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Improving Faculty Members' Innovative Work Behavior Through Intervention Design Implementations (IDI): A Case Study of Yunnan Arts University in China

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Abstract

Innovative behaviors among employees are essential for organizations to remain competitive. This research focuses on the significant impact of readiness for change, work engagement, management support, and co-worker support on the innovative work behavior of faculty members at Yunnan Arts University, Kunming, China. The conceptual framework of this research was established based on previous empirical studies, which include three phases: pre-IDI, IDI, and post-IDI. The pre-IDI phase focused on the assessment of the current situation. The IDI phase was the process of implementing an intervention, and in the post-IDI phase, the expected consequences of the intervention were evaluated. It was conducted at Yunnan Arts University; 90 faculty members were distributed questionnaires as the target population, and 30 were selected as the experimental group in the intervention phase. A mixed method was used to test the results of the intervention. Meanwhile, the Item-Objective Congruence (IOC) and the Pilot Test were used to test the validity and reliability of the questionnaire. H1-H4 was supported by multiple linear regression and interviews with six faculty members. The intervention design implementations (IDI) stage lasted 12 weeks. Thirty faculty members in the experimental group and six staff were interviewed. After the IDI stage, the mean score differences between pre-and post-IDI data were evaluated by paired sample t-test. With the results of the interviews, H5-H9 were validated. Comparing quantitative and qualitative data showed that readiness for change, work engagement, management support, and co-worker support significantly impact faculty members' innovative work behavior at Yunnan Arts University in China. Hence, improving acceptance and adaptability to change, involving supportive resources, and creating a supportive work environment will enhance innovative work behaviors and increase the chances of successful and sustainable educational innovations at Yunnan Arts University, China.

Keywords: innovative work behavior, readiness for change, work engagement, management support, co-worker support

Introduction

Innovation has been a crucial driver of economic growth and development in nations globally (Aparicio et al., 2016; Prajogo & Oke, 2016). Innovative work behavior is an indispensable part of a competitive institution, guaranteeing a sustainable competitive advantage in a constantly changing world. Meanwhile, higher education plays a pivotal role in every nation's government structure since its success may impact the whole national population and the durability of economic expansion (Mishra et al., 2020). Since higher education institutions serve as innovation think tanks, staff members have to demonstrate ingenuity to stay abreast of advancements in education innovation (Ahmad, 2020). In particular, the process of educational innovation is significantly impacted by teachers and education administrators, who are the main participants in academic activities and innovation (Sun, 2023). Demonstrating innovative work behavior was a requirement for higher education educators to actively participate in educational innovations (Ehlen, 2010). Therefore, promoting employees' innovative work behavior in higher education and employee growth has become increasingly essential.

Relevant Chinese departments have proposed developing a highly competent, specialized, and creative teaching workforce. By 2035, teacher quality, professional competency, and creativity ought to have significantly increased. According to current academic research in China, 279 studies on "employee innovative work behavior" in the China Knowledge Network and 1350 studies in the Wan Fang database between 2012 and 2023. This bibliometric review demonstrated that the study of innovative work behavior was still in its early stages (Wojtczuk-Turek & Turek, 2015). In other words, the history of research on employees' innovative work behavior is relatively scarce, and there needs to be more research on the creative work behavior of university employees in China. Furthermore, most studies concentrated primarily on individual or organization-level factors (Farrukh et al., 2022), which have mainly explored the factors affecting employees' innovative work behaviors from the perspective of leaders, while relatively few studies have focused on the innovation agent.

Research Problem

Innovation is the cornerstone for organizations to remain competitive, and higher education constitutes no exception. An essential precondition for innovation in higher education is innovative work behavior among academics and administration. Identifying potential factors that impact employee innovative behavior remains a significant area of research. Therefore, the inquiry aims to elucidate the significant impact of readiness for change, work engagement, management support, and co-worker support on innovative work behavior by designing and implementing appropriate Intervention Design Implementations (IDIs), intending to improve the innovative work behaviors of faculty members at Yunnan Arts University, Kunming, China.

Research Objectives

1. To investigate the significant impact of readiness for change on faculty members' innovative work behavior at Yunnan Arts University in Kunming, China.

2. To investigate the significant impact of work engagement on faculty members' innovative work behavior at Yunnan Arts University in Kunming, China.

3. To investigate the significant impact of management support on faculty members' innovative work behavior at Yunnan Arts University in Kunming, China.

4. To investigate the significant impact of co-worker support on faculty members' innovative work behavior at Yunnan Arts University in Kunming, China.

5. To assess and analyze the current level of readiness for change, work engagement, management support, co-worker support, and faculty members' innovative work behavior.

6. To design and implement appropriate Intervention Design Implementations (IDIs) on readiness for change, work engagement, management support, and co-worker support to improve faculty members' innovative work behavior.

7. To determine the differences in readiness for change, work engagement, management support, and co-worker support with innovative work behavior between the pre- and post-IDI phases.

Research Questions

1. Does readiness for change significantly impact faculty members' innovative work behavior at Yunnan Arts University in Kunming, China?

2. Does work engagement significantly impact faculty members' innovative work behavior at Yunnan Arts University in Kunming, China?

3. Does management support significantly impact faculty members' innovative work behavior at Yunnan Arts University in Kunming, China?

4. Does the co-worker support significantly impact faculty members' innovative work behavior at Yunnan Arts University in Kunming, China?

5. What is the current level of readiness for change, work engagement, management support, co-worker support, and innovative work behavior?

6. What are the appropriate Intervention Design Implementations (IDI) on readiness for change, work engagement, management support, and co-worker support to improve innovative work behavior?

7. Are there any differences in readiness for change, work engagement, management support, co-worker support, and innovative work behavior between the pre-and post-IDI phases?

Research Significance

1. Through this research, the university will understand innovative work behavior. It will drive higher education administrations to explore new and unorthodox strategies for developing innovative work behavior among faculty members to enhance competitiveness.

2. The research enriches the exploration of innovative work behavior of higher education faculty members to a certain extent. It matches the behaviors of their front-line educators with the intended objectives of China.

3. Through Intervention Design Implementations (IDI), faculty members' acceptance and preparation level for innovative work behavior can be improved, effectively promoting educational reform.

4. Through group meetings and practice training, the innovative work behavior of faculty members can be effectively improved from readiness for change, work engagement, management support, and co-worker support, ultimately achieving an improvement in educational innovation. The practice of IDI will rapidly be implemented in the whole university and even across higher education in China.

Literature Review

Innovative Work Behavior

Innovative work behavior refers to the discoveries, recommendations, and application of these behaviors to job-related duties, facilitation, and execution of innovative concepts, resulting in improved organizational performance (Akram et al., 2018). Moreover, innovative work behavior on the job is a complex process involving the generation, development, promotion, achievement, implementation, and alteration of creative ideas, aiming to enhance one's position and behavior (Baharuddin et al., 2019). Additionally, innovative work behavior was characterized in terms of four dimensions: concepts like "ideas explored," "ideas generated," "ideas championed," and "ideas implemented" (Stoffers et al., 2018). According to Lambriex-Schmitz et al. (2020), there were five necessary elements to accurately quantify innovative work behavior, which included prospect investigation, coming up with ideas, concept advancement, idea awakening, and idea durability. Meanwhile, three elements of opportunity exploration, idea production, and idea promotion might be used to quantify innovative work behavior (Messman & Mulder, 2020). Simultaneously, it highlighted the importance of employees' innovative work behavior in contributing to organizational success by scientists and practitioners. In particular, a strong connection existed between successful organizations and creative employees who could improve innovation performance by generating and executing new ideas (Cingoz & Akdogan, 2011).

Readiness for Change

The concept of readiness for change may be understood and developed as a consistent state of being characterized as a fundamental skill to navigate ongoing shifts in external and internal circumstances effectively (Vakola, 2013). According to Vaishnavi et al. (2019), readiness for change refers to an organization's ability to adapt to transformation and the extent to which its employees comprehend the importance of innovation. Moreover, it included an assessment of the ability of both individuals and institutions to implement effective transformations, the imperative of transformation, and the positive consequences of executing transformation successfully (Stevens, 2013). The evaluation of an employee's preparedness for change encompassed an analysis of both personal and organizational capacity to change effectively and an examination of the necessity for change and the advantages associated with its successful implementation (Stevens, 2013). Specifically, employee preparedness for change was considered a crucial factor in organizational transformation management. When an organization was unprepared for a change, it resulted in resistance, fighting, and ultimately collapse (Claiborne et al., 2013). Thus, innovation can only occur when employees actively participate in activities that generate and implement ideas (Eby et al., 2000).

Work Engagement

Agarwal (2014) pointed out that the concept of work engagement includes three dimensions: vitality, commitment, and absorption, which were connected to both task effectiveness in performing tasks and emotional levels related to job satisfaction. Specifically, physical, mental, and social assets contribute to elevated levels of vitality, which could be assessed using measures of vigor, devotion, and assimilation. Furthermore, work engagement was an excellent psychological state influenced by vigor, which was associated with emotional fortitude and extended working power, the devotion that tightly connected an individual's job with excitement sentiments, and immersion in being wholly focused on one's profession (Bakker & Albrecht, 2018; Schaufeli & Salanova, 2017). In addition, Zhang and Bartol (2010) asserted that high levels of work engagement motivate employees to develop resilience and persistence in their problem-solving and actively engage in the exploration, dissemination, and implementation of novel innovations with enthusiasm. Consequently, a substantial proportion of individuals who demonstrated high work involvement exhibited markedly innovative behavior. Moreover, it has been shown that individuals who exhibited a significant level of job engagement demonstrated heightened attentiveness and exertion toward their professional responsibilities (Eldor & Harpaz, 2016).

Management Support

Management support refers to the level at which management comprehended the significance of knowledge management and was engaged actively in its implementation and related endeavors (Lin, 2011). Specifically, Koshy and Suguna (2014) added that management

support facilitated the active involvement and implementation of individuals with their knowledge and expertise, providing solutions to improve all dimensions of any endeavor. It could be associated with a mission, a product, a work environment, or an organizational construct. Furthermore, remuneration was regarded as part of organizational support. Performance evaluation also formed an integral facet of management support, which serves as a management support program to assess both job-based performance and employee competencies. Han et al. (2019) defined organizational backing as the assistance and motivation staff members offer. It was a worker's perspective regarding how the organization encourages, honors, rewards, and acknowledges innovation (Ali et al., 2021). Furthermore, management support influences various organizational attributes (Ismail et al., 2019). It played a crucial role in facilitating and shaping corporate performance by providing the requisite tools for learning and fostering the development of creative ideas (Li et al., 2018; Ruiz-Jimenez & Fuentes-Fuentes, 2016). In particular, Hoon Song et al. (2012) also stated that management support was crucial for innovative and unrestricted behavior.

Co-Worker Support

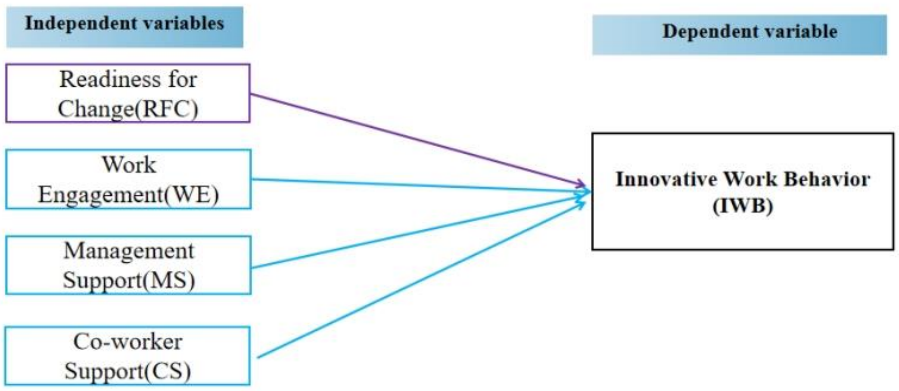
Co-worker support refers to the perception of employees that their colleagues demonstrated care for their overall well-being and addressed their needs in a suitable way (Paillé et al., 2016). The degree to which one's coworkers were supportive, dependable, and understanding regarding work-related issues is the definition of perceived co-worker support (Menguc & Boichuk, 2012). Furthermore, employees' capacity to handle organizational issues would be enhanced when they felt supported by their co-workers (Singh et al., 2019). Providing colleague assistance and encouragement was seen as a crucial and advantageous asset for effectively enhancing productivity and the organization's overall performance (Lee et al., 2015). According to Lee et al. (2015), the support received from co-workers significantly influenced employees' behaviors inside the workplace. These behaviors included the sharing of knowledge as well as the hiding of information. Employees who worked in organizations with strong collaborative networks and social support were more likely to innovate in the workplace than those in less supportive atmospheres (Ma Prieto & Pilar Pérez-Santana, 2014).

Conceptual Framework

The conceptual framework was developed based on the integration of the social exchange theory (SET), conservation of resources (COR), and organizational support theory (OST) together with two theoretical frameworks identified in prior research. Independent variables and dependent variable are illustrated in Figure 1.

Figure 1

Conceptual Framework

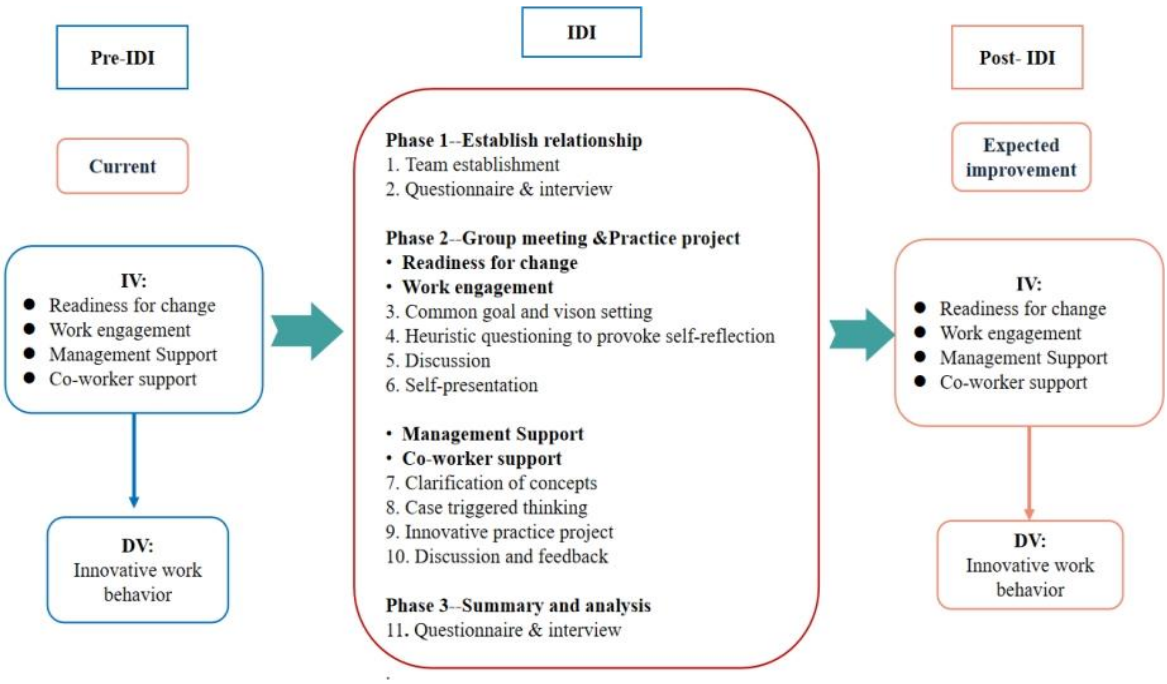


Intervention Design Implementations (IDIs) Framework

The IDI framework consists of three main phases: pre-IDI, IDI, and post-IDI, as shown in Figure 2. The pre-IDI phase focuses more on the assessment of the current situation. The IDI phase is the process of implementing an intervention, and in the post-IDI phase, the expected consequences of the intervention are evaluated.

Figure 2

IDI Framework



Research Methodology

Research Hypotheses

H1: Readiness for change has a significant impact on innovative work behavior.

H2: Work engagement has a significant impact on innovative work behavior.

H3: Management support has a significant impact on innovative work behavior.

H4: Co-worker support has a significant impact on innovative work behavior.

H5: There is a significant difference in readiness for change between pre- and post-IDI stages.

H6: There is a significant difference in work engagement between pre- and post-IDI stages.

H7: There is a significant difference in management support between pre- and post-IDI stages.

H8: There is a significant difference in co-worker support between pre- and post-IDI stages.

H9: There is a significant difference in innovative work behavior between pre- and post-IDI stages.

Research Design

The study adopted a mix of qualitative and quantitative research methods to examine the significant impact of the intervention on the innovative work behavior of faculty members at Yunnan Arts University. Thirty faculty members participated in IDI through group meetings and practice projects as an experimental group. The quantitative study was conducted through pre- and post-IDI surveys with the same items on the five variables by Jamovi 2.3.13: readiness for change, work engagement, management support, co-worker support, and innovative work behavior. The qualitative study was conducted through pre- and post-IDI interviews with six randomly selected experimental group participants.

Population, Sample Size, and Sampling Procedures

Table 1 shows the research population comprises 258 faculty members from 3 Schools. The sample size was 90 faculty members currently working at Yunnan Arts University, China. There were 30 faculty members from the School of Art and Design, 21 from the School of Drama, and 39 from the School of Music. The sampling methods were purposive sampling and convenience sampling. With purposeful sampling, participants were selected based on predetermined criteria and well-defined traits. Besides, convenience sampling selected individuals who can be easily contacted (Obilor, 2023). Thus, Yunnan Arts University faculty members were selected as the sample for convenience in this study.

Table 1

Research Population

No.	Schools	Number of Currents Faculty members	Sample Size
1	School of Art and Design	87	30
2	School of Drama	60	21
3	School of Music	111	39
Total		258	90

Firstly, 30 faculty members were conveniently selected from unrelated schools for the pilot test, such as the School of Fine Arts and Dance. Then, the researchers purposefully selected 90 teachers and administrators from relevant schools for questionnaire distribution and six faculty members' random interviews based on their positions at Yunnan Arts University. During the IDI phase, 30 faculty members were selected from the relevant 90 sample size of the study as the experimental group by purposive sampling. These participants, representing diverse professional backgrounds, were chosen for their active involvement in organizational management and teaching. Finally, the questionnaire was distributed to 30 experimental group participants once more, and subsequent interviews were executed after IDI.

Research Instruments

Design of Questionnaire

Five articles with open publication were used as the questionnaire sources, shown in Table 2. It contained three aspects: demographic questions about gender, questions on independent variables, and dependent variables. There are 31 questions divided into five dimensions: change readiness (three questions), work engagement (eleven questions), management support (five questions), and co-worker support (six questions). The third part of the questionnaire was about innovative work behaviors (six questions). A five-point Likert scale (Norman, 2010) was used to evaluate the items in the questionnaire. Subsequently, the questionnaire was integrated into the context of Chinese universities. After testing for the reliability and validity of the questionnaire, it was distributed.

Table 2

Design of Questionnaire

	Variables	N0. of items	Example	Reference
Independent Variables	Readiness for change (RFC)	3	I look forward to change at my institution.	Dunham et al. (1989)
	Work engagement (WE)	11	At work, I feel full of energy.	Schaufeli and Bakker (2004)

	Variables	N0. of items	Example	Reference
	Management support (MS)	5	In this organization, I feel it is easy to approach to their supervisor.	Chandler et al. (2000), Hornsby et al. (2002)
	Co-worker support (CS)	6	Employees in this organization have relationships based on trust and reciprocal faith.	Subramanian and Youndt (2005), Lee and Choi (2003), Gibson and Birkinshaw (2004)
Dependent Variables	Innovative work behavior (IWB)	6	While working in this institution, I have come up with innovative and creative notions.	Scott and Bruce (1994), Janssen (2000).

IOC Results for Validity Analysis

Three experts were invited to offer their judgments on the questionnaire developed based on previous research. All three experts were scholars, doctors, and professors in the field of education and organizational development, which helped review the questionnaire from an organizational development perspective. As seen in Table 3, all dimension scores were above the criterion of 0.67, and all questions were retained.

Table 3

IOC Results

Variable	No. of Question	Question	IOC (>0.67)	Outcome
Readiness for Change (RFC)	3	1-3	1.00,1.00, 1.00	Pass
Work Engagement (WE)	11	4-14	1.00,1.00, 1.00,1.00, 1.00,1.00, 1.00,1.00, 1.00,1.00, 1.00	Pass
Management Support (MS)	5	15-19	1.00,1.00, 1.00,1.00, 1.00	Pass
Coworker Support (CS)	6	20-25	1.00,1.00, 1.00,1.00, 1.00,1.00	Pass
Innovative Work Behaviors (IWB)	6	26-31	1.00,1.00, 1.00,1.00, 1.00,1.00	Pass
Total	31			

Pilot Test for Reliability Analysis

A reliability test was conducted by distributing a questionnaire to 30 unrelated faculty members not included in the study sample size. All the items of this research instrument have successfully undergone Cronbach's Alpha's internal consistency reliability test, and the alpha coefficient achieved is 0.70 or higher. Table 4 displays the results and the level of relationship.

Table 4

Results of Pilot Test

Variables	No. of items	Cronbach's Alpha	Strength of Association
Readiness for Change (RFC)	3	.845	Good
Work Engagement (WE)	11	.950	Excellent
Management Support (MS)	5	.921	Excellent
Coworker Support (CS)	6	.958	Excellent
Innovative Work Behavior (IWB)	6	.948	Excellent
Overall	31		

Interview Instrument

The interview instrument for the qualitative study consisted of nine questions. The first five questions were comprehensive, aiming to evaluate the dependent variable of faculty members' innovative work behavior and the current state of implementation at Yunnan Arts University. Questions five to nine were respectively targeted at testing the interviewees' extent to which change readiness, work engagement, management support, and co-worker support impact faculty members' innovative work behavior. In the pre-IDI phase, the objective of the interview was to discover the present conditions and evaluate the necessity for IDI. After that, the outcome of the IDI stage was analyzed and compared to the results of the interview.

Results and Discussion

Demographic Profile

The demographic characteristics of all research population (n=90) and experimental group (n=30) who participated in this study are as follows in Table 5.

Table 5

Demographic Profile

Entire Research Population (n=90)		Frequency	Percent
Gender	Male	47	52.2%
	Female	43	47.8%
School of Music		39	39%
School of Art and Design		30	30%

Entire Research Population (n=90)		Frequency	Percent
School of Drama		21	21%
Total		90	100%
IDI Population (n=30)		**Frequency**	**Percent**
Gender	Male	16	53.33%
	Female	14	46.67%
School of Music		9	30%
School of Art and Design		11	36.67%
School of Drama		10	33.33%
Total		30	100%

Results of Multiple Linear Regression

The multiple linear regression (MLR) analysis results by Jamovi 2.3.13 indicated that innovative work behavior significantly impacted readiness for change, work engagement, management support, and co-worker support. Table 6 shows that the four hypotheses, H1, H2, H3, and H4, were supported. Table 6 shows that the four hypotheses, H1, H2, H3, and H4, were supported.

Table 6

The Multiple Linear Regression Results of Four Independent Variables

Variables	Standardized Coefficients Beta	t-value	P-value	VIF	R	R Square
Readiness for change (RFC)	.309	4.42	< .001	1.59	0.845	71.4%
Work engagement (WE)	.342	3.34	.001	3.42		
Management support (MS)	.309	2.55	0.012	4.77		
Co-worker support (CS)	.375	3.73	< .001	3.28		
Dependent variable: Innovative work behavior (IWB)						

As seen in the table, all the p-values were equal or less than 0.05, and the R square value is 0.714, indicating that the independent variables explain 71.4% of the variation. By observing the standardized regression coefficients, the standardized regression coefficients of co-worker support (0.375) were the highest, reflecting that the dimension had a higher impact on IWB from a statistical perspective. In the variance inflation factor (VIF) analysis, values for the four dimensions were all less than 5, indicating no multicollinearity among the four variables.

H1: Readiness for change has a significant impact on innovative work behavior. ($\beta = .31$, $p < 0.01$)

H2: Work engagement has a significant impact on innovative work behavior. ($\beta = .34$,

p=0.01)

H3: Management support has a significant impact on innovative work behavior. (β = .31, p=0.012)

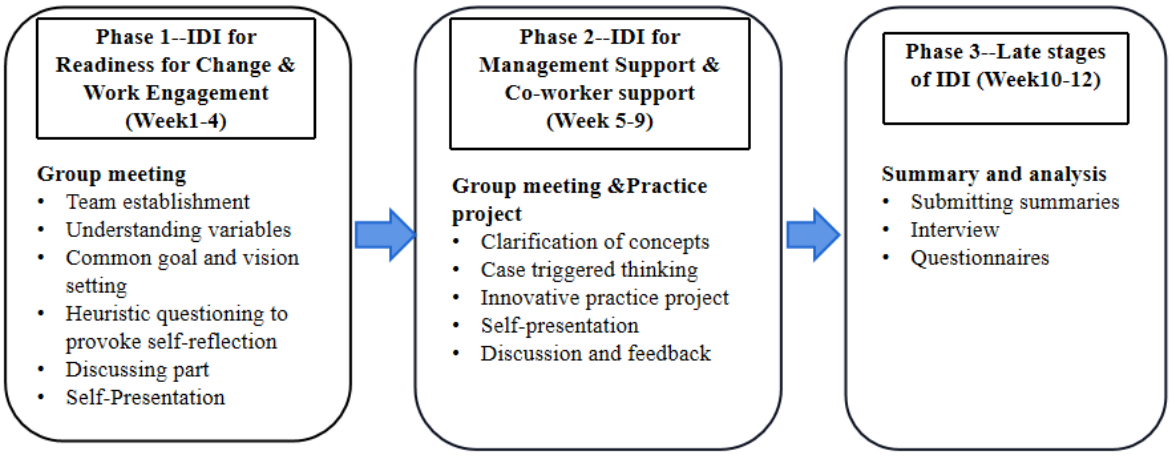
H4: Co-worker support has a significant impact on innovative work behavior. (β = .37, p ＜0.01)

IDI Intervention Stage

The intervention design implementation (IDI) stage was undertaken in two stages, as shown in Figure 3. The first stage aimed to strengthen faculty members' readiness for change and work engagement. Reinforcing the level of management support and co-worker support of faculty members was the second phase. It lasted 12 weeks, and 30 faculty members participated as an experimental group. After the IDI stage, the data of mean score differences were evaluated by paired sample t-test (n=30), six staff were interviewed, and H5-H9 were validated.

Figure 3

Intervention Design Implementations (IDI) Stage



Results Comparison between Pre-IDI and Post-IDI

Quantitative Data Analyses Results

The paired sample t-test was used to compare quantitative results on all five variables to identify whether there were any differences between pre-post IDI phases.

Table 7

Paired Sample Test Result

Variables		Mean	Std. Deviation	t-value	df	Sig.
Pair 1	Post-readiness for change	4.52	.378	-2.45	29	.020
	Pre-readiness for change	4.16	.654			
Pair 2	Post-work engagement	4.46	.294	-4.71	29	＜.001
	Pre-work engagement	3.77	.709			
Pair 3	Post-management support	4.41	.366	-4.22	29	＜.001
	Pre-management support	3.75	.689			
Pair 4	Post-co-worker support	4.39	.421	-4.15	29	＜.001
	Pre-co-worker support	3.68	.681			
Pair 5	Post-innovative work behavior	4.37	.378	-4.18	29	＜.001
	Pre-innovative work behavior	3.79	.658			

Table 7 shows that there was a statistically significant disparity in the level of readiness for change between the post-IDI stage (M=4.52, SD=0.378) and the pre-IDI stage (M=4.16, SD=0.654). This difference was supported by a t-value of -2.45, with a p-value of 0.020. The disparity in means was -0.37. Thus, hypothesis five supported that there is a significant difference in readiness for change between the pre- and post-IDI stages.

There was a statistically significant rise in work engagement at the post-IDI stage (M=4.46, SD=0.294) compared to the pre-IDI stage (M=3.77, SD=0.709). The t-value obtained was -4.71, with a p-value of less than 0.01. A mean difference of -0.69 was observed. Hence, hypothesis six supported that there is a significant difference in work engagement between the pre-and post-IDI stages.

There was a notable rise in management support during the post-IDI stage (M=4.41, SD=0.366) compared to the pre-IDI stage (M=3.75, SD=0.689); t-value = -4.22, $p < 0.01$. The disparity in means was -0.66. Hence, hypothesis seven supported that there is a significant difference in management support between the pre- and post-IDI stages.

There was a rise in co-worker support at the post-IDI stage (M=4.39, SD=0.421) compared to the pre-IDI stage (M=3.68, SD=0.681); t-value = -4.15, $p < 0.01$. The deviation from the mean is -0.71. Therefore, hypothesis eight supported the idea that there is a significant difference in co-worker support between the pre-and post-IDI stages.

There was a statistically significant rise in innovative work behavior during the post-IDI stage (M=4.37, SD=0.378) compared to pre-IDI (M=3.79, SD=0.658). The t-value for this difference was -4.18, with a p-value of less than 0.01. The disparity in means was -0.58. Hence, hypothesis nine supported the idea that there is a significant difference in inventive work behavior between the pre-and post-IDI stages.

The quantitative results above indicated statistically significant differences between the pre-and post-IDI stages across all variables. Additionally, the quantitative data supported hypothesis 5-9.

Qualitative Data Analyses Results

Table 8

Comparison of Summary Interview Results between Pre-IDI and Post-IDI Stages

Interview Questions	Themes	Themes
	Pre-IDI Interviews	**Post-IDI Interviews**
1. Does your university emphasize innovative work behavior in the workplace?	Theme 1: Little staff perceive it. -There is no policy to support it. Theme 2: No clarity on how to strengthen it. -IWB needs to be clarified. -There are slogans of "innovation and development," but how to do it is unclear.	Theme 1: Very emphasized. -Policy, financial support. -Know the concept clearly -Perceived attention in interventions.
2. Do you think the innovative work behavior of employees is important?	Theme 1: General agreement on the importance of innovation. -It is vital for a university. -Driving force of progress.	Theme 1: Very important. -Foundation of organizational progress. -Core force driving innovation.
3. How to improve the innovative work behavior of employees?	Theme 1: Put forward different feasible suggestions. -Creating a positive workplace. -Rationalization of arrangements resources. -Create feedback and evaluation systems. Theme 2: Not clear about what to do and how to improve. -Criteria practice is not straightforward.	Theme 1: Measures depend on IDI. - Improvement in readiness for change, work engagement, management support, and co-worker support.
4. What benefits and challenges can be associated with employees' innovative work behavior?	Theme 1: Different perspectives. More on the management level and less on thinking about the faculty members (internal factors). -Improving the quality and level of education. -Expanding interdisciplinary collaboration. -Exploring educational teaching reforms -Cultivating talents with innovative abilities. -Developing risky strategies.	Theme 1: Improving self-competitiveness in organizations and employees in coping with challenges. - Supporting an organization's continued comp etitiveness. -Improving individual capacities to cope with change.
5. Do you know the concept of innovative work behavior?	Theme 1: Different understanding. -Creative behavior and thinking. -New ideas, methods, and solutions. -Breaking with tradition. Theme 2: The concept is not clear exactly. -Not clear. -Some connection with creativity.	Theme 1: Know the concept of innovative work behavior. -Know the concept. -Complex processes of creation, improvement, execution, achievement, and modification. Theme 2: Considering how an innovative organization works. -Exploring, experimenting, and practicing.

Interview Questions	Themes	Themes
	Pre-IDI Interviews	**Post-IDI Interviews**
6. Can readiness for change contribute to improving innovative work behavior?	Theme 1: Mental preparation or skills preparation. -Accepting it psychologically but no changes. -Improving skills to cope with change. Theme 2: Criteria not explicit. -Not clear. -Uncertainty about how to improve it.	Theme 1: Know the concept of readiness for change. -Know the concept. Theme 2: Readiness for change helped. -Important for organizations and individuals. -For individuals, enhancing knowledge and skills. -For organizations, creating clarity and anticipation of potential changes are essential.
7. Can management support contribute to improving innovative work behavior?	Theme 1: Important. -Theoretically, it is crucial. Theme 2: Not clear about how to maximize the function of management support. -Front-line teachers do not perceive it.	Theme 1: Clearly explain the process. -Know the concept. Theme 2: Management support helped. -Manager's recognition motivates employees. -Managers support staff with necessary resources.
8. Can work engagement contribute to improving innovative work behavior?	Theme 1: The relationship needs to be clarified. -It is acceptable if it is a work input during office hours. -Possible. -Not necessarily. Overtime does not lead to innovation.	Theme 1: Clarification of concepts and judgment criteria. -Know the concept. Theme 2: Work engagement helped. -Purposeful and meaningful work engagement helps deal with challenges better and generate new creative ideas.
9. Can co-worker support contribute to improving innovative work behavior?	Theme 1: Important. -Good co-worker relationships contribute to productivity -Co-worker collaboration is the foundation of teamwork.	Theme 1: Co-worker support helped. --Know the concept. --people like to work in an environment of mutual support and trust. -A relaxed working atmosphere is beneficial to creative output. -A positive co-working environment could create a sense of belonging and loyalty.

Table 8 presents themes detected during pre-post IDI phase interviews. After IDI, there was a significant difference in awareness and judgment criteria. According to the results from questions 1-9, the faculty members readily comprehended the concept of five variables and how to improve it, which showed that IDI functions. Moreover, administrators and front-line instructors directly experienced the intervention procedure and comprehended the elements affecting staff creativity, which improved faculty members' motivation. The quantitative data and other evidence supported the likelihood of positive changes.

Summary of Data Analyses Results

In summary, the comparative results of the quantitative and qualitative analysis show significant differences between pre- and post-IDI stages in every variable. Paired sample t-test in quantitative analysis showed that hypotheses 5-9 were supported. In qualitative analysis, interviews presented positive feedback, supporting hypotheses 5-9.

Conclusions and Recommendations

Conclusions

This research focuses on the significant impact of readiness for change, work engagement, management support, and co-worker support on the innovative work behavior of faculty members at Yunnan Arts University, Kunming, China. The conceptual framework of this research was established based on previous empirical studies, which include three phases: pre-IDI, IDI, and post-IDI. Nine hypotheses were proposed based on the conceptual framework to verify the significant impact of independent variables on dependent variables and the effectiveness of intervention methods.

As shown in Table 9, in the first phase, a questionnaire was distributed to the target sample (n=90) for data collection, who are full-time faculty members from the School of Art and Design, School of Drama, and School of Music at Yunnan Arts University, China. Item-objective congruence (IOC) and pilot tests were carried out to test the validity and reliability of the research instrument before data collection. For the quantitative analysis of data, Jamovi 2.3.13 was used to perform multiple regression analysis and six faculty members' interviews to evaluate H1-H4. In the second stage, 12 weeks of intervention (IDI) was conducted on 30 faculty members. In the third phase, the mean score differences between Pre- and Post-IDI (H5-H9) were compared using paired-sample t-tests, and six faculty members were interviewed. These findings indicate that the 12 weeks of Intervention Design Implementation had a positive and statistically significant impact on the innovative work behavior of faculty members. The interviews between pre- and post-IDI in the qualitative analysis complemented and reinforced the results of the quantitative analysis to some extent. Thus, H5-H9 was validated.

Table 9

Juxtaposed Table of Quantitative and Qualitative Data

Independent Variables	Descriptive Statistical Result				Quantitative Result Based on Multiple Linear Regression and Paired Sample T-Test	Themes From Qualitative Results Based on IDI
	Standardized Coefficients Beta	P-value	Pre-IDI Mean	Post-IDI Mean		
Readiness for Change (RFC)	0.31	< .001	4.16	4.52	H1 is supported. H5 is supported.	Readiness of change is critical for both individuals and organizations in terms of innovative work behavior.
Work Engagement (WE)	.34	.001	3.77	4.46	H2 is supported. H6 is supported.	High work engagement faculty members are more motivated, energetic, and focused and have more knowledge to innovate.

Independent Variables	Descriptive Statistical Result				Quantitative Result Based on Multiple Linear Regression and Paired Sample T-Test	Themes From Qualitative Results Based on IDI
	Standardized Coefficients Beta	P-value	Pre-IDI Mean	Post-IDI Mean		
Management Support (MS)	.31	0.012	3.75	4.41	H3 is supported. H7 is supported.	Supportive strategies from managers boost the generation of innovation.
Co-worker Support (CS)	.37	< .001	3.68	4.39	H4 is supported. H8 is supported.	A supportive environment promotes the occurrence of innovation.

In conclusion, data analysis revealed that readiness for change, work engagement, management support, and co-worker support all significantly impact innovative work behavior at Yunnan Arts University. The study attempted to improve innovative work behavior among faculty members at Yunnan Arts University. The study's results can be utilized to create educational plans and interventions. More critically, innovative work behaviors imply great potential for future development, fostering greater creativity in the field of education and ultimately contributing to the success of higher education in an increasingly competitive and innovative world (Lin et al., 2023).

Recommendations

This study aimed to promote the innovative work and development of faculty members. Three management practices are put forward.

Strengthening organizational and individual change acceptance and adaptation. Readiness of change is critical for both individuals and organizations in terms of innovative work behavior. Firstly, to maintain competitiveness, the responsibilities of faculty members should emphasize creative thinking, readiness for change, and showing adaptive behavior. Secondly, professional training is required for educational administrators and teachers of Yunnan Arts University to more effectively adjust to management and instruction from a managerial, pedagogical, psycho-social, and communication technology perspective. Only when educators have the creative mindset, skills, and preparedness required to adapt to changes in their field of work will these reforms be successful. Last but not least, it enhances strategic planning and utilizes the process of preparing for organizational transformation as a driving force to facilitate change at a broader scale. When individuals' competencies and skills align with the organization's development requirements, this synergy strengthens the construction of joint commitment and principles, enhancing employees' confidence in their capabilities and stimulating innovation.

Enhancing resource allocation to stimulate work engagement. First, it enhances understanding and engagement by establishing shared objectives, visions, missions, and values, maintaining a balance between material and spiritual incentives, and improving faculty members' independence in their positions. These job resources will assist individuals in

achieving job goals and foster engagement, which lessens job burnout. Additionally, creating opportunities for employee participation by optimizing hierarchical structures, establishing diverse and influential channels for involvement, and promoting openness and transparency in sharing information. Lastly, the capacity to activate when challenged and stimulate completion of work through comprehensive training programs and role simulations should be enhanced, especially for employees who have a proactive tendency to engage.

Establishing a supportive and constructive work environment. First, enhancing employees' identification. It is necessary to foster a strong feeling of ownership among faculty members and encourage them to think proactively to innovate and achieve breakthroughs to maintain competitiveness. Second, recruiting influential leaders for suitable positions is essential, and promptly and effectively offering feedback to employees regarding their innovative ideas, providing them with validation and confidence. Third, involving employees in more resources from supportive strategies by managers, such as participatory decision-making processes and transparent communication, enhances workplace engagement, task fulfillment, perceived support, and opportunities for cooperation, which are necessary to foster innovative behaviors in the workplace. Fourth, maintaining a solid connection between supervisors and subordinates. A mutual and positive emotional effort exerted by managers and co-workers fosters an atmosphere where faculty members can freely express their creativity and actively participate in highly innovative activities. Similarly, the support provided by administrators and colleagues boosts the psychological empowerment and material resources available. Likewise, it fosters a sense of security and dedication to their work, ultimately facilitating innovation. Last but not least, support from managers and co-workers contributes to a healthy competition mechanism that facilitates the occurrence of innovation. Maintaining a high degree of competitiveness is beneficial to the sustainability of Yunnan Arts University in the transformation of higher education.

Limitations and Future Research

Sample Size and Demographics: The sample size focused on a university in China, which limited the geographical accessibility of questionnaire data. Subsequent investigations should explore broadening the scope and increasing data accessibility.

Variables and Relationships: This study attempts to develop a framework that may predict innovative work behavior more accurately, but it is not comprehensive. Future research should further combine individual- and organizational-level factors influencing employees' innovative work behaviors to ascertain whether substantial disparities exist in the effects.

Integration with practical context: Future studies could expand beyond physical and national limitations to verify the findings and propose innovative and forward-thinking arguments. Furthermore, higher education studies of innovative work behavior in China should fully consider the features of modernization in the Chinese style and the differences between various educational contexts of individuals and organizations.

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