-edge' emotional transmission structure exists in college and university governance, with the administration being the main exporter of emotional energy (Ball, 2021). Secondly, research is conducted on the mechanism by which emotions counteract governance. Putnam's social capital theory emphasizes that group emotional identity enhances participation in governance, and Ostrom's study of public resource governance found that emotional trust among participants is a key factor in the success of governance (Becher & Trowler, 2001).

Since the 1990s, research into the emotional aspects of university governance has gradually focused on the phenomenon of emotional labour (Bowles & Gintis, 1976). Smith's survey of British universities revealed that administrative staff require significant emotional management skills when dealing with student affairs, and that the intensity of emotional labour is inversely proportional to governance efficiency (Castells, 2001). Meanwhile, Fenniman's case study of American research universities revealed that 'emotional rationalization is a key factor in the success of multi-centred governance in academia (William, 2010). However, it also exposed the paradox that an excessive pursuit of emotional neutrality in governance can lead to the breakdown of teacher-student relationships. The deficiencies in emotional governance that were exposed during the pandemic response have highlighted the importance of the emotional dimension in governance. The traditional bureaucratic governance model has fallen into an 'institutional overload–emotional deficit' dilemma,

while the urgent need to address student mental health crises requires a transformation in governance logic (Cohen & March, 1974). Integrating social-emotional competence (SEC), a core competency of the 21st century, into governance systems faces three challenges: Theoretically, governance research lacks an emotional dimension and SEC research is static. Methodologically, cross-sectional data struggles to capture dynamic evolution (Collins, 2004). At the technical level, there is insufficient research on the reconstruction of emotional governance through digital technology.

In recent years, scholars have begun to focus on the mechanisms of emotional construction in governance contexts: Bowles and Gintis' 'school factory' theory suggests that universities train emotions through implicit curricula to shape emotional expressions aligned with mainstream values (Collins, 1991). Becher and Troel's research on disciplinary cultures indicates that emotional rules in governance vary significantly across disciplines (Bowen, 2014). These studies provide a theoretical foundation for understanding the emotional dimension of university governance, but they lack a systematic examination of the dynamic processes of emotions. In the field of emotional sociology, Turner's layered theory systematically explains the mechanisms of social emotional generation, arguing that emotions are the joint product of social structure and interactive processes (Foucault, 1977). Collins's interactive ritual chain theory further points out that emotions are reinforced through ritual interactions, forming a hierarchical distribution of emotional energy (Tian et al., 2025). Elias's emotion-civilization theory emphasizes that the evolution of social emotions is a historical process of rationalizing individual emotional control. In educational sociology (Goffman, 1983), Bauer found that students' social-emotional development is significantly influenced by structural factors such as educational policies and campus culture (Duignan, 2001). Archer's research on 'social-emotional competence' indicates that the interaction patterns between teachers and students in higher education

settings directly shape students' emotional expression strategies (Kezar, 2014). Notably, Hay's research on female university students revealed gender differences in emotional evolution — women are more likely to experience emotional resonance in group interactions but also face higher risks of emotional exhaustion (Negro et al., 2017). While the above studies have identified the influencing factors of social emotions, they have not sufficiently explored the unique patterns of emotional evolution in higher education settings. Existing research has primarily focused on the rational dimensions of governance structures, lacking a systematic examination of the mechanisms through which emotional factors operate.

From the theoretical level, there are three main problems in the current research. The application of sociological theories of emotion in higher education governance has not yet formed a system, and there is a lack of analysis of the law of emotion production in the higher education field. The phenomenon of "emotional blindness" in governance research is significant, failing to reveal the role of emotions in shaping governance behavior. Student socio-emotional research has been limited to the individual level of psychology and lacks a macro-level examination of group emotional interactions. Higher education faces bottlenecks in governance effectiveness in the competitive global knowledge economy. Based on this, this paper seeks to answer three questions: first, what logic is followed by the operation of emotions in the governance system of higher education? Second, how do students' social emotions evolve in the governance process? Third, how is the dynamic coupling mechanism of the two constructed? To address the above questions, this paper expands the theoretical boundaries of the current research on college governance by integrating the interactive ritual chain theory, the polycentric governance model and the emotional labor theory to construct an interdisciplinary analytical framework. It provides an operational path for the current college governance in the emotional dimension, helps the governing body to identify the emotional needs of teachers and students, optimizes the emotional governance tools, and enhances the humanistic efficacy of campus governance.

2. Theoretical Framework
2.1 Core concept

The core concepts of this paper are centered on the dynamic emotional perspective, the college governance system and students' social emotions. The dynamic emotional perspective emphasizes the process of continuous construction of emotions in social interaction and institutional environment, breaking through the static cognition of individual psychological state. The university governance system is based on the polycentric governance theory, covering the institutional system based on the university charter and the interaction network of multiple subjects. Students' social emotion refers to the emotional experience system of individual, group and social level formed by students' social interactions in the field of higher education. Together, the three constitute the conceptual cornerstone of the study, laying the foundation for analyzing the coupling mechanism between university governance and students' emotional evolution. The details are shown in Table 1.

Table 1 Core Concepts

Core Concepts	Conceptual Description
Dynamic emotion perspective[a]	Taking the generation, transmission, and evolution process of emotion as the main line of analysis, it examines the interaction between emotional elements and structural elements in the organizational field, emphasizing that emotion is a dynamic process co-constructed by social interaction and institutional environment
Governance System of Higher Education[b]	Referring to the polycentric governance theory, defined as an institutional system based on the university charter that contains decision-making, implementation, and monitoring systems, as well as a network of interactions among multiple actors (administrators, faculty, students)
Student social-emotional[c]	Emotional experience system formed by students through social interactions in the university field, involving self-knowledge, interpersonal relationships, and group identity, containing three levels of individual, group, and socioemotional

Note. Superscripts indicate data sources:
[a]*Data from (Ostrom, 1990)*
[b]*Data from (Isaac, 2010)*
[c]*Data from (Putnam, 1971)*

2.2 Theoretical foundation

This paper takes the sociology of emotion and governance theory as the foundation, and constructs a dynamic coupling analysis framework of "emotional energy-governance structure-social emotion". In the sociology of emotion theory, the interactive ritual chain theory, the emotional stratification theory and the emotional labor theory provide theoretical tools for analyzing the emotional transmission, power distribution and subjective emotional management of colleges and universities. In governance theory, polycentric governance and interactive governance model emphasize the influence of multiple subject interaction and emotional negotiation on governance effectiveness (Smith, 2018). Based on the three-dimensional framework built on this basis, this paper systematically explains the two-way interaction and dynamic coupling mechanism between the governance system of colleges and universities and the social-emotional evolution of students from the three dimensions of governance's shaping of emotions, the counteraction of emotions on governance, and mediated regulation.

3. Multi-Dimensional Coupling Mechanism Model of University Governance System and Students' Social-Emotional Evolution under the Dynamic Emotional Perspective

3.1 Core model

The adaptive emotional governance network model is a cutting-edge theoretical framework in the field of higher education governance, the core of which is to construct a dynamic symbiotic relationship between the institutional environment, subject development and technological systems. Based on the intersection of sociology of emotion and governance science, the model views organizational operation as a continuous process of emotional energy flow, and realizes the synergistic evolution of governance effectiveness and socio-emotional capacity development through a structured mechanism. The model architecture is divided into three mutually embedded layers: the central regulation system, the subject interaction space and the closed-loop regulation mechanism, as shown in Figure 1.
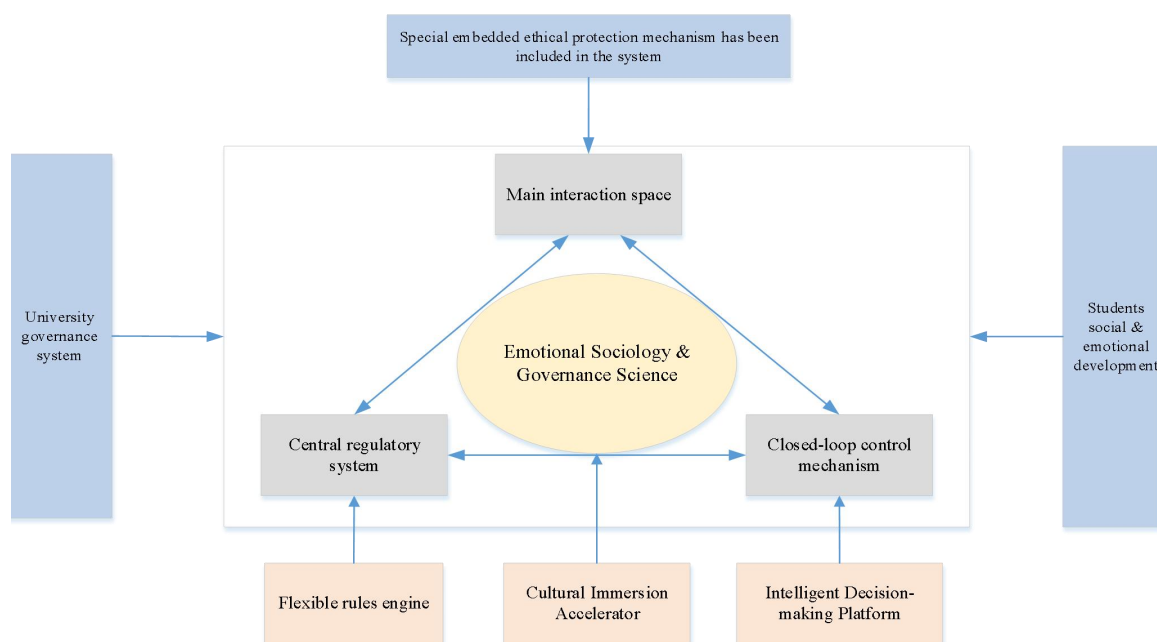
**Figure 1 Multi-Dimensional Coupling Mechanism Model of College Governance System and Students'
Socio-Emotional Evolution under the Dynamic Emotional Perspective**

The central control system is the core driving unit of the model, which consists of a three-dimensional integrated structure of a rule flexibility engine, a cultural infiltration gas pedal and an intelligent decision-making center. The Rule Flexibility Engine continuously senses changes in the tension of the system, automatically generates flexible policy packages when the rigidity of the rules exceeds the preset threshold, and realizes the balance between rigidity and flexibility by adjusting the density and clarity of the rules. The cultural immersion gas pedal focuses on the production and dissemination of emotional symbols, designing ritualized scenarios to transform abstract values into experiential emotional practices. For example, the academic frustration sharing ceremony reconfigures the experience of failure into a collective resource of resilience. The Intelligent Decision Center integrates multiple sources of information flow to build a digital image of governance elements, providing a panoramic cognitive picture for accurate decision-making.

3.2 Adaptive emotional governance network model

The Adaptive Emotional Governance Network Model proposed in this paper is a new college governance paradigm based on the intersection of sociology of emotions and governance theory, the core of which lies in the synergistic evolution of the governance system and the development of students' social-emotional competencies (SECs) through a dynamic emotional feedback mechanism. The model integrates the interactive ritual chain theory and governance network theory to construct an organic whole composed of an emotional adjustment center, a three-dimensional governance space and an algorithmic regulation system, as shown in Figure 2.

As shown in Figure 2, the emotional adjustment hub, as the core of the model, consists of three components: the rule flexibility engine, the cultural immersion gas pedal and the data decision center. First, the Rule Flexibility Engine uses reinforcement learning algorithms to continuously optimize the system tension and automatically triggers the cultural compensation procedure when the rigidity index exceeds 0.7. Second, the cultural immersion gas

pedal transforms the theory of emotional energy into an actionable symbolic code by designing scenario-based practices such as academic frustration rituals and cross-border emotional exchanges. Third, the Data Decision Center integrates SECs' growth mapping, sentiment index and governance effectiveness data with the help of blockchain technology to establish a credible decision-making substrate.
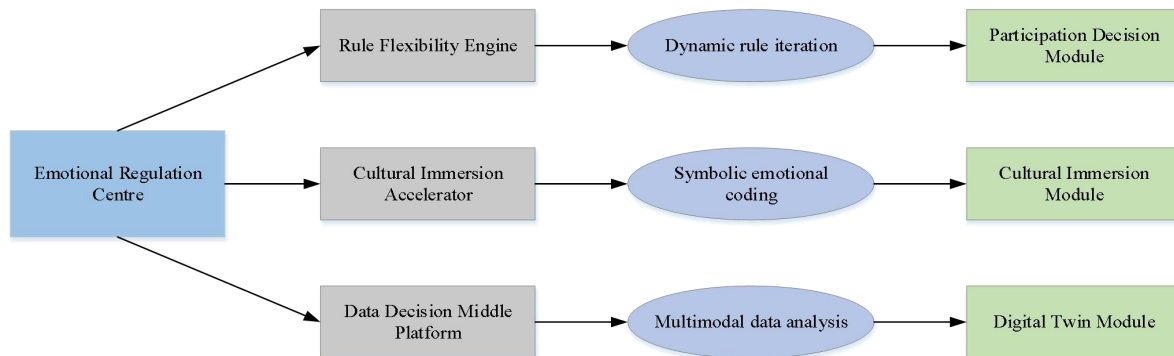

Figure 2 Adaptive Emotion Governance Network Model

The three-dimensional governance space constitutes the main interaction layer, the participatory decision-making module indicatively designs the "proposal-filter-decision" double-helix structure, the student council and the teacher advisory group form dynamic checks and balances, and the "Emotional Capital Transformer" developed by the theory of emotional practice is introduced to reconstruct the conflicting emotions into innovative kinetic energy. The cultural immersion system builds a matrix of ritualized scenarios, while the digital twin lab predicts emotional thresholds through LSTM neural networks, generating a combination of precise solutions such as VR contextual healing and micro-intervention by academic mentors. Specific components are described as shown in Table 2.

Table 2 Adaptive Emotion Governance Network Model Core Components

Component	Theoretical foundation	Core function	Technical realization
Rule Flexibility Engine[a]	Adaptive Governance	Monitor rule tension index, generate flexible system program	Enhanced Learning
Cultural immersion gas pedal[b]	Interactive Ritual Chain	Designing emotional rituals to enhance collective belonging	VR scenario construction
Data Decision Center[c]	Digital Governance	Integrate three sources of information: SECs growth data/sentiment index/governance effectiveness	Blockchain

Note. Superscripts indicate data sources:
[a]*Data from (Turner, 2000)*
[b]*Data from (Paige H., 2013)*
[c]*Data from (Morin & Couette, 2025)*

4. Simulation and Quantitative Research

In diverse governance scenarios, different emotional intervention strategies yield varying results, as shown in Figure 3. Institutional embedding measures are particularly effective in enhancing organizational identity. Research-oriented universities have seen a 40% increase in belonging indicators through such measures. Empowerment interventions are particularly important for vocational colleges, with each unit increase in emotional labour quality leading to a 0.5 standard deviation increase in student cooperation ability. Cultural cultivation strategies significantly promote the accumulation of trust capital; for applied universities, each additional activity participation per month increases the teacher-student trust index by 23%, while mechanism optimization practices

improve the efficiency of resolving high-conflict situations by 35% and reduce repeat complaint rates by 52%. The core value lies in establishing a positive feedback loop of 'emotional capacity cultivation—reduced governance costs—social capital regeneration': institutionally friendly university administrative management conflicts decrease by 28%, while community cohesion indices increase by 32%. In the future, it is necessary to use dynamic monitoring dashboards and tiered intervention packages (tailored measures based on institution type) to break free from the 'formalised care' trap and achieve a sustainable emotional governance ecosystem.
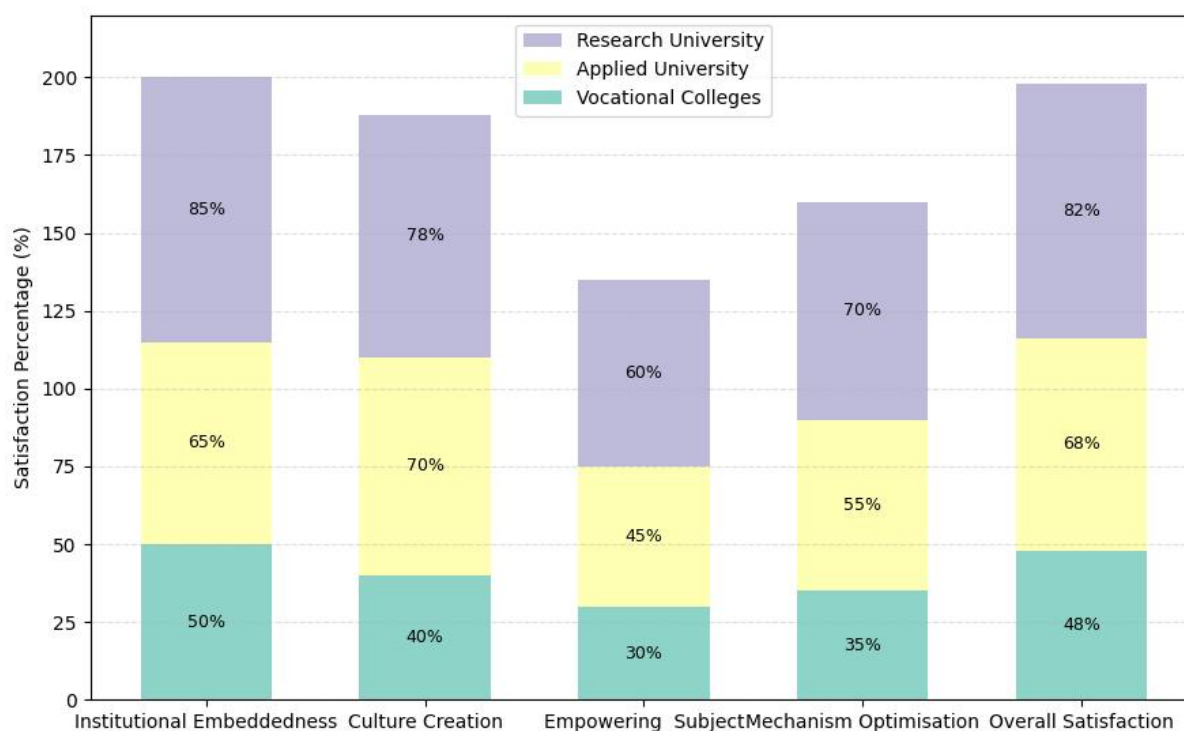

Figure 3 Satisfaction Levels across Different Dimensions for Different Types of Universities

Additionally, this paper conducted dynamic evolution tracking to reveal the phased benefits and feedback loops of emotional governance measures, as shown in Table 4. Through continuous observation from 2023Q1 to 2025Q3, it was found that emotional governance measures in higher education institutions follow a stepwise activation pattern. Institutional

optimization increased the baseline value of students' emotional capabilities by 0.1, but this effect diminished after six months, indicating that single-dimensional reforms have limited sustainability. However, interventions focused on empowering counsellor triggered an immediate leap, confirming the catalytic role of emotional interaction

in the implementation of institutional reforms. Cultural space renovations, on the other hand, initiate a long-term positive feedback curve, driving the sense of belonging indicator to rise continuously by 0.7 over 18 months. The key coupling mechanism lies in the fact that after the implementation of a combination of governance measures, students' emotional energy feeds back into the governance system through public participation, such as a 35% improvement in proposal quality and institutional recognition driving secondary policy optimization, forming a closed-loop evolution. The study also warns of the delayed effect trap, where vocational colleges, due to the delayed deployment of digital request platforms, saw the contribution rate of feedback mechanisms to responsibility recognition decline from 0.74 to 0.51, highlighting the necessity of dynamic calibration.
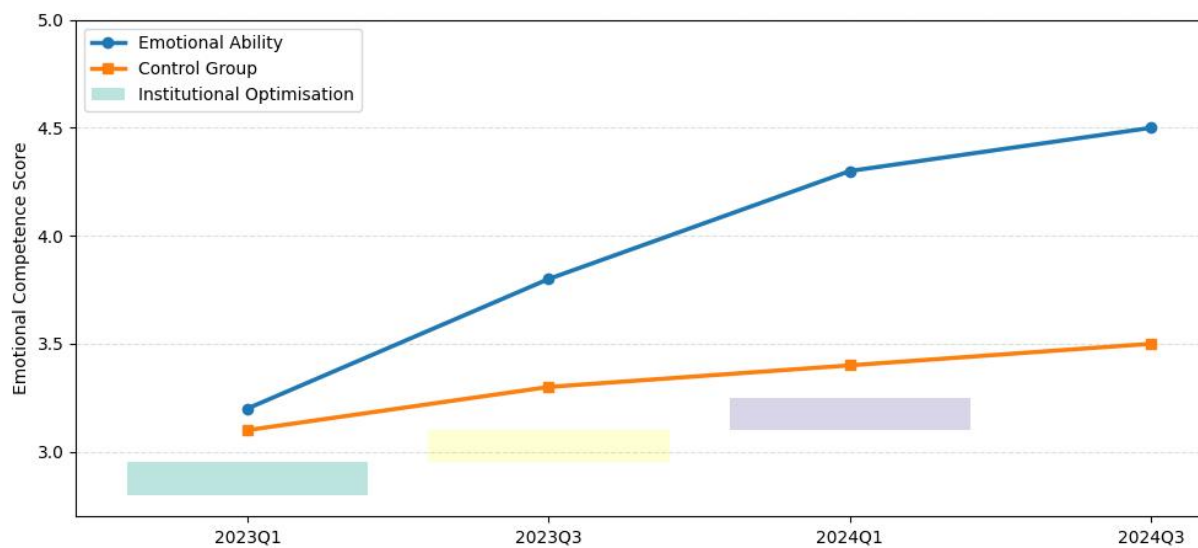
Figure 4 Dynamic Evolution Tracking: Intervention Effects and Timing of Measures

To achieve quantitative analysis, this paper employs a multidimensional coupling mechanism association analysis through structural equation modelling and heat-map visualization to systematically reveal the causal pathways and moderating effects of the four-dimensional elements of university governance on students' social-emotional competencies, as shown in Figure 5.
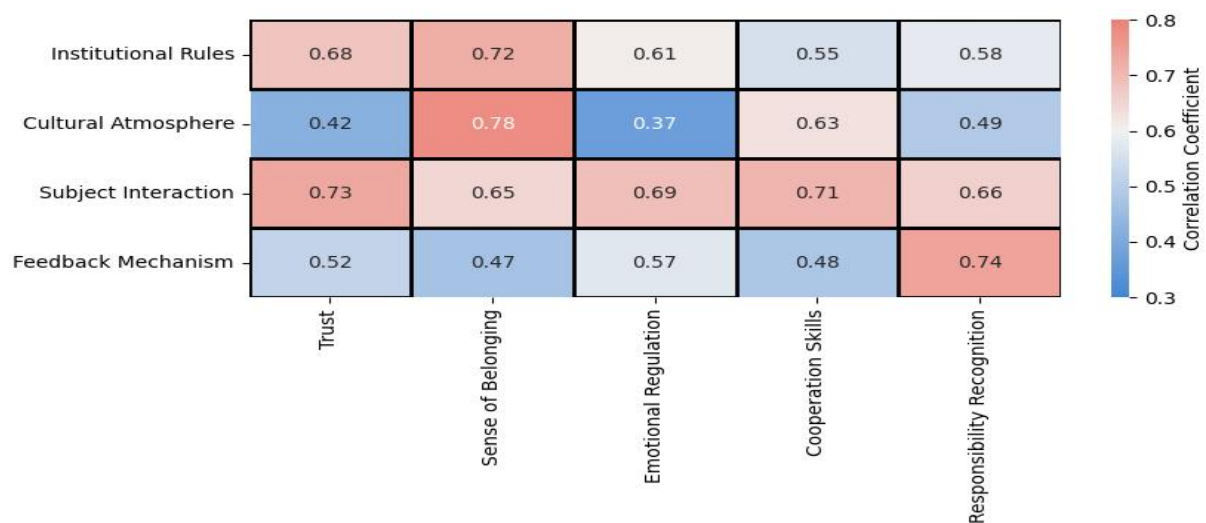

Figure 5 Correlation Matrix between Governance Dimensions and Psychological Indicators

As in Table 3, institutionally supportive universities demonstrate significantly stronger student socio-emotional outcomes versus traditional counterparts, with gaps spanning points on 5-point scales. Core divergences emerge in the sense of belonging, emotional regulation, and collaborative ability. Critical disparities persist across subgroups: student leaders report 24% higher belonging than general peers, vocational students trail research-university counterparts by 0.7 points in emotional regulation, and social media-dependent students exhibit 37.2% lower real-life social satisfaction. These findings underscore governance models' material impact on affective development, particularly for at-risk cohorts where structural interventions show 40% trust-building potential.

Table 3 Core Test Data

Dimension	Institutionally Supportive Universities	Traditional Universities	Difference	Key Group Performance
Sense of Belonging[a]	4.5	3.3	+1.2	Student leaders: 4.1
Emotional Regulation[b]	4.0	2.8	+1.2	Vocational colleges: 3.3
Collaborative Ability[c]	4.3	3.0	+1.3	Social media-dependent users

Note. Superscripts indicate data sources:
[a]*Data from (Madahian et al., 2017)*
[b]*Data from (Environmental Water Research, 2020)*
[c]*Data from (Zabarankin, 2008)*

Based on the above analysis, this paper further conducted a comparison of the significant institutional dependence and group differentiation characteristics of students' social-emotional abilities, as shown in Figure 6.
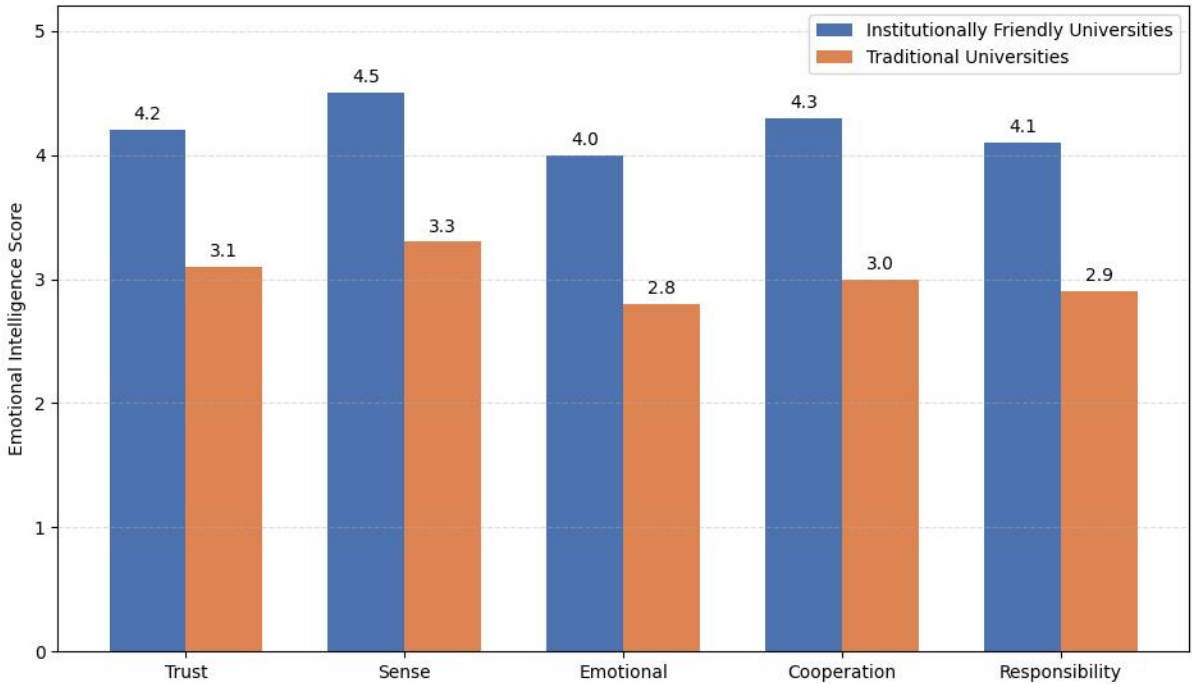

Figure 6 Comparison of the Current State of Students' Social and Emotional Skills

Research has found that students at institution-friendly universities outperform those at traditional universities across key dimensions such as trust, sense of belonging, and collaborative ability, with the greatest disparity observed in terms of sense of belonging. This finding underscores the directed shaping effect of governance environments on the accumulation of emotional capital. When broken down by institution type, vocational college students exhibit significantly lower emotional regulation abilities than research-oriented universities, with 31.2% exhibiting social avoidance tendencies, highlighting the social anxiety resulting from the absence of empowerment. Research-oriented universities, meanwhile, face the dilution of empathy in 'highly competitive environment' with 67.5% of students acknowledging that they 'neglect others' emotional needs under academic pressure' Key group differences are reflected in student leaders having a 24% higher sense of belonging than ordinary students, and social media-dependent individuals experiencing a 37.2% decline in real-world social satisfaction, exposing the risk of emotional capability degradation in the digital generation. Institutional innovation experiments demonstrate that structural interventions can increase vocational college students' trust by 40%, but caution is needed regarding the lagged effect on disadvantaged groups. The increase in emotional capability among economically disadvantaged students is 18% lower than that of the general population.

Conclusion

This study analyzes the multi-dimensional coupling mechanism between university governance systems and students' socio-emotional evolution from a dynamic emotion perspective. A review of international literature reveals diverse governance models with common challenges in stakeholder coordination and resource allocation. By integrating emotion sociology and governance theory, the research constructs a theoretical framework highlighting the dynamic role of emotions in both governance and student development. This framework emphasizes key dimensions like organizational management, teaching, and campus culture. To address challenges like stakeholder conflict, the paper proposes measures including improved governance structures, clarified responsibilities, and better coordination mechanisms. Future research should broaden its scope through cross-cultural comparative studies, investigate the impacts of emerging technologies and social change, and emphasize practical application with administrators and educators to iteratively improve outcomes through feedback.

Conflict of interest

The author declares that he has no conflicts of interest in this work.

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