Exploring the Influences on Leadership Skills Development Among Dance Students at a Normal University in Lanzhou, China

Yin Ting[*]

Abstract

Purpose: This study explores the factors impacting dancing students' leadership competencies in a normal university in Lanzhou, China. The variables used in this research framework include core personality, emotional intelligence competencies, involvement, attitude, behavior, and environment on students' leadership competencies. **Research Design, Data, and Methodology:** The study aims to assess the current levels of these variables, design and implement Intervention Design Implementations (strategic plans) to enhance them, and determine their changes pre- and post-strategic plan. The research design was a sequential exploratory mixed-methods design, combining qualitative and quantitative methods to develop an instrument for data collection. The target population was dance students at Lanzhou, the first normal university in China, with a sample size of 494 students. **Results:** Preliminary findings revealed that the core personality, emotional intelligence competencies, involvement, attitude, behavior, and environment levels were generally low. A multiple regression analysis showed that core personality ($\beta=0.136$, $p=0.001<0.05$), emotional intelligence competencies ($\beta=0.186$, $p=0.000<0.05$), involvement ($\beta=0.163$, $p=0.004<0.05$), attitude ($\beta=0.123$, $p=0.009<0.01$), behavior ($\beta=0.179$, $p=0.000<0.05$), environment ($\beta=0.138$, $p=0.001<0.05$) significantly predicted students' leadership competencies. **Conclusions:** Based on the findings, a theoretical model was developed and validated by experts, providing strategic planning and a foundation for future interventions to enhance students' leadership competencies.

Keywords: Leadership Competencies, Core Personality, Emotional Intelligence Competencies, Involvement

JEL Classification Code: I23, J28, L2

1. Introduction

Leadership competencies are critical skills for effectively guiding, inspiring, and influencing others. These competencies are increasingly recognized as essential for students' personal and professional development in the educational field (Kouzes & Posner, 2012). Dance education provides a unique context for developing leadership competencies due to its inherently collaborative, creative, and physically expressive nature (Brown et al., 2019).

In performing arts education, dance has been recognized as a powerful medium for cultivating many skills beyond the artistic scope, including leadership competencies. Global discourse has increasingly acknowledged the interplay between arts education and the development of leadership qualities (DeSouza, 2021; Roheline, 2019). Studies have shown that dance's collaborative and performative aspects can foster a range of soft skills, such as communication, teamwork, and problem-solving (Gardner, 2020; Patel & Grey, 2022), which are essential for effective leadership.

Leadership education through dance is gaining traction, as scholars like O'Neill (2018) argue that embodied learning experiences in dance can lead to enhanced self-awareness and emotional intelligence—key components of leadership. Furthermore, institutions worldwide are integrating dance programs with explicit leadership outcomes, aiming to prepare students for the dynamic demands of the 21st-century workforce (Wang & Bateman, 2019).

Dance students at a normal university in Lanzhou, China, face challenges requiring enhancing their leadership

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1*Yin Ting, Dance Academy of Northwest Normal University, China. Email: 4338645@qq.com

competencies. First, the increasing number of college graduates has intensified job market competition, making leadership competencies a core competency for graduates. Second, the Chinese government supports cultivating and developing college students' leadership competencies through national policies. Moreover, the impact of the COVID-19 pandemic, the global economic downturn, and reduced job opportunities have made leadership crucial for the career development of college graduates. Additionally, the university has introduced policies to encourage students' active participation in leadership development.

Since 2014, the university has offered a series of relevant courses, such as "Leadership Fundamentals" and "Leadership Training, " to cultivate students' leadership competencies. To assess the current state of leadership education, researchers and two independent observers conducted classroom observations and randomly selected 15 students for interviews. The evaluation results revealed some issues in the existing leadership education, mainly focusing on the quality of theoretical course instruction and practical aspects.

Given the importance of leadership for contemporary college students and the deficiencies in the university's current leadership education, it is imperative to improve the models and methods of leadership cultivation. This study aims to thoroughly investigate the key factors influencing the leadership development of dance students at this university, analyze the problems in existing courses and practices, and propose feasible suggestions for improvement. The ultimate goal is to help students enhance their leadership competencies and prepare them for future career challenges.

2. Literature Review

2.1 Students' Leadership Competencies

Leadership competencies are crucial for students to develop as they prepare for future roles in various organizations and communities. These competencies encompass a range of skills, knowledge, and abilities that enable individuals to effectively guide, influence, and motivate others toward achieving common goals (Seemiller, 2013). In the context of dancing students at a normal university in Lanzhou, China, developing leadership competencies is particularly important as they may become dance educators, choreographers, or leaders in the performing arts industry.

Research has identified several essential leadership competencies for students to cultivate. These include self-awareness, communication skills, teamwork, problem-solving, decision-making, and adaptability (Seemiller & Murray, 2013). Self-awareness involves understanding one's

strengths, weaknesses, values, and emotions, a foundation for effective leadership (Goleman, 2004). Communication skills, such as active listening, clear articulation, and persuasion, are vital for conveying ideas and engaging with others (Morreale & Pearson, 2008). Teamwork entails collaborating with others, managing conflicts, and fostering a positive group dynamic (Levi, 2017), which is particularly relevant in dance education and performance.

Problem-solving and decision-making skills enable leaders to analyze complex situations, generate solutions, and make informed choices (Northouse, 2019). Adaptability refers to the ability to adjust to changing circumstances and navigate uncertainty, which is increasingly important in today's dynamic world (Yukl & Mahsud, 2010). For dance students, adaptability is crucial as they may face various challenges and changes throughout their careers, such as shifts in dance styles, audience preferences, and industry trends.

Higher education institutions, including normal universities, play a significant role in nurturing students' leadership competencies through various curricular and co-curricular programs (Astin & Astin, 2000). Leadership development programs, such as workshops, seminars, and experiential learning opportunities, can help students acquire and practice these competencies (Dugan, 2011). Moreover, student organizations, community service, and internships provide valuable platforms for students to apply and refine their leadership skills in real-world settings (Soria et al., 2013). In the context of dancing students, participating in dance clubs, competitions, and community performances can provide opportunities to develop and demonstrate their leadership competencies.

Developing students' leadership competencies enhances their personal and professional growth and contributes to the betterment of society (Komives et al., 2005). As future leaders in the dance education and performing arts industry, students with strong leadership competencies are better equipped to inspire, guide, and positively impact their students, colleagues, and communities.

2.2 Core Personality

Core personality refers to the stable patterns of thoughts, feelings, and behaviors that shape an individual's personality structure (DeYoung et al., 2013). It includes a range of personality traits such as extraversion, agreeableness, conscientiousness, neuroticism, and openness to experience.

The Five-Factor Model (FFM) of personality, also known as the Big Five, is a widely accepted model that describes personality in terms of five dimensions: extraversion, agreeableness, conscientiousness, neuroticism, and openness to experience (McCrae et al., 2013). These dimensions account for individual differences in personality across

different cultures and contexts.

Research has consistently shown that core personality traits are related to various outcomes, including academic achievement, job performance, health, and well-being (Hogan & Hogan, 2014). For instance, individuals who score high on conscientiousness often have better academic and job performance, while those with high neuroticism scores often have poorer health outcomes.

Furthermore, core personality traits are associated with leadership effectiveness and competency (Barrick et al., 2015). Extroversion has been found to relate positively to leadership emergence and effectiveness, whereas neuroticism relates negatively. Agreeableness and conscientiousness have also been positively related to leadership effectiveness.

Despite the general stability of core personality traits throughout adulthood, they can change somewhat in response to life experiences or other factors (Hudson & Fraley, 2015). For example, individuals may become more extroverted and open to experience after studying abroad or taking on a new job that requires these traits.

H1: Core personality has a significant impact on student's leadership competencies.

2.3 Emotional Intelligence

Emotional intelligence (EI) has been a subject of significant interest in academic and practical fields over the last three decades. The importance of EI in leadership and education has been increasingly recognized, as it has been linked to improved performance, better decision-making, and more effective interpersonal relationships (Mayer et al., 2016). The pioneers of this field, Salovey and Mayer (1990), defined EI as "the ability to monitor one's own and others' feelings and emotions, to discriminate among them, and to use this information to guide one's thinking and actions."

Zhang and Li (2017) took a significant step in defining EI in the context of dance education. In their study of 213 dance students and 47 dance educators in China, they defined EI as the ability of dance students to identify, use, understand, and manage emotions to promote dance learning, creativity, and performance. They emphasized the importance of emotional self-awareness, emotional expression, understanding others' emotions, emotional reasoning, and emotional self-management in the context of dance education.

Park and Peterson (2018) further extended the definition of EI to include the ability to understand and manage not only one's own emotions but also the emotions of others and to apply this understanding in problem-solving situations. Their study of 105 dance group leaders in South Korea suggested that higher levels of EI are associated with better leadership effectiveness, as leaders with high EI are better

equipped to manage group dynamics and interpersonal relationships within dance groups. Xu and Wang (2020) proposed that EI in the context of dance education encompasses three dimensions: emotional awareness, emotional application, and emotional regulation. Based on their survey of 327 dance students in China, they suggested that emotional awareness involves recognizing one's own and others' emotions. Emotional application refers to the ability to use emotions to facilitate learning and performance in dance. Emotional regulation involves managing emotions effectively, especially in stressful or challenging situations common in dance education.

H2: Emotional intelligence skills have a significant impact on student's leadership competencies.

2.4 Involvement

Involvement refers to the extent to which students actively participate in various academic and extracurricular activities within their educational institution and community. Recent research demonstrates that involvement is key to developing students' leadership competencies (Rosch & Collins, 2019; Soria et al., 2020).

Astin (1999) theory of student involvement remains a foundational framework for understanding the importance of the quantity and quality of students' involvement in their college experiences. Building upon this theory, recent studies have further explored the impact of involvement on leadership development in various contexts, including dance education (Lyu et al., 2021; Yao & Zeng, 2020).

For dancing students at a normal university in Lanzhou, China, involvement in dance-related activities, such as performances, competitions, and workshops, can provide valuable opportunities to develop and practice their leadership skills (Yao & Zeng, 2020). Participating in student-led dance clubs and organizations can foster leadership development by allowing students to take on roles such as choreographers, event organizers, and mentors (Lyu et al., 2021).

Moreover, involvement in community service and outreach programs related to dance education can help students develop a sense of social responsibility and enhance their leadership competencies (Zhu & Chen, 2019). For example, teaching dance classes to underprivileged children or organizing community dance events can provide students with opportunities to apply their leadership skills in real-world settings (Wang et al., 2021). High-quality involvement experiences are characterized by opportunities for students to take on challenging roles, receive feedback and support, and reflect on their experiences (Soria et al., 2020). Therefore, educational institutions must provide structured and meaningful involvement opportunities to foster leadership development (Liu & Zhang, 2022).

H3: Involvement has a significant impact on student's leadership competencies.

2.5 Attitude

Attitude refers to an individual's overall evaluation or perception of a particular behavior, object, or situation (Ajzen, 1991). In leadership development, attitude is crucial in shaping students' willingness to engage in leadership-related activities and their belief in leadership capabilities (Cho et al., 2021).

The theory of planned behavior (Ajzen, 1991) suggests that attitude, subjective norms, and perceived behavioral control influence an individual's intention to perform a specific behavior. This theory has been applied to various domains, including leadership development (Choi et al., 2019). Studies have shown that students with positive attitudes toward leadership are likelier to seek opportunities and develop their leadership competencies (Kim & Park, 2021).

For dancing students at a normal university in Lanzhou, China, their attitudes toward leadership and their leadership capabilities can significantly impact their engagement in leadership development activities (Li & Chen, 2020). Students who believe in the importance of leadership and have a positive self-perception of their leadership potential are more likely to actively participate in leadership training programs, student organizations, and community outreach initiatives (Wang & Liu, 2021). By providing supportive and encouraging learning environments, educators can help students develop positive attitudes toward leadership and foster confidence in their leadership abilities (Sun & Zhu, 2020).

Moreover, cultural factors can influence students' attitudes toward leadership (Liu et al., 2021). In the Chinese context, traditional values such as humility and collectivism may sometimes be at odds with the assertiveness and individualism often associated with Western leadership concepts (Chen & Li, 2019). Therefore, it is important for leadership development programs to consider cultural factors and adapt their approaches to cultivate positive attitudes toward leadership that are compatible with local values and norms (Zhao & Wang, 2022).

H4: Attitude has a significant impact on student's leadership competencies.

2.6 Behavior

Behavior, which refers to the actions and conduct of individuals in various situations, plays a pivotal role in developing and demonstrating leadership competencies (Kwok et al., 2021). For dancing students at a normal university in Lanzhou, China, their leadership behavior can be observed and nurtured through a range of activities, such as choreographing and directing dance performances, organizing events, and mentoring younger students (Wang & Liu, 2021).

Engaging in these activities provides students invaluable opportunities to practice and refine their leadership behaviors, including effective communication, decision-making, and conflict resolution (Li & Chen, 2020). Moreover, receiving constructive feedback from educators, mentors, and peers allows students to gain insights into their leadership strengths and areas for improvement, while self-reflection exercises help them become more aware of their behavior and its impact on others (Feng & Zhang, 2021; Sun & Zhu, 2020).

It is important to note that cultural factors can significantly influence leadership behavior (Liu et al., 2021). In the Chinese context, leadership behaviors prioritizing harmony, collectivism, and interpersonal relationships may prove more effective than those emphasizing individualism and assertiveness (Chen & Li, 2019). Consequently, leadership development programs must consider cultural nuances and strive to cultivate leadership behaviors that align with local values and expectations (Zhao & Wang, 2022).

H5: Behavior has a significant impact on student's leadership competencies.

2.7 Environment

The environment in which students learn, grow, and develop their leadership competencies is a critical factor that must be considered. In the context of dancing students at a normal university in Lanzhou, China, the environment encompasses their surroundings' physical, social, and cultural aspects, both within and outside the educational institution. A positive learning environment that encourages exploration, experimentation, and reflection can help students build confidence in their leadership abilities and provide opportunities to practice and refine their skills (Chen & Wu, 2020).

The physical environment, such as adequate facilities and resources for dance practice and performance, can significantly impact students' motivation and engagement in leadership activities (Liu & Li, 2021). Additionally, the social environment, which includes the relationships among students, faculty, and staff, plays a crucial role in shaping students' leadership experiences (Sun et al., 2020). A collaborative and inclusive social environment that values diversity and promotes open communication can facilitate the exchange of ideas and provide students with a sense of belonging and support (Feng et al., 2021).

Moreover, the cultural environment, encompassing the educational institution's values, beliefs, norms, and broader society, can significantly influence students' leadership development (Zhao & Chen, 2022). In the Chinese context, the cultural emphasis on collectivism, harmony, and respect for authority may shape students' perceptions of leadership and their approaches to leadership roles (Li & Wang, 2019). Therefore, educational institutions must create an environment that acknowledges and incorporates cultural values while encouraging students to develop their unique leadership styles (Hu & Zhu, 2021).

The current study recognizes the vital role of the environment in shaping dancing students' leadership competencies. It aims to investigate its impact by comprehensively examining the physical, social, and cultural aspects of the students' surroundings. By assessing the current state of the environment and implementing appropriate intervention design implementations (IDIs), such as enhancing facilities, fostering a supportive social network, and promoting cultural awareness, the study seeks to create an optimal environment for students' leadership growth (Wang et al., 2021).

H6: Environment has a significant impact on student's leadership competencies.

3. Research Methods and Materials

3.1 Research Framework

The researcher applied three model theories from Mei-teng and Vincent (2007). All three theoretical frameworks mentioned above supported and developed a conceptual framework in Figure 1.
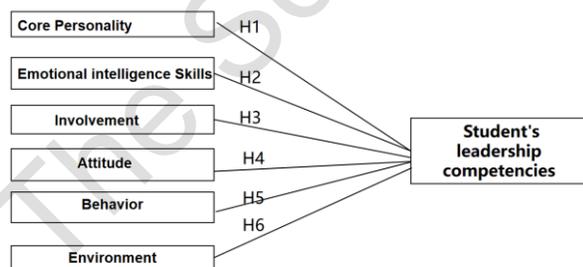

Figure 1: Conceptual Framework

H1: Core personality has a significant impact on student's leadership competencies.
H2: Emotional intelligence skills have a significant impact on student's leadership competencies.
H3: Involvement has a significant impact on student's leadership competencies.

H4: Attitude has a significant impact on student's leadership competencies.
H5: Behavior has a significant impact on student's leadership competencies.
H6: Environment has a significant impact on student's leadership competencies.

3.2 Research Methodology

The research process comprises four distinct stages. Initially, the entire research population of dancing students at a normal university in Lanzhou, China (n=494) was surveyed to collect data for the proposed conceptual framework, which includes variables such as involvement, attitude, behavior, and environment. Subsequently, all hypotheses underwent rigorous testing using multiple linear regression to determine their significance at a p-value threshold of < 0.05. As a result, hypotheses that received support were retained, while those that did not meet the criteria were eliminated.

The second stage involved pre-IDI surveys on the remaining 494 dancing students within the supported hypotheses. The survey aimed to assess the current level of students' leadership competencies and their perceptions of the various factors influencing their leadership development.

The third stage introduced the Intervention Design Implementation (IDI), specifically implemented with 30 participants. The IDI consisted of a series of leadership development programs and activities tailored to the needs of dancing students, taking into account the cultural context and the specific variables identified in the supported hypotheses. These interventions included leadership workshops, mentorship programs, and community outreach initiatives.

In the final stage, the 30 IDI participants completed a post-IDI survey, generating the necessary data for conducting a paired-sample t-test analysis to compare the pre-and post-IDI results. This analysis aimed to determine the effectiveness of the IDI in enhancing students' leadership competencies and to identify any significant changes in their perceptions of the factors influencing their leadership development.

3.3 Research Population, Sample Size, and Sampling Procedures

3.3.1 Research Population

This study determined the research sample of 395 dance students using the Morgan table. This sample was drawn from a total population of 539 students across four grades, with 108 students from the first grade, 105 from the second grade, 95 from the third grade, and 87 from the fourth grade. The Morgan table was employed to ensure a representative sample size for this research.

3.3.2 Sample size

Based on the recommendations by Hair et al. (2010), who suggest a sample size ranging from 30 to 500 for most research endeavors, this study employs a multifaceted approach to sample size determination. During the initial diagnostic phase, a sample of 30 participants is utilized to conduct reliability tests, while a more robust sample of 494 individuals is employed for the Multiple Linear Regression analysis. Subsequently, a purposive sample of 30 students is selected to participate in the Pre-Intercultural Development Inventory (IDI) assessment. Following the implementation of the intervention, these 30 students will be re-evaluated using the post-IDI assessment, with the research methodology mirroring that which was employed prior to the intervention. This approach ensures the acquisition of reliable and valid data while also allowing for examining the intervention's efficacy by comparing pre-and post-intervention measures.

3.3.3 Sampling Procedures

The researcher conducted several sampling procedures, which were as follows:

Sampling 1: Sampling for the pilot survey and pilot test

The researcher randomly sampled 30 dancing students from a normal university in Lanzhou, China, by asking them to fill out the survey questionnaire and provide feedback for the pilot survey and pilot test. This step aimed to assess the survey instruments' clarity, relevance, and reliability before proceeding with the main study.

Sampling 2: Sampling for the pre-survey

The researcher sampled 494 dancing students from different years at the normal university in Lanzhou, China, for the pre-survey by distributing questionnaires on printed paper. This sample size was determined based on the university's total population of dancing students and the desired confidence level and margin of error. Afterward, the researcher checked all responses and confirmed that 494 responses were valid for further analysis.

Sampling 3: Sampling for IDI

The researcher randomly selected and sampled 30 voluntary dancing students from the original sample of 271 to implement the Intervention Design Implementation (IDI). This smaller sample size was chosen to ensure the feasibility of conducting the IDI while maintaining a representative group of participants. The IDI consisted of leadership development programs and activities tailored to the needs of dancing students, considering the cultural context and the specific variables identified in the supported hypotheses.

Sampling 4: Sampling for the post-IDI survey

The 30 dancing students who participated in the IDI were asked to complete a post-IDI survey questionnaire. This survey aimed to assess the effectiveness of the IDI in enhancing students' leadership competencies and to identify any significant changes in their perceptions of the factors influencing their leadership development. All 30 responses were collected and confirmed valid for further analysis using a paired-sample t-test to compare the pre- and post-IDI results.

3.4 Research Instruments

3.4.1 Design of Questionnaire

Step 1: Identifying questionnaire sources from three openly published articles (Anthony, 2005; Mei-teng & Vincent, 2007; Miles-Tribble, 2015).

Step 2: Adjusting and Presenting survey questionnaires on Chinese university students' Context.

Step 3: Implementing IOC.

3.4.2 Components of Questionnaire

Survey questionnaire items were composed of the following two parts:

Part 1: Basic information Questions. There were questions to gain basic info on the research population, including gender, age, and so on.

Part 2: A total of 28 questions are divided into seven dimensions: core personality (4 questions), emotional intelligence skills (3 questions), involvement (4 questions), attitude (3 questions), behavior (3 questions), environment (6 questions), and student leadership competencies (5 questions).

3.4.3 IOC Results

To ensure the validity and reliability of the questionnaire, the researcher invited five independent experts, scholars, or doctors from China, particularly in leadership, education, and dance, to conduct an Index of Item-Objective Congruence (IOC) evaluation. During the IOC assessment, these experts rated each questionnaire item based on its congruence with the research objectives and hypotheses. In this study, all questionnaire items had an IOC value greater than 0.67, indicating high consistency with the research goals. Consequently, the researcher retained all questionnaire items to ensure that the survey instrument comprehensively covered the key variables and factors related to the leadership competencies of dancing students at the normal university in Lanzhou, China. By involving experts familiar with the Chinese context in the IOC evaluation, the researcher enhanced the applicability and reliability of the questionnaire. The IOC assessment process ensured that the questionnaire items accurately reflected the research objectives and hypotheses, increasing the meaningfulness and usefulness of the collected data.

3.4.4 Pilot survey and Pilot test results

To assess the reliability of the questionnaire, the researcher conducted a pilot survey with 30 randomly selected students, asking them to complete the survey questionnaire and provide feedback. Following the pilot survey, the researcher employed Cronbach's Alpha internal consistency reliability test, which requires values to be equal to or greater than 0.7 (Nunnally & Bernstein, 1994). The Cronbach's Alpha test results demonstrated high reliability for each construct in the questionnaire, confirming its internal consistency. This process ensures that the questionnaire items within each construct are closely related and that the intended variables are measured accurately.

Table 1: Pilot Test Result

Variables	No. of Items	Sources	Cronbach's Alpha	Strength of Association
Core Personality	4	Mei-teng and Vincent (2007)	0.823	Good
Emotional intelligence Skills	3	Anthony (2005)	0.745	Acceptable
Involvement	4	Miles-Tribble (2015).	0.833	Good
Attitude	3	Miles-Tribble (2015).	0.792	Acceptable
Behavior	3	Miles-Tribble (2015).	0.904	Excellent
Environment	6	Miles-Tribble (2015).	0.857	Good
Student's leadership competencies	5	Miles-Tribble (2015).	0.903	Excellent

4. Results and Discussion

4.1 Results

4.1.1 Demographic Profile

The researcher demonstrated the demographic profile of the entire research population (n=494), followed by a selected students' group (n=30), who participated in the IDI plan, as shown in Table 2.

Table 2: Demographic Profile

Entire Research Population (n=494)		Frequency	Percent
Gender	Male	260	52.63%
	Female	234	47.37%
Year	Freshman	131	26.52%
	Sophomore	144	29.15%
	Junior	119	24.09%
	Senior	100	20.24%
	18-19	102	20.65%

Entire Research Population (n=494)		Frequency	Percent
Age	20-21	160	32.39%
	22-23	83	16.8%
	24 years and above	149	30.16%
Total		**494**	**100%**
IDI Participants (n=30)		**Frequency**	**Percent**
Gender	Male	16	46.57%
	Female	14	53.43%
Year	Freshman	15	50%
	Sophomore	15	50%
	Junior	0	0%
	Senior	0	0%
Age	18-19	17	56.67%
	20-21	13	43.33%
	22-23	0	0%
	24 years and above	0	0%
Total		**30**	**100%**

4.1.2 Results of multiple linear regression

The researcher conducted a multiple linear regression (MLR) analysis on 494 survey questionnaire results to examine the support for each hypothesis. The study included six research hypotheses, all related to the dependent variable of leadership competencies among dancing students at a normal university in Lanzhou, China.

To assess the presence of multicollinearity, the researcher conducted a variance inflation factor (VIF) analysis. The results indicated that multicollinearity is not a concern, as the VIF values were below 5, ranging from 1.532 to 1.721, which is considered acceptable (Hair et al., 1995).

The R-squared (R^2) value in the multiple linear regression model, which included six independent variables (Core Personality, Emotional Intelligence Skills, Involvement, Attitude, Behavior, and Environment), was found to be 0.477. This indicates that the model can account for 47.7% of the variability in leadership competencies among dancing students, thus demonstrating its ability to explain a significant portion of the variance in the dependent variable.

The MLR analysis revealed that all six independent variables significantly impacted leadership competencies among dancing students. Core Personality ($\beta = 0.136$, t = 3.298, p = 0.001), Emotional Intelligence Skills ($\beta = 0.186$, t = 4.589, p = 0.000), Involvement ($\beta = 0.163$, t = 3.920, p = 0.000), Behavior ($\beta = 0.179$, t = 4.151, p = 0.000), and Environment ($\beta = 0.138$, t = 3.236, p = 0.001) were significant at the p < 0.01 level, while Attitude ($\beta = 0.123$, t = 2.924, p = 0.004) was significant at the p < 0.01 level as well.

Table 3: The multiple linear regression of five independent variables on students' leadership competencies

Variables	Standardized Coefficients Beta value	t-value	p-value	VIF	R²
Core Personality	0.136	3.298	0.001**	1.585	0.477
Emotional intelligence Skills	0.186	4.589	0.000**	1.532	
Involvement	0.163	3.920	0.000**	1.613	
Attitude	0.123	2.924	0.004**	1.657	
Behavior	0.179	4.151	0.000**	1.721	
Environment	0.138	3.236	0.001**	1.701	

Note: p-value <0.001**

In summary, the multiple linear regression analysis results supported hypotheses H1, H2, H3, H4, H5, and H6. Based on the results of the multiple linear regression analysis, the following hypotheses were developed for the subsequent Intervention Design Implementation (IDI):

H7: There is a significant mean difference in Core Personality between pre-IDI and post-IDI.

H8: There is a significant mean difference in Emotional Intelligence Skills between pre- and post-IDI.

H9: There is a significant mean difference in Involvement between pre-IDI and post-IDI.

H10: There is a significant mean difference in Attitude between pre-IDI and post-IDI.

H11: There is a significant mean difference in Behavior between pre-IDI and post-IDI.

H12: There is a significant mean difference in Environment between pre-IDI and post-IDI

H13: There is a significant mean difference in Students' Leadership Competencies between pre-IDI and post-IDI

4.2 IDI Design Process

The Intervention Design Implementation (IDI) was carried out over 14 weeks and was based on quantitative and qualitative data collected during the pre-IDI stage. This research aimed to enhance the leadership competencies of dancing students at a normal university in Lanzhou, China. The IDI was conducted chronologically, as illustrated in Figure 2, and included various activities and interventions tailored to address the specific needs and challenges identified in the pre-IDI data analysis.

The IDI focused on developing and strengthening the key factors influencing dancing students' leadership competencies, such as core personality traits, emotional intelligence skills, involvement in leadership activities, positive attitudes towards leadership, leadership behaviors, and a supportive environment. The interventions were designed to provide students with opportunities to learn,

practice, and apply leadership skills in real-world settings, both within and outside the university context.

Throughout the 14 weeks, the IDI incorporated various instructional methods, including workshops, seminars, group discussions, case studies, role-playing exercises, and hands-on projects. These activities were facilitated by experienced instructors and mentors who provided guidance, feedback, and support to the participating students. The IDI also encouraged collaboration and peer learning among the students, fostering a sense of community and shared purpose in their leadership development journey.

By implementing the IDI in a structured and systematic manner, the researcher aimed to create a comprehensive and effective intervention program that would significantly improve the leadership competencies of dancing students at the normal university in Lanzhou, China. The chronological order of the IDI, as shown in Figure 2, ensured that the interventions were delivered in a logical and progressive sequence, building upon the insights gained from the pre-IDI stage and adapting to the evolving needs of the participating students.
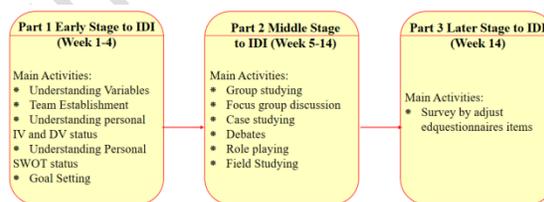

Figure 2: IDI Design Process

4.3 Results Comparison between Pre-IDI and Post-IDI

The researcher conducted a paired-sample t-test analysis on all six variables (core personality, emotional intelligence skills, involvement, attitude, behavior, environment) to identify significant differences in students' leadership

competencies between the pre-and post-IDI phases. This analysis aimed to evaluate the effectiveness of the instructional design intervention (IDI) in enhancing students' leadership competencies.

The paired-sample t-test was chosen as the appropriate statistical method because it allows for comparing means between two related groups, in this case, the same group of students before and after the intervention. By comparing the pre-IDI and post-IDI scores, the researcher could determine whether the IDI significantly impacted students' leadership competencies across the six dimensions.

The tables below illustrate the results of the paired-sample t-test analysis for each of the five variables: Table 4: Paired-Sample T-Test Results.

Table 4: Paired-Sample T-Test Results

Variables	Mean	SD	SE	p-value
Core Personality				
Pre-IDI	3.208	0.981	0.179	P<0.01
Post-IDI	4.008	0.618	0.113	
Emotional Intelligence Skills				
Pre-IDI	3.311	1.121	0.205	P<0.01
Post-IDI	3.856	0.617	0.113	
Involvement				
Pre-IDI	3.208	0.799	0.146	P<0.01
Post-IDI	4.075	0.573	0.105	
Attitude				
Pre-IDI	3.233	0.952	0.174	P<0.01
Post-IDI	4.067	0.549	0.100	
Behavior				
Pre-IDI	3.533	1.081	0.197	P<0.01
Post-IDI	4.067	0.577	0.105	
Environment				
Pre-IDI	3.389	0.840	0.153	P<0.01
Post-IDI	4.110	0.588	0.107	
Students' Leadership Competencies				
Pre-IDI	3.133	1.022	0.187	P<0.01
Post-IDI	4.160	0.600	0.110	

Table 4 illustrates the results of the paired-sample t-test analysis comparing pre-IDI and post-IDI stages for the six variables related to leadership competencies among dancing students at a normal university in Lanzhou, China.

The analysis revealed a significant increase in Core Personality between pre-IDI (M=3.208, SD=0.981, SE=0.179) and post-IDI (M=4.008, SD=0.618, SE=0.113), with P<0.01. Therefore, the results support the hypothesis that there is a significant difference in Core Personality between pre-IDI and post-IDI stages, with a mean value difference of 0.800.

Similarly, there was a significant increase in Emotional Intelligence Skills between pre-IDI (M=3.311, SD=1.121, SE=0.205) and post-IDI (M=3.856, SD=0.617, SE=0.113), with P<0.01 and a mean value difference of 0.545. This supports the hypothesis that there is a significant difference in Emotional Intelligence Skills between pre-IDI and post-IDI stages.

Involvement also showed a significant increase between pre-IDI (M=3.208, SD=0.799, SE=0.146) and post-IDI (M=4.075, SD=0.573, SE=0.105), with P<0.01 and a mean value difference of 0.867. This finding supports the hypothesis that there is a significant difference in Involvement between pre- and post-IDI stages.

There was a significant increase in Attitude between pre-IDI (M=3.233, SD=0.952, SE=0.174) and post-IDI (M=4.067, SD=0.549, SE=0.100), with P<0.01 and a mean value difference of 0.834. This supports the hypothesis that there is a significant difference in Attitude between pre- and

post-IDI stages.

Behavior showed a significant increase between pre-IDI (M=3.533, SD=1.081, SE=0.197) and post-IDI (M=4.067, SD=0.577, SE=0.105), with P<0.01 and a mean value difference of 0.534. This finding supports the hypothesis that a significant difference in Behavior exists between pre- and post-IDI stages.

The environmental variable also showed a significant increase between pre-IDI (M=3.389, SD=0.840, SE=0.153) and post-IDI (M=4.110, SD=0.588, SE=0.107), with P<0.01 and a mean value difference of 0.721. This supports the hypothesis that the environment significantly differs between pre- and post-IDI stages.

Finally, there was a significant increase in overall Students' Leadership Competencies between pre-IDI (M=3.133, SD=1.022, SE=0.187) and post-IDI (M=4.160, SD=0.600, SE=0.110), with P<0.01 and a mean value difference of 1.027. This supports the hypothesis that there is a significant difference in overall Students' Leadership Competencies between pre- and post-IDI stages.

The researcher drew the following conclusions according to the paired-sample t-test results demonstrated above. First, all six variables and overall students' leadership competencies significantly improved between the pre- and post-IDI stages. Second, the researcher found a significant increase in students' leadership competencies, particularly in terms of Involvement, Attitude, and overall Students' Leadership Competencies, between the pre-IDI and post-IDI phases.

5. Conclusions, Recommendations and Limitations

5.1 Conclusions & Discussions

The study investigated the influence of six independent variables, namely core personality, emotional intelligence skills, involvement, attitude, behavior, and environment, on the dependent variable of dancing students' leadership competencies at a normal university in Lanzhou, China. The research employed a comprehensive research design, data collection, and methodology to draw meaningful conclusions.

The research design incorporated quantitative data from 494 dancing students at the normal university in Lanzhou, China. The data were subjected to multiple linear regression analyses to verify the significant relationships between leadership competencies' independent and dependent variables. This rigorous approach to data collection and analysis strengthened the credibility of the research. Moreover, a 14-week Intervention Design Implementation (IDI) was carried out with a selected group of 30 students.

Post-IDI data were collected and compared with pre-IDI data using a paired-sample t-test.

The multiple linear regression analysis results demonstrated that all six independent variables significantly impacted dancing students' leadership competencies. Specifically, core personality, emotional intelligence skills, involvement, attitude, behavior, and environment were found to significantly influence the development of leadership skills among dancing students at the normal university in Lanzhou, China. This suggests that focusing on nurturing these key factors can enhance leadership competencies in this specific context.

The findings from the paired-sample t-test for comparison showed a significant difference in all six variables and overall dancing students' leadership competencies between the post-IDI and pre-IDI stages. The analysis revealed that core personality, emotional intelligence skills, involvement, attitude, behavior, and environment significantly increased after the 14-week Intervention Design Implementation. Furthermore, the dancing students' leadership competencies significantly improved between the pre- and post-IDI stages. These results indicate that the 14-week Intervention Design Implementation had a positive and statistically significant impact on enhancing the key factors that influence leadership competencies and, consequently, the overall leadership skills of dancing students at the normal university in Lanzhou, China.

In conclusion, this research has made a valuable contribution by identifying the factors that impact dancing students' leadership competencies in the context of a normal university in Lanzhou, China. The study's robust methodology, comprehensive analysis, and practical implications offer insights into the key variables that can enhance leadership skills among dancing students in this specific educational setting. These findings can be used to inform educational strategies and interventions aimed at developing these vital competencies in dancing students, ultimately preparing them for success in leadership roles within and beyond the university context.

5.2 Recommendations

I The quest for nurturing leadership competencies among dancing students has never been more pertinent. In light of a recent study that investigated the influence of several key variables on dancing students' leadership competencies at a normal university in Lanzhou, China, there is a growing body of knowledge to inform educational institutions on how to better prepare their students for success in leadership roles within and beyond the university context. In this essay, we will explore a set of recommendations derived from the

study's findings, aiming to foster dancing students' leadership competencies.

One of the primary recommendations from the study is incorporating leadership training into the curriculum. The normal university in Lanzhou, China, can introduce courses or workshops to develop core personality traits, emotional intelligence skills, and positive attitudes among dancing students. By integrating leadership principles into the curriculum, students will be equipped with the skills to take charge of their learning and personal development.

Involvement in extracurricular activities and leadership roles can significantly impact dancing students' leadership competencies. The university must encourage students to actively participate in various clubs, organizations, and events related to dance and leadership. The institution can foster a sense of responsibility and develop essential leadership skills by providing opportunities for students to take on leadership positions and collaborate with their peers.

The study underscores the importance of a supportive and conducive environment for leadership development. The university should create a culture that values and promotes leadership, providing resources and facilities that enable dancing students to explore their potential as leaders. This can include access to mentorship programs, leadership seminars, and networking events with industry professionals and successful leaders in the field of dance.

Emotional intelligence skills play a vital role in effective leadership. The university should recognize this and offer training programs or workshops to develop self-awareness, empathy, and effective communication among dancing students. By enhancing their emotional intelligence, students will be better equipped to navigate interpersonal relationships, resolve conflicts, and inspire and motivate others.

Dance instructors and faculty members are pivotal in shaping students' leadership competencies. Therefore, it is essential to provide faculty training in techniques and strategies that promote leadership development. Workshops can focus on incorporating leadership principles into dance instruction, providing constructive feedback, and fostering a growth mindset among students.

Collaborative projects and performances can be designed to promote teamwork and leadership skills among dancing students. Students can learn valuable lessons in communication, delegation, and problem-solving by engaging in group choreography, production, or community outreach projects. These experiences will prepare them for future leadership roles in the dance industry.

In conclusion, the study's findings provide valuable insights for the normal university in Lanzhou, China, seeking to cultivate leadership competencies among its dancing students. By implementing these recommendations, the institution can create a holistic and supportive learning

environment that empowers students to develop their leadership potential. The proactive integration of leadership training, the promotion of involvement in extracurricular activities, and the emphasis on emotional intelligence and a conducive environment can collectively prepare dancing students to thrive as leaders in their future careers. It is incumbent upon the university to embrace these recommendations and equip its dancing students with the skills necessary for success and personal growth in leadership roles within and beyond the university context.

5.3 Limitations for Future Research

While the study on the factors impacting dancing students' leadership competencies at a normal university in Lanzhou, China, offers valuable insights, it is essential to acknowledge its limitations to guide future research. These limitations suggest potential avenues for further investigation and research refinement:

Sample Size and Generalizability: Although the study included 494 dancing students, it focused on a single normal university in Lanzhou, China. Future research should aim to expand the sample by including dancing students from various universities and regions across China to assess the generalizability of the findings to a broader population of dancing students in the country.

Cultural and Institutional Context: The study was conducted within the specific cultural and institutional context of a normal university in Lanzhou, China. Future research could explore how cultural factors, institutional policies, and educational practices within this context influence the development of leadership competencies among dancing students. Additionally, comparative studies could be conducted to examine the differences in leadership development among dancing students across various cultural and institutional settings.

By addressing these limitations and expanding the scope of future research, scholars can better understand the factors that impact dancing students' leadership competencies. This knowledge can inform the design and implementation of effective interventions and educational strategies to foster leadership development among dancing students in Lanzhou, China, and potentially other similar contexts.

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