

The Causal Relation Model of Job Satisfaction of Art and Design Teachers in Shanxi Province

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Abstract

The objectives of this study are: 1) to investigate the factors influencing the job satisfaction of art and design teachers in Shanxi Province, and 2) to explore guidelines for enhancing their job satisfaction. The research employs a mixed-method approach, combining qualitative interviews and quantitative survey analysis, collecting data from 443 art and design teachers from the top 20 universities in Shanxi Province.

The results indicate that organizational culture, transformational leadership, and psychological empowerment have a significant positive impact on job satisfaction. Notably, psychological empowerment indirectly enhances job satisfaction by strengthening professional identity. Structural Equation Modeling (SEM) analysis shows that the model fits well, with all indicators meeting statistical standards.

The study suggests that university administrators should strengthen psychological empowerment, foster a positive organizational culture, and enhance teachers' professional identity through transformational leadership to improve job satisfaction.

Keywords: Art and design teachers, Job satisfaction, Professional identity, Organizational culture, Transformational leadership, Psychological empowerment

Introduction

The development of the teaching workforce is the cornerstone of higher education. In recent years, China has prioritized this as a key focus in its efforts to build a strong education system. Both the State Council and the Ministry of Education have introduced policies emphasizing the enhancement of teachers' well-being and status to stimulate the enthusiasm and professional identity of university teachers (State Council, 2018). Job satisfaction among university teachers is regarded as a critical factor influencing the quality of education. This is especially true for art and design teachers, who, due to the flexible and creative nature of their work, often face unfair treatment, leading to burnout and low professional identity (Brown et al., 2017; Yuan & Dizon, 2024).

Despite the increasing attention from the Party and the state to art education, systematic research on the job satisfaction of art and design teachers remains limited. Existing studies mostly draw on international experiences, lacking relevance and practical guidance (Deng, 2025; Yumei & Yee, 2025; Jayanti et al., 2024). Therefore, this study focuses on the individual internal resources of art and design teachers and aims to explore the mechanisms affecting their job satisfaction. By reviewing relevant literature, this research constructs a theoretical model

examining the relationships between organizational culture, transformational leadership, psychological empowerment, and job satisfaction, and empirically tests it using Structural Equation Modeling (SEM). The goal is to provide theoretical support and practical guidance for improving the job satisfaction of art and design teachers.

Research Objectives

RO1: To investigate the factors influencing the job satisfaction of art and design teachers in Shanxi Province.

RO2: To explore guidelines for enhancing the job satisfaction of art and design teachers in Shanxi Province.

Methodology

Research Design

This section is divided into three phases. The first phase is a quantitative study, in which job satisfaction data from art and design teachers at universities in Shanxi Province is collected through a survey. The data is then processed and modeled using statistical analysis methods to determine the relationships between variables. The second phase is a qualitative study, conducted through in-depth interviews to further explore and understand the key factors identified in the first phase of the quantitative research. This phase provides more detailed evidence for the development of subsequent strategies. The third phase involves comprehensive analysis and strategy formulation, integrating both quantitative and qualitative data from the previous phases to ultimately develop practical guidelines for improving teacher job satisfaction.

Sample Selection

The subjects of this study are art and design teachers in Shanxi Province. To ensure the representativeness of the sample, stratified random sampling was used to select art and design teachers from 20 different universities. The sample includes teachers with different titles and years of teaching experience to cover a diverse range of backgrounds and experiences (Babbie, 2020).

There are 5 latent variables and 19 observable variables (each observable variable includes 1-3 questions), with 41 questions in total. Based on this data, the sample size was determined using a rule of thumb, which suggests selecting 10 samples per question for analysis (Kline, 2015; Tabachnick & Fidell, 2013). The final sample size was calculated as follows:

Sample size: 41 questions × 10 samples per question = 410 samples.

This sample size was chosen to ensure that sufficient and high-quality data could be obtained to support in-depth research and understanding of the complex relationships between latent variables.

Data Collection

The data collection process was supported by Southeast Asia University, Thailand, and followed these general steps:

First, the researcher prepared an official letter from Southeast Asia University to request cooperation from the top 20 ranked universities in Shanxi Province, such as Shanxi Media College, Changzhi College, Jinzhong College, and Yuncheng College, to assist in conducting surveys and in-depth interviews.

Next, the researcher submitted the survey and interview guide along with the cooperation request letter to the universities in Shanxi Province. Coordinators from each university followed up on the progress of data collection to ensure that the specified number of qualified questionnaires and key respondents' information were obtained.

During the data collection process, the researcher checked the completeness of the returned questionnaires

and analyzed the data using statistical analysis programs. The data from both the questionnaires and interviews were integrated to develop guidelines for improving the job satisfaction of art and design teachers in Shanxi Province.

Data Processing and Analysis

This process is divided into three parts. The first part involves analyzing personal factors and key variables of the respondents. This includes an analysis of the respondents' basic demographic information and the factors affecting job satisfaction among art and design teachers in Shanxi Province. The analysis used frequencies and percentages, arithmetic mean (M), standard deviation (SD), skewness, and kurtosis to assess personal factors and key variables. The second part involves analyzing the causal relationship model, primarily using hypothesis testing and covariance-based structural equation modeling (SEM) to analyze the relevant data and draw conclusions. The third part focuses on the analysis of interview data and the development of guidelines. This part further explores the data results and ultimately formulates guidelines to improve the job satisfaction of art and design teachers in Shanxi Province.

Research Conceptual Model

This study proposes a conceptual model to explore the influence of organizational culture, transformational leadership, and psychological empowerment on the job satisfaction of art and design teachers in Shanxi Province. Figure 1 presents the structure of this model, showing the relationships between variables.

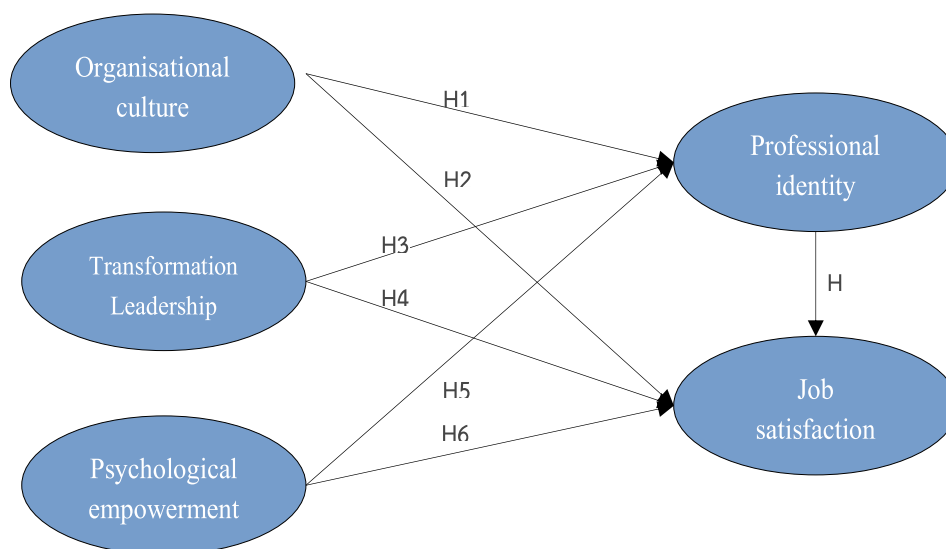


Figure 1 Research Conceptual Model (Source: Researcher, 2025)

Results

Quantitative Method

Factors Influencing the Job Satisfaction of Art and Design Teachers in Shanxi Province
Using AMOS, a structural equation model (SEM) was constructed. The independent variables include organizational culture (spiritual culture, material culture, and institutional culture), transformational leadership (leadership charisma, individualized consideration, inspirational motivation, idealized influence), and psychological empowerment (meaningfulness of work, autonomy, self-efficacy, and impact at work). The mediating variable is professional identity (professional values, sense of professional belonging), and the dependent variable is job satisfaction (the work itself, relationship with leadership, relationship with colleagues, compensation, promotion opportunities, and overall satisfaction). This model was tested to examine the relationships between these variables.

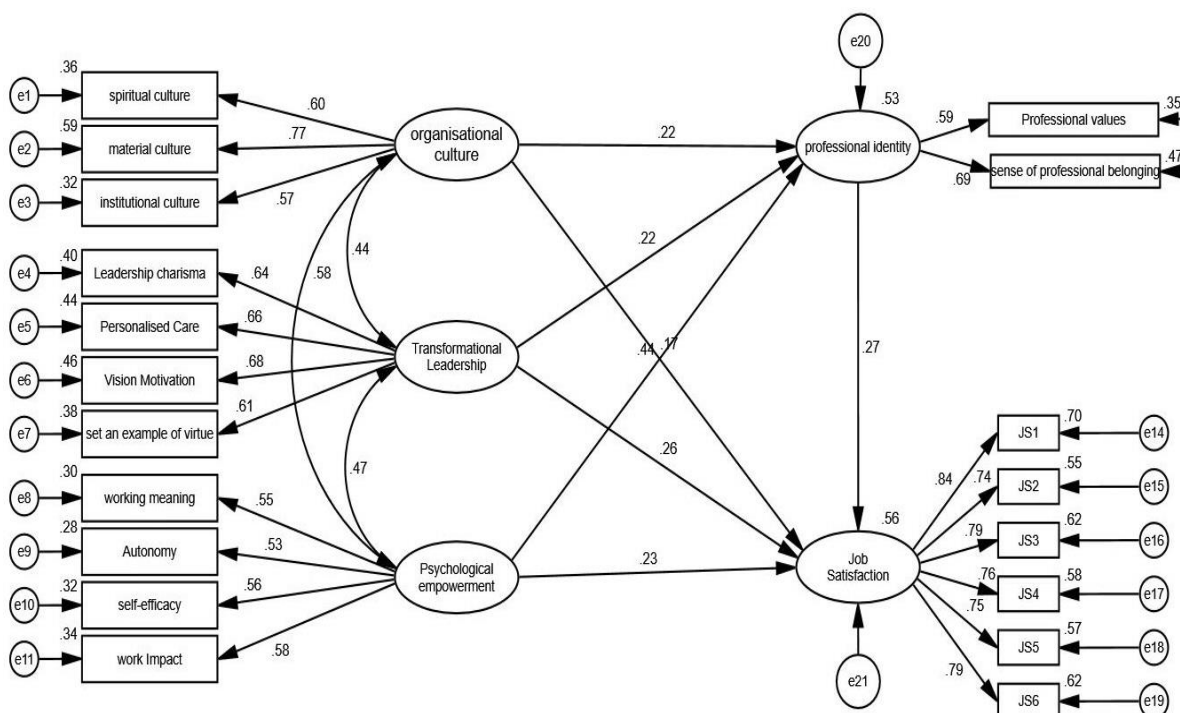


Figure 2 The Structural Equation Model of Job Satisfaction for Art and Design Teachers in Shanxi Province (Source: Researcher, 2025)

Table 1 Model Fit Indices for the Causal Relationship Model of Job Satisfaction among Art and Design Teachers in Shanxi Province

Index	χ^2	df	χ^2/df	GFI	RMSEA	RMR	CFI	NFI	TLI
judgment criteria	-	-	<3	>0.9	<0.08	<0.05	>0.9	>0.9	>0.9
measurement result	162.871	142	1.147	0.962	0.018	0.030	0.993	0.946	0.991

The table above presents the model fit indices, where $\chi^2/df = 1.147$, GFI = 0.962, RMSEA = 0.018, CFI = 0.993, NFI = 0.946, and LI = 0.991. All indices meet the acceptable standards, indicating that the model fits well.

Table 2 Summary of Regression Coefficients in the Causal Relationship Model of Job Satisfaction among Art and Design Teachers in Shanxi Province

	Path		Estimate	Std. Error	C.R.	P	Estimate
PI	<---	OC	0.232	0.1	2.313	0.021	0.225
PI	<---	TL	0.214	0.08	2.658	0.008	0.219
PI	<---	PE	0.47	0.123	3.836	***	0.436
JS	<---	PI	0.433	0.163	2.663	0.008	0.268
JS	<---	OC	0.288	0.119	2.425	0.015	0.172
JS	<---	TL	0.409	0.099	4.13	***	0.258
JS	<---	PE	0.395	0.159	2.479	0.013	0.226

The table above presents the regression coefficients in the causal relationship model. Specifically, the standardized path coefficient for OC → PI is 0.232, with a p-value less than 0.05, indicating a significant positive impact of OC on PI; the standardized path coefficient for TL → PI is 0.214, with a p-value less than 0.05, indicating a significant positive impact of TL on PI; the standardized path coefficient for PE → PI is 0.47, with a p-value less than 0.05, indicating a significant positive impact of PE on PI. Additionally, the standardized path coefficient for PI → JS is 0.433, with a p-value less than 0.05, indicating a significant positive impact of PI on JS; the standardized path coefficient for OC → JS is 0.288, with a p-value less than 0.05, indicating a significant positive impact of OC on JS; the standardized path coefficient for TL → JS is 0.409, with a p-value less than 0.05, indicating a significant positive impact of TL on JS; and the standardized path coefficient for PE → JS is 0.395, with a p-value less than 0.05, indicating a significant positive impact of PE on JS.

Table3 Summary of Mediation Effects of Organizational Culture on Job Satisfaction

Effect type	Path	Estimate	Lower	Upper	P
Direct effect	organisational culture -->Job Satisfaction	0.288	0.009	0.581	0.044
Indirect effect	Organisational culture-->professional identity-->Job Satisfaction	0.101	0.011	0.33	0.021
Total effect	organisational culture--> Job Satisfaction	0.388	0.113	0.692	0.005

The table above presents the results of the mediating effect of organizational culture on job satisfaction. Specifically, the direct effect (the path coefficient of organizational culture on job satisfaction is 0.288, p = 0.044), the indirect effect (the path coefficient of organizational culture on job satisfaction through professional identity is 0.101, p = 0.021), and the total effect (the total path coefficient of organizational culture on job satisfaction is 0.388, p = 0.005) are all significant, indicating that there is a partial mediating effect of organizational culture on job satisfaction.

Table 4 Summary of Effect Size Results for Mediation of Transformational Leadership

Effect type	Path	Estimate	Lower	Upper	P
Direct effect	Transformational Leadership--> Job Satisfaction	0.409	0.174	0.684	0.003
Indirect effect	Transformational Leadership-->professional identity--> Job Satisfaction	0.093	0.015	0.303	0.01
Total effect	Transformational Leadership--> Job Satisfaction	0.502	0.276	0.765	0

The table above presents the results of the mediating effect of transformational leadership on job satisfaction. Specifically, the direct effect (the path coefficient of transformational leadership on job satisfaction is 0.409, $p = 0.003$), the indirect effect (the path coefficient of transformational leadership on job satisfaction through professional identity is 0.093, $p = 0.01$), and the total effect (the total path coefficient of transformational leadership on job satisfaction is 0.502, $p = 0$) are all significant, indicating that there is a partial mediating effect of transformational leadership on job satisfaction.

Table 5 Summary of Effect Size Results for Mediation of Psychological Empowerment

Effect type	Path	Estimate	Lower	Upper	P
Direct effect	Psychological empowerment--> Job Satisfaction	0.395	0.052	0.752	0.032
Indirect effect	Psychological empowerment--> professional identity--> Job Satisfaction	0.204	0.064	0.538	0.004
Total effect	Psychological empowerment--> Job Satisfaction	0.598	0.319	0.928	0.001

The table above presents the results of the mediating effect of psychological empowerment on job satisfaction. Specifically, the direct effect (the path coefficient of psychological empowerment on job satisfaction is 0.395, $p = 0.032$), the indirect effect (the path coefficient of psychological empowerment on job satisfaction through professional identity is 0.204, $p = 0.004$), and the total effect (the total path coefficient of psychological empowerment on job satisfaction is 0.598, $p = 0.001$) are all significant, indicating that there is a partial mediating effect of psychological empowerment on job satisfaction.

Qualitative Method

Guidelines for Enhancing Job Satisfaction among Art and Design Teachers in Shanxi Province

Based on the interview results, regarding the nature of the work itself, the interviewed teachers generally expressed satisfaction with their job content, finding it challenging and engaging, and aligned with their professional backgrounds. In terms of relationships with leadership, there was a positive attitude towards the supportiveness and openness of school leaders, with teachers believing that the leaders' communication and management styles contribute to enhancing job satisfaction. Regarding relationships with colleagues, most teachers expressed satisfaction with the relationships and collaboration among colleagues, noting that the team atmosphere is positive and facilitates smooth communication and cooperation in their work. In terms of compensation, a small number of teachers expressed dissatisfaction with their pay and benefits, believing that the salary levels are low or the benefits insufficient. Regarding promotion opportunities, most teachers reported a certain level of satisfaction with the internal promotion opportunities within the school, although some felt that the promotion prospects were limited, impacting their overall job satisfaction. In relation to organizational culture and leadership style, there was a consensus that the school's spiritual, material, and institutional cultures are significant factors influencing job satisfaction. Teachers hope that the school can establish a more positive and cohesive organizational culture, and exhibit more personal charm and care for teachers in their leadership style. In terms of psychological empowerment, teachers generally feel that their work is meaningful, believe they can demonstrate their abilities and influence in their jobs, and have a certain degree of autonomy at work. Regarding professional identity, teachers expressed pride in their profession and recognize the importance and value of art and design education.

Table 6 Hypothesis Testing Results in the Causal Relationship Model of Job Satisfaction among Art and Design Teachers in Shanxi Province

Hypotheses	Item	path coefficient	Accepted/Reject
H1	Organizational culture positively affects professional identity among art and design teachers.	0.021	Accepted
H2	Organizational culture positively affects job satisfaction among art and design teachers.	0.015	Accepted
H3	Transformational leadership positively affects the professional identity of art and design teachers.	0.008	Accepted
H4	Transformational leadership positively affects the job satisfaction of art and design teachers.	***	Accepted
H5	Psychological empowerment positively affects the professional identity of art and design teachers.	***	Accepted
H6	Psychological empowerment positively affects the job satisfaction of art and design teachers.	0.013	Accepted
H7	Professional identity among art and design teachers positively affects job satisfaction.	0.008	Accepted

Discussions

This study provides new insights into understanding the complex mechanisms of job satisfaction among art and design teachers in Shanxi Province. The following is a detailed discussion of the research findings, aligning them with the research objectives and hypotheses, addressing the limitations of the study, and offering practical and future research recommendations.

1. Alignment of Research Findings with Hypotheses

First, the study found a significant direct impact of professional identity on job satisfaction, validating Hypothesis H7: Professional identity positively influences job satisfaction. This finding is consistent with previous research (Lu et al., 2019; Chaban et al. (2021) and further confirms the role of professional identity as an important predictor of job satisfaction. Second, organizational culture has a significant direct impact on job satisfaction and indirectly influences job satisfaction through professional identity, supporting Hypothesis H2: Organizational culture indirectly influences job satisfaction through professional identity. This indicates that organizational culture not only directly enhances teachers' job satisfaction but also further improves job satisfaction by strengthening their professional identity. This aligns with the findings of Sirait et al. (2022); Mgaiwa (2023); Sothinathan et al. (2024), emphasizing the critical role of organizational culture in shaping teachers' professional identity.

Moreover, the study validated the impact of transformational leadership on teachers' job satisfaction, supporting Hypotheses H3 and H4. Transformational leadership not only has a direct effect on job satisfaction but also indirectly influences job satisfaction through professional identity. This finding expands transformational leadership theory (Bass, 1985) and provides empirical support for the application of leadership in educational settings.

The research also verified the influence of psychological empowerment on job satisfaction, supporting Hypotheses H5 and H6. Psychological empowerment not only directly affects job satisfaction but also influences job satisfaction by enhancing professional identity. This indicates that the role of psychological empowerment in improving teachers' job satisfaction should not be overlooked.

2. Limitations of the Study

Despite the valuable insights provided by this study, there are some limitations. First, the sample was drawn only from art and design teachers in Shanxi Province, which may limit the generalizability of the findings. Future research could consider expanding the sample range to include teachers from other provinces or different types of educational institutions to enhance the external validity of the results.

Second, the cross-sectional design used in this study limits causal inferences. Although we analyzed the relationships between variables using structural equation modeling, future research could employ longitudinal designs to more accurately capture causal relationships and dynamic changes among variables.

3. Practical Implications and Future Research Suggestions

The findings of this study have significant practical implications. First, educational administrators should prioritize enhancing teachers' professional identity, as this factor significantly influences teachers' job satisfaction. Second, improving organizational culture and leadership styles can indirectly enhance teachers' job satisfaction. These findings provide concrete suggestions for higher education management, such as strengthening transformational leadership capabilities through training and development programs and fostering a supportive organizational culture.

Conclusion and suggestions

This study constructs and empirically tests a causal relationship model of job satisfaction among art and design teachers in Shanxi Province. The findings confirm that organizational culture, transformational leadership, and psychological empowerment exert both direct and indirect effects—through professional identity on job satisfaction.

The following key conclusions can be drawn:

1. Professional identity significantly enhances job satisfaction, acting as a key mediator in the model.
2. Organizational culture positively shapes both professional identity and job satisfaction, underscoring the importance of fostering a supportive and value-aligned environment.
3. Transformational leadership has a notable impact on strengthening professional identity and job satisfaction, highlighting the value of leadership styles that inspire and empower teachers.
4. Psychological empowerment significantly contributes to both professional identity and job satisfaction, emphasizing the role of autonomy, meaningfulness, and self-efficacy.

Practical Suggestions

1. Universities should invest in building a positive and cohesive organizational culture that supports professional identity and satisfaction.
2. Leadership development programs should be implemented to cultivate transformational leadership competencies among academic leaders.
3. Enhancing teachers' psychological empowerment through opportunities for professional growth, autonomy, and meaningful engagement should be prioritized.
4. Policy-makers and educational administrators should recognize the unique needs of art and design teachers and tailor support programs accordingly.

Recommendations

Based on the findings of this study, future research could explore the following directions:

1. Further analyze other potential mediating and moderating variables, such as work stress and career development opportunities, which may influence the mechanisms of job satisfaction.

2. Conduct comprehensive studies that combine quantitative and qualitative methods to reveal more detailed mechanisms and practical nuances.

3. Perform comparative studies across different regions with varying cultural backgrounds to expand the understanding of teacher job satisfaction.

In summary, this study provides theoretical and practical contributions to understanding and enhancing job satisfaction among art and design teachers, but further exploration and validation of these findings are needed in future research.

New knowledge and the effects on society and communities

This research contributes new theoretical and practical knowledge in several ways

1. Theoretical Contribution: It extends existing models of job satisfaction by integrating professional identity as a key mediator, especially in the under-researched domain of art and design education in China.

2. Methodological Contribution: The study combines quantitative SEM analysis with qualitative insights, offering a more nuanced understanding of the dynamics affecting job satisfaction in this specific teaching context.

3. Practical Contribution for Society and Communities : Improved job satisfaction among art and design teachers can lead to better educational outcomes, fostering creativity, innovation, and cultural literacy in the wider community. A supportive academic environment can help retain talented educators, ensuring the sustainable development of art and design education in Shanxi Province and beyond. The findings can inform policymakers and educational leaders in designing targeted interventions that enhance teacher well-being and professional commitment, contributing to societal progress through education.

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