

Utilization of human resource potential for performance development in dancesport institutes in China

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ABSTRACT

This is a mixed-methods study that explored the linkages between human resource acquisition, training, development, resource allocation, incentive mechanisms and performance development in Chinese dancesport institutes. It also assessed the mediating effect of resource allocation and the moderating effect of incentive mechanisms. A questionnaire was used to collect quantitative data from 373 respondents in 10 Chinese sport institutes which provide dancesport programmes. The quantitative results were supplemented with structured interviews of institutional stakeholders. The data were analysed descriptively, using reliability and validity tests, correlation analysis, confirmatory factor analysis, structural equation modeling and moderation analysis. The findings indicated that human resource acquisition, training and development had a positive relationship with resource allocation. Performance development, in turn, was positively related to Resource allocation. There were also direct and positive correlations between each of the HR factors and performance development. The results of the bootstrap analysis showed that some of the relationships between human resource acquisition, training and development and performance development were mediated in part by resource allocation. The relationship between resource allocation and performance development was also positively moderated by incentive mechanisms: the stronger, the more effective the incentive mechanisms were. The results emphasize the significance of comprehensive HRM practices, rational resource distribution and proper incentive structures to improve performance development of Chinese dancesport institutes.

Keywords: Human resource acquisition, human resource training, human resource development, resource allocation, incentive mechanism, performance development, dancesport institutes..

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INTRODUCTION

Dancesport education merges the art of dancing, artistry, choreography, pedagogy and activity-related practices. Thus, dancesport institutes are faced with the challenge of having staff with interdisciplinary competence and the need to plan together recruitment, training, staff development, incentives, and distribution of scarce institutional resources. In other instances, however, human resource management in higher education and sports is preoccupied with administrative tasks and not with strategic practices that enhance staff capacity and the performance of the institution. HRM research conducted in the contemporary era in Asia also underscores the importance of tailoring people-management practices to institutional context, strategic priorities and the changing

requirements of the workforce (Cooke et al., 2020).

Human Capital Theory suggests that investment in employees' knowledge, skills and abilities can enhance individual and organizational outcomes (Schultz, 1961). In the current context, human resource acquisition is a process of recruitment of individuals who can be useful to institutions in terms of their teaching, coaching, artistic and management skills. Human resource training is used to upgrade the professional skills and pedagogical skills of the employees, and human resource development is used to develop the employees' long-term skills. Recent research also indicates that digital talent-acquisition tools can be useful in identifying and matching applicants' skills with the needs of organisations (Rehman et al., 2022).

Past studies have demonstrated that HR practices can positively influence the outcomes of the organizations by improving the capabilities and motivation of the employees (Jiang et al., 2012). As such, quality of recruitment, training opportunities and career development can be expected to be important building blocks for performance development in dancesport institutes (Breaugh, 2008; Garavan et al., 2021).

The ways in which these human resource practices are manifested in performance development may be explained by resource allocation. The allocation of resources in dancesport institutes involves the deployment of staff to specific roles of teaching, coaching, research, administrative and performance, and access to facilities, training and institutional support. Effective allocation can enable staff to use their skills more effectively and can make the match-up between the skills of staff and the needs of the institution better (Hendriks et al., 1999). HR Analytics can assist in evidence-based decisions around skills, workload, skills gaps, and staff deployment (Margherita, 2022). Furthermore, there has been a growing amount of research on HR architecture in the modern era that emphasizes the importance of flexibility in the arrangement of the workforce (Keegan and Meijerink, 2023). Therefore, resource allocation is suggested as a mediating mechanism between human resource acquisition, training, development and human resource performance development.

Allocated resources can also be expected to result in better performance if incentive mechanisms are in place. Motivation, engagement and willingness of employees to make effective use of available resources can be increased by providing fair, transparent and meaningful incentives. The studies on reward systems indicate that reward and recognition may influence employee motivation and performance, but the results of these studies vary as a function of the design and operation of the reward system (Gerhart and Fang, 2015). This study thus assumes that the incentive mechanism is a moderator, rather than a mediator, of the link between resource allocation and performance development.

While human resource management and performance have been extensively researched, there is very little research that has focused on these relationships in relation to Chinese dancesport institutes. The context is unique as staff have to combine their work in sport, dance, artistic creativity, teaching and management. Research has paid little attention to the collective effect of acquiring, training and developing human resources on improving their performance, or to how incentive mechanisms support this relationship.

For this reason, the relationships among human resource acquisition, training and development, resource allocation, incentive mechanisms and performance development are explored in this mixed-methods study by studying 10 Chinese sport institutes that provide dancesport programmes. This is a threefold contribution.

First of all, it uses the lenses of human capital and organizational learning in the relatively under-researched setting of dancesport institutes. Second, it examines resource allocation as a mediator between human resource practices and the development of performance. Third, it investigates whether incentive mechanisms moderate the relationship between resource allocation and performance development. The results are designed to serve as a reference to support the enhancement of human resource practices and performance improvement of Chinese dancesport institutes.

Research questions

1. What are the direct relationships of human resource acquisition (HRA), training and development (TD), and resource allocation (RA) with performance development (PD) in dancesport institutes in China?
2. Does resource allocation mediate the relationships between human resource acquisition, training and development and performance development in dancesport institutes in China?
3. Does the incentive mechanism moderate the relationship between resource allocation and performance development in dancesport institutes in China?

Research objectives

1. To examine the direct relationships of human resource acquisition, training, development, and resource allocation with performance development in dancesport institutes in China.
2. To explore the mediating role of resource allocation in the relationships between human resource acquisition, training, and development and performance development.
3. To test whether the incentive mechanism moderates the relationship between resource allocation and performance development in dancesport institutes in China.

LITERATURE REVIEW

This research is based on Human Capital Theory (Schultz, 1961) and Contemporary Theory of Motivation (McClelland, 1989) and the Theory of Learning Organization (Senge, 1990).

Study on the effect of human resource acquisition on resource allocation

Resource allocation is the process of implementing limited resources in an effective manner with regard to institutional goals. In Human Resource Management, it is about aligning the HR knowledge, skills and professional

competencies to jobs, roles and learning opportunities (Hendriks et al., 1999; Lepak and Snell, 1999). Effective resource allocation also involves the deployment of competent staff in dance institutes to teach, coach, choreograph, research, develop students and look after administration.

HR acquisition plays a crucial role in this process as it influences the quality, availability and suitability of human resources entering an organisation through the process of recruitment and selection. Through strategic staffing, institutions can match applicants' qualifications and competencies with the job's requirements (Ployhart, 2006). In addition to this, recruitment practices have an impact on an organisation's capacity to attract appropriate job applicants and develop the human resources needed to attain the goals of the organisation (Breaugh, 2008).

Recent studies also reveal that digital talent-acquisition tools and human resource analytics are more and more playing an important part in aligning candidate skills with the requirements of organisations. If used correctly, these tools can aid in informed and evidence-based recruitment and allocation decisions promptly (Margherita, 2022; Rehman et al., 2022). Furthermore, human resource management practices must also be tailored to fit the local institutional environment, cultural norms and organizational interests in the Asian context (Cooke et al., 2020).

Institutions may enhance performance by hiring staff who have valuable knowledge and skills and assigning them to jobs where they are able to reap the benefits. By developing employee knowledge, skills, abilities and motivation, human resource practices contribute to organisational outcomes (Jiang et al., 2012). Therefore, it is expected that in dancesport institutes, there will be acquisition of personnel who possess the necessary knowledge, skills and abilities in sport, dance, teaching and management that will facilitate better resource allocation.

H1: Acquisition of human resources has a positive impact on allocation of resources.

Study on the effect of human resource training on resource allocation

Training in human resources refers to staff development within an enterprise. It focuses on meeting the enterprise's development needs, setting development goals, and using scientific methods to train employees in a planned, purposeful, and organized manner. The goal is to help trainees reach the expected standard and improve the overall efficiency of the enterprise (Wexley and Latham, 1981). Staff training is an important aspect of human resources management and serves as an internal driver of enterprise growth. As modern science and technology rapidly develop, enterprises must ensure employees adapt

to new requirements, improve operational and management efficiency, and maintain a competitive edge in both domestic and international markets. Employee training must be prioritized within an organization. If ideal and belief education shapes people's values, then enterprise human resources training focuses on developing employees' working skills and ideological quality.

The allocation of human resources refers to the scientific distribution of human resources within enterprises to improve labor productivity. Due to differences in abilities and preferences, individuals perform with varying efficiency in similar tasks, and the same individual may exhibit different efficiencies in different roles. According to the theory of human resources allocation optimization, a long-term allocation mechanism should be strategically designed. This approach enables effective and targeted human resources training within the organization. Ideal and belief education aims to generate production power, while enterprise training focuses on optimizing existing resources. Based on human resources training, ideal and belief education ensures enterprises have rules and regulations to guide individuals and align the values of the enterprise with its human resources, making training practically meaningful.

H2: Training human resources has a positive impact on allocation of resources.

Study on the effect of human resource development on resource allocation

Human resource development refers to the investigation, analysis, planning, and adjustment of human resources within an enterprise or organization. It is based on existing human resources and aligned with the strategic objectives and organizational changes of the enterprise. The goal is to improve the current level of human resource management, enhance management efficiency, and create greater value for the organization or group (Chen and Klimoski, 2007). Human Resource Development (HRD) emerged in the 1980s as a management strategy aimed at improving the quality of human resources in organizations. It is based on the belief that human resources can be developed by tapping their potential, increasing their productivity, and preserving their renewable capacity through investment, recruitment, training, selection, and protection. HRD is a planned and continuous process in which employees gain the knowledge, skills, intelligence, physical strength, and creativity needed for current or future tasks. It aims to improve employee performance with a positive attitude, ultimately contributing to the overall performance improvement of the organization. Human resource development is part of human resource training. As the most adaptable and dynamic resource in an organization,

human resources' allocation level directly impacts overall human resource development (James et al., 2023). A rational allocation of human resources helps institutes enhance efficiency, reduce institutional costs, and promote human resource development, contributing to the achievement of strategic goals.

H3: Development of human resources has a positive impact on allocation of resources.

Study on the effect of resource allocation on performance development

Resource Allocation is the strategic match of employees, roles and responsibilities, facilities and institutional support with organisational objectives. Resource allocation in dance sport institutes is effective when allocation of staff are allocated based on their competencies in teaching, coaching, choreography, research, student development and administration. This alignment allows workers to apply their knowledge and skills more efficiently, and can help in boosting employee performance development.

Human resource management today focuses on resource allocation rather than resource allocation. Institutions should assess staffing requirements, re-organise staffing responsibilities where required as a result of programme changes and ensure that staff members are allocated to positions that reflect their skills and professional growth. Dynamic human resource architectures can support organisations to adapt HR arrangements to the changing institutional needs (Keegan and Meijerink, 2023).

HR analytics can also help support evidence-based allocation decisions by helping managers understand workloads, skills, capability gaps, development priorities, etc. (Margherita, 2022). Human resource practice must be consistent with the institutional context, cultural norms and strategic objectives for sustainable performance outcomes in Asian organisational contexts (Cooke et al., 2020). Hence, the allocation of these resources is anticipated to enhance the development of performance in Chinese dancesport institutes.

H4: Allocation of resources has a positive impact on performance development.

Study on the effect of human resource acquisition on performance development

Human resource acquisition is the process of attracting, recruiting, selecting and appointing staff whose knowledge, skills and professional capabilities satisfy the HR needs of an organization. An effective acquisition is crucial because it affects the quality of human resources available to carry out teaching and coaching, choreography, research, administrative and artistic tasks

in dancesport institutes. By selecting the right candidates for the right positions, strategic recruitment and selection can help institutions in identifying the appropriate qualifications required for existing and future job demands (Breaugh, 2008; Ployhart, 2006).

The availability of staff with suitable skills and competences in sport, dance, pedagogy, choreography and management is expected to enhance the development of the sport in dancesport institutes. Good HR practices help to lead to the outcomes of the organisations through the development of employee knowledge, skills, abilities and motivation (Jiang et al., 2012). New studies have shown that digital technologies for talent acquisition can help to make the process of candidate identification and matching more efficient with the needs of an organisation (Rehman et al., 2022). Human resource analytics also has the potential to assist in making data-driven choices about recruitment and hiring by determining capability gaps and matching human resources to institutional goals and objectives (Margherita, 2022).

Performance management contributes to the contribution of acquired talent by establishing clear performance expectations, giving employees feedback about their performance, and providing guidance for employee development after hiring (DeNisi and Murphy, 2017; Pulakos et al., 2019). A framework for decisions related to rewards, promotion, development opportunities, and benefits allocation can also be formed by a fair and transparent performance management process (Colquitt et al., 2001). HR architecture research in the present day also underscores the importance of reconceiving workforce arrangements in response to transformations in institutional needs, employment structures, and capabilities (Keegan and Meijerink, 2023).

Thus, it is anticipated that the recruitment of adequate qualified staff members will have a direct impact on the development of performance in Chinese dancesport institutes.

H5: Acquisition of human resources has a positive impact on performance development.

Study on the effect of human resource training on performance development

Performance refers to the ability and skill required for a job, reflecting the quality of output, the level of completion, the contribution to the overall goal, and the impact on the collective (Gabris and Ihrke, 2001). Performance appraisal helps transform an organization's mission and vision into achievable goals, allowing employees to engage in goal-oriented human resources training during the process. This enables employees to experience a sense of accomplishment and pride upon achieving these goals. Through the goal system in performance appraisal, the common vision connects the organization and employees.

Aligning organizational and personal goals and integrating performance appraisal with human resources training is a beneficial situation that can be achieved for both the organization and the individual.

H6: Training human resources has a positive impact on performance development.

Study on the effect of human resource development on performance development

Through scientific performance appraisal, employees are encouraged to work in accordance with the established procedures and standards. After the overall coordination and standardization of employee behavior, the performance of the organization will also be improved, and finally the productivity and competitive advantage of the organization will be effectively improved, and the development of human resources will be further enhanced (DeNisi and Murphy, 2017). Performance management provides the necessary basis for the personnel department to evaluate the performance of employees. At the same time, it also provides a reference standard for the management decisions of the organization, and solves the problems of employee compensation, reward, promotion, punishment, dismissal and post-transfer, so that it can be based on evidence. It further broadens the development channel of human resources. In general, performance appraisal can build a communication platform between the organization and employees, superiors and subordinates. In the process of human resource development, it can help the upper and lower levels to jointly develop a fair and effective management system through constant communication, evaluation, feedback and guidance. When employees realize that their environment is no longer a driven and required role, they will invest more enthusiasm and effort in their work to achieve sustainable development of human resources.

H7: Development of human resources has a positive impact on performance development.

The mediating role of resource allocation between human resource acquisition and performance development

Analyzing existing human resources allocation and enterprise objectives allows for reasonable and scientific adjustments in terms of quantity, quality, and scale. This helps avoid waste of talent, enhances the value of human resources, fully utilizes talent, improves human resources acquisition, and reduces costs. These factors contribute to better economic efficiency and performance development. Human resources allocation is a fundamental aspect of enterprise human resources management. It involves

distributing employees to positions based on work needs and job responsibilities, ensuring employees can utilize their talents to help the organization achieve its goals and complete tasks. Human resources allocation directly impacts organizational efficiency and employee development. As an important moderating variable, it also influences human resource acquisition and performance development.

H8: Resource allocation plays a mediating role between acquisition of human resources and performance development.

The mediating role of resource allocation between human resource training and performance development

Dynamic workforce needs and resource allocation. As businesses and job demands change, people may need to update their skills, and present allocation processes may not work. Job needs and staff competencies should be reviewed often to ensure good person–job matching and performance development (OECD, 2023; World Economic Forum, 2025; Lepak and Snell, 1999). Therefore, it is necessary to update job requirements, monitor employee changes, improve performance management, adjust human resources allocation, and update human resources acquisition to ensure the right employees are in the right positions, supporting stable performance development. The first step in human resources allocation is to assess the characteristics, norms, and requirements of tasks, along with the abilities and qualities needed to complete them. Evaluating employees' abilities and qualities allows for a match between employees and positions, optimizing the use of talent. Thus, the outcome of human resources allocation guides training efforts. Targeted training can better align human resources with job needs, maximizing work efficiency and enhancing performance development.

H9: Allocation of resources plays a mediating role between training of human resources and performance development.

The mediating role of resource allocation between human resource development and performance development

The optimization of human resources allocation involves creating a reasonable and scientific allocation plan, including standards for quantity, quality, and scale, providing a reliable theoretical basis for human resources management activities (Bayo-Moriones et al., 2020). Through analyzing the current human resources allocation and enterprise objectives, the basic situation and existing issues in human resources management can be identified.

This allows for targeted adjustments, improving

management practices and enabling effective human resource development. This process enhances work efficiency and supports performance development. A rational allocation of human resources optimizes team structure, promotes team development, and stimulates creativity, helping employees adapt to work demands. As a result, performance development is continuously advanced.

H10: Allocation of resources plays a mediating role between development of human resources and performance development.

Moderating role of the incentive mechanism in the relationship between resource allocation and performance development

When the incentive mechanism is not moderating, the relationship between resource allocation and performance development is direct. In the absence of the moderating role of the incentive mechanism, there is a direct relationship between resource allocation and performance development.

An incentive mechanism is a mix of financial and non-financial rewards, recognition, promotion, feedback and development opportunities that can be offered to people to motivate them towards the organisation's goals. In HRM, the most effective incentive systems can help motivate employees, engage them with the organisation and encourage them to utilise resources effectively. Rewards are found to have an impact when the reward system is seen as fair, transparent, meaningful, and related to employee contribution (Colquitt et al., 2001; Gerhart and Fang, 2015).

Resource allocation in dancesport institutes can be used to assign appropriate staff, roles, responsibilities, facilities, training opportunities, and institutional support. The benefits of these resources on performance improvement, however, can vary with the strength of the incentive mechanism. If the employees are properly recognized, rewarded and provided with proper career growth, they could be more motivated to utilize the allocated resources effectively. Effective or ambiguous incentives, on the other hand, can reduce the performance advantages of resource allocation. Thus, the incentive mechanism is not only the mediator but is also conceptualised as a moderator, because it affects the relation between the allocation of resources and the development of performance.

H11: The incentive mechanism has a positive moderation effect on the relationship between resource allocation and performance development.

RESEARCH METHODS

In this study, a mixed-methods design of a quantitative

questionnaire survey and structured interview was used. All 10 Chinese sports institutes that have programmes related to dancesport were included in the study: Beijing Sport University, Capital University of Physical Education and Sports, Shanghai University of Sport, Guangzhou Sport University, Tianjin Sport University, Chengdu Sport University, Xi'an Physical Education University, Wuhan Sports University, Shenyang Sport University, and Shandong Sport University.

The target population included 373 workers in the 10 institutes, who were engaged in dance sport-related teaching, administration and support activities. Questionnaires were sent to the population of interest. One hundred per cent of questionnaires were returned and analysed, giving a total of 373 questionnaires. The current position, years of work experience, major and educational qualification of the participants are reported in Table 1.

The questionnaire was newly developed for this study and put in the context of the operational characteristics of Chinese dancesport institutes. It was based on existing research on employee recruitment (Breaugh, 2008), employee training and development (Garavan et al., 2021; Gerhart and Fang, 2015), resource allocation (Hendriks et al., 1999), incentives (Pulakos et al., 2019), and performance management (Pulakos et al., 2019). This instrument had 30 items in six constructs, namely, resource allocation, incentive mechanism, human resource acquisition, human resource training, human resource development and performance development. Five items were used to measure each construct. The questionnaire consisted of three modules: (a) demographic information for the respondents; (b) items for measuring resource allocation, incentive mechanisms and performance development; and (c) items for measuring human resource acquisition, training and development. Each item was rated on a 5-point Likert scale from 1 = strongly disagree to 5 = strongly agree.

The questionnaire was piloted for clarity of questions, relevance and appropriateness for dancesport-institute context prior to the main survey. A pretest of 30 test takers was given to test the clarity and internal consistency of the items. The questionnaire was conducted face-to-face or on-line with guidance and collected on the spot after finishing it. The participation was optional, and no information was used that was personally identifying.

Cronbach's alpha was calculated to determine the internal consistency reliability. An .70 rating or higher is considered acceptable, .80 or higher is considered to be good reliability, and .90 or higher means excellent reliability (Hair et al., 2019). The Cronbach's alpha coefficients were .882 for resource allocation, .903 for human resource acquisition, .881 for human resource training, .913 for human resource development, .904 for the incentive mechanism, and .894 for performance development. The overall scale alpha was .887, which is a measure of good to excellent internal consistency.

Kaiser-Meyer-Olkin (KMO) measure and Bartlett's test of

sphericity were used in examining the construct validity. The overall KMO value was .868 which suggested that the sample was appropriate for factor analysis. The Bartlett test ($\chi^2(435) = 7284.98$, $p < .001$) was significant, indicating that the correlation matrix was not the identity matrix. Confirmatory factor analysis was then performed to test the measurement model in terms of factor loadings, composite reliabilities, and AVE. Discriminate validity is reported in the Results section via the HTMT ratio or Fornell-Larcker criterion.

Structured interviews were used to complement and explain the quantitative findings. The participants of the interview included high education officials, teachers and professors of the universities, institute leaders and administrators who voluntarily agreed to participate. The guide for the interview included 11 open-ended questions on human resource acquisition, training and development, resource allocation, incentive mechanisms, performance development and recommendations for improvement. Interviews were held at the convenience of the participants, primarily in their offices at the University or online meeting rooms.

A purposive sample of 373 people was selected due to their first-hand experience in dancesport personnel management. With participants' consent, interviews were audio-recorded, transcribed verbatim, and anonymised. Thematic analysis was used to analyse the transcripts. The data was coded independently by 2 researchers, and coding was compared and consolidated. Qualitative results were incorporated in interpretation with quantitative results in order to find areas of convergence and contextual explanation.

The quantitative data obtained were analysed by SPSS and AMOS 26. The direct and mediated relationships were tested using descriptive statistics, reliability tests,

correlation analysis, confirmatory factor analysis and structural equation modelling. A mediating effect was explored using bootstrapping of confidence intervals. Moderation analysis was performed using PROCESS to examine the interaction of resource allocation and performance development, and whether the incentive mechanism increased this relationship.

This study is a minimal risk voluntary study that was not subject to formal institutional ethics approval within the institution's procedures. All the participants were provided with information about the purpose of the study, procedures, confidentiality of the responses and their rights to refuse or withdraw from participation without any penalty prior to the data collection. All those who were interviewed and completed questionnaires gave written or electronic informed consent prior to data collection.

RESULTS

Basic information description statistics

Table 1 presents the demographic characteristics of the 373 respondents. Most respondents were teachers ($n = 308$, 82.6%), while management personnel accounted for 65 respondents (17.4%). Regarding work experience, 148 respondents (39.7%) had worked at their institute for 3–5 years, followed by 128 respondents (34.3%) with 1–3 years of experience. Most respondents had a dancesport-related major ($n = 317$, 85.0%). In terms of educational qualifications, 182 respondents (48.8%) held postgraduate degrees, 158 respondents (42.4%) held undergraduate degrees, and 33 respondents (8.8%) held doctoral degrees.

Table 1. Basic information ($n = 373$).

Basic information	Items	Number	Percentage (%)
Current position	Management	65	17.4
	Teacher	308	82.6
Working years	Less 1 year	21	5.6
	1-3 years	128	34.3
	3-5 years	148	39.7
	Above 5 years	76	20.4
Major	Dancesport	317	85.0
	Non Dancesport	56	15.0
Degree	Undergraduate	158	42.4
	Postgraduate	182	48.8
	Doctor	33	8.8

Measurement model assessment

Figure 1 presents the confirmatory factor analysis measurement model. Table 2 reports the factor loadings, composite reliability (CR), and average variance extracted (AVE) for the six constructs.

The factor loadings were satisfactory and significant.

Composite reliability ranged from .882 to .911, which was greater than the recommended value of .70. AVE values ranged from .605 to .674, which is higher than the recommended cut-off of .50. The results prove the convergent validity and reliability of the measurement model.

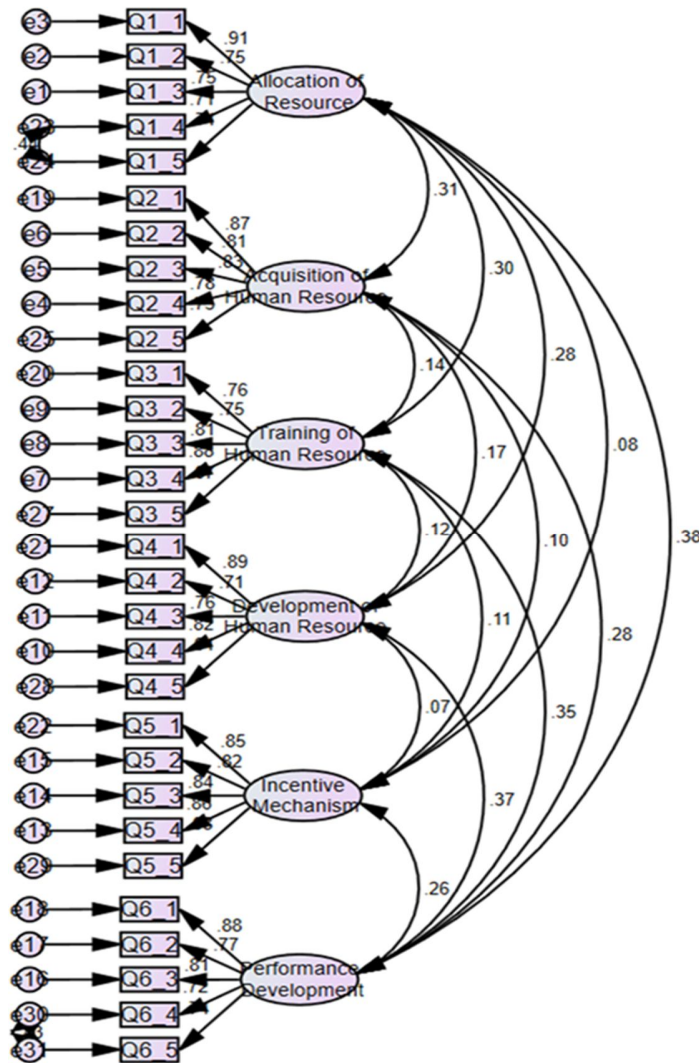


Figure 1. Measurement model (confirmatory factor analysis - CFA).

In this study, the direct effect relationship between variables in the model was sorted and summarized in Table 2. The path standardization coefficient, standard error, significance and other related information assumed by the model can be seen in Table 2.

The results of discriminant validity were obtained from the Fornell-Larcker criterion and are presented in Table 3. The diagonal of the square root of the AVE for each

construct was higher than the correlations between that construct and all other constructs. In fact, the square root of AVE for resource allocation was .777, higher than its correlations with human resource acquisition (.256), human resource training (.261), human resource development (.270), incentive mechanism (.072), and performance development (.334). Thus, the measurement model showed good discriminant validity.

Table 2. Table of path coefficients, convergence validity analysis.

Entry	Estimate	S.E.	C.R.	P	CR	AVE
Dancesport teachers and managers are in ample supply in institutes.	0.912	0.068	17.24	***		
Dancesport institute has enough reserve staff.	0.753					
Dancesport Institute teachers match.	0.751	0.07	14.487	***	0.878	0.604
Dancesport instructors are qualified and experienced.	0.706	0.075	13.524	***		
For diverse student demands, the institutes' dancesport teachers' matching curriculum is suitable.	0.711	0.074	13.618	***		
The institutes like job seekers' personalities, values, and attitudes.	0.776					
The dance instructor recruitment process is straightforward due to the institute's clear requirements.	0.871	0.059	18.024	***		
The institutes prioritize teaching experience and professional abilities for hiring.	0.834	0.065	17.149	***	0.905	0.655
The institute understands what talent to attract.	0.749	0.065	15.084	***		
The institutes' dance instructor recruitment process is straightforward.	0.811	0.065	16.572	***		
The college can request training feedback early to ensure efficacy.	0.88					
Institutes' training and development opportunities appeal to me.	0.806	0.049	18.846	***		
Dance teachers and managers receive practical vocational training from institutes.	0.763	0.05	17.35	***	0.882	0.605
To broaden employees' views, the academy trains dancing teachers and managers in interesting fields.	0.67	0.051	14.405	***		
Dance teachers and supervisors receive moderate vocational training from the institute.	0.749	0.048	16.871	***		
Institutes evaluate dance teachers' professional growth and development.	0.819					
The institutes urge dance teachers to research to better academically.	0.761	0.053	16.668	***		
Dance teachers receive enough professional development from the institute.	0.887	0.051	20.767	***	0.911	0.674
Staff learning is promoted through regular talks and exchanges.	0.91	0.05	21.525	***		
Professional seminars, refresher courses, and more are available to dance teachers at the institute.	0.711	0.055	15.183	***		
The institutes should give teachers and management more freedom to boost their motivation.	0.862					
Institutes should offer more teacher and manager professional development.	0.843	0.046	20.476	***	0.907	0.662
The institute's transparent promotion system encourages teachers and supervisors to improve.	0.851	0.042	20.821	***		
To boost teacher and administrative motivation and involvement, the Institute can encourage decision-making and input.	0.679	0.051	14.787	***		
Institutes should reward professors and management based on performance.	0.82	0.044	19.595	***		
The institutes' teacher and administrator performance appraisals can accurately represent their work.	0.806					
The institute's teacher and administrator performance appraisals are fair and transparent.	0.771	0.056	16.048	***		
Teachers and administrators have explicit performance rating standards from the institute.	0.88	0.058	18.738	***	0.888	0.615
Performance appraisal criteria support the Institute's strategic goals.	0.715	0.063	14.558	***		
The Institute examines and enhances the performance appraisal system to ensure effectiveness.	0.739	0.065	15.174	***		

Note. S.E. = standard error; C.R. = critical ratio; CR = composite reliability; AVE = average variance extracted. *** p < .001.

Table 3. Discriminant validity assessment using the Fornell-Larcker criterion.

Construct	Resource allocation	Human resource acquisition	Human resource training	Human resource development	Incentive mechanism	Performance development
Resource allocation	.777					
Human resource acquisition	.256	.809				
Human resource training	.261	.120	.778			
Human resource development	.270	.164	.129	.821		
Incentive mechanism	.072	.097	.093	.048	.814	
Performance development	.334	.250	.315	.324	.227	.784

Note. Values on the diagonal, shown in bold, are the square roots of average variance extracted (AVE). Values below the diagonal are correlations between constructs. Discriminant validity is supported when each diagonal value is greater than its corresponding inter-construct correlations.

Structural path analysis

The estimated direct relationships are presented in Table 4. Human resource acquisition, training, and development were all positively associated with resource allocation.

Resource allocation was positively associated with performance development. In addition, acquisition, training, and development each had a direct positive association with performance development.

Table 4. Structural path coefficients.

H	Path	Estimate	S.E.	C.R.	p	Decision
H1	Human resource acquisition → Resource allocation	.238	.053	4.285	< .001	Supported
H2	Human resource training → Resource allocation	.243	.045	4.411	< .001	Supported
H3	Human resource development → Resource allocation	.212	.045	3.910	< .001	Supported
H4	Resource allocation → Performance development	.196	.060	3.329	< .001	Supported
H5	Human resource acquisition → Performance development	.141	.053	2.617	.009	Supported
H6	Human resource training → Performance development	.235	.045	4.324	< .001	Supported
H7	Human resource development → Performance development	.263	.046	4.879	< .001	Supported

Human resource acquisition had a significant positive association with resource allocation (Estimate = .238, $p < .001$), supporting H1. Human resource training also had a significant positive association with resource allocation (Estimate = .243, $p < .001$), supporting H2. Human resource development was positively associated with resource allocation (Estimate = .212, $p < .001$), supporting H3.

Resource allocation had a significant positive

association with performance development (Estimate = .196, $p < .001$), supporting H4. Human resource acquisition was positively associated with performance development (Estimate = .141, $p = .009$), supporting H5. Human resource training was positively associated with performance development (Estimate = .235, $p < .001$), supporting H6. Human resource development was positively associated with performance development (Estimate = .263, $p < .001$), supporting H7.

Mediation analysis

Table 7 presents the bootstrap mediation results. The indirect effects of human resource acquisition, training, and development on performance development through resource allocation were all statistically significant because their 95% confidence intervals did not include zero.

For human resource acquisition, the indirect effect was .046, with a 95% confidence interval of [.018, .089], $p = .002$. The direct effect remained significant (Estimate = .138, $p = .018$), indicating that resource allocation partially mediated the relationship between human resource

acquisition and performance development. Therefore, H8 was supported.

For human resource training, the indirect effect was .039, with a 95% confidence interval of [.018, .079], $p = .001$. The direct effect remained significant (Estimate = .196, $p = .002$), indicating partial mediation. Therefore, H9 was supported.

For human resource development, the indirect effect was .035, with a 95% confidence interval of [.014, .069], $p = .002$. The direct effect also remained significant (Estimate = .224, $p = .002$), indicating partial mediation. Therefore, H10 was supported.

Table 7. Intermediate effect results.

Parameter	Estimate	Lower	Upper	P
IE1	0.046	0.018	0.089	0.002
DE1	0.138	0.03	0.255	0.018
TE1	0.184	0.074	0.297	0.002
IE2	0.039	0.018	0.079	0.001
DE2	0.196	0.1	0.289	0.002
TE2	0.235	0.145	0.318	0.003
IE3	0.035	0.014	0.069	0.002
DE3	0.224	0.131	0.314	0.002
TE3	0.26	0.17	0.348	0.002

Note. IE = Indirect effect; DE = Direct effect; TE = Total effect; CI = Bootstrap confidence interval.

Moderator model analysis

The incentive mechanism was tested as a moderator of the relationship between resource allocation and performance development. As shown in Table 8, the interaction between resource allocation and the incentive mechanism was statistically significant (coefficient = .138,

S.E. = .060, $t = 2.310$, $p = .022$, 95% CI [.021, .255]). Therefore, H11 was supported.

The positive interaction indicates that the relationship between resource allocation and performance development became stronger when the incentive mechanism was more effective

Table 8. Moderation model predicting performance development.

	Coefficient	SE	t	p	LLCI	ULCI
Constant	3.449	0.763	4.522	0.000	1.949	4.948
Allocation of Resource	-0.143	0.200	-0.715	0.475	-0.537	0.250
Incentive Mechanism	-0.309	0.225	-1.373	0.171	-0.752	0.134
Resource Allocation × Incentive Mechanism	0.138	0.060	2.310	0.022	0.021	0.255
Position	-0.035	0.084	-0.415	0.679	-0.200	0.130
Years	-0.030	0.050	-0.595	0.552	-0.127	0.068
Major	0.048	0.130	0.371	0.711	-0.207	0.304
Degree	-0.040	0.068	-0.584	0.560	-0.175	0.095

Table 9 presents the conditional effects at low, medium, and high levels of the incentive mechanism. The effect of resource allocation on performance development

increased from .216 at a low level of incentives to .298 at a medium level and .441 at a high level. All conditional effects were significant ($p < .001$). These findings confirm

that effective incentive mechanisms strengthen the positive contribution of resource allocation to performance development.

Table 9. Conditional effects of resource allocation on performance development at levels of the incentive mechanism.

Moderator level	Effect	SE	t	p	LLCI	ULCI
Low level	0.216	0.061	3.550	0.000	0.096	0.335
Medium level	0.298	0.046	6.444	0.000	0.207	0.389
High level	0.441	0.074	5.944	0.000	0.295	0.586

Interview results

The findings of the interviews supported the quantitative findings. The participants found that some human resource management issues in the dance sport institute are not satisfactory, such as the lack of performance appraisal indicators, the lack of feedback, and the lack of differentiated incentive mechanisms.

The interviewees also pointed out that the allocation of resources must be more closely linked to the requirements of the jobs, professional skills and institutional needs. They suggested that specific training and professional development can enhance staff capacity and facilitate better staff allocation and institutional resource allocation. These findings corroborate the quantitative findings, which revealed significant relationships between human resource acquisition, training and development, resource allocation, incentive mechanisms and performance development.

DISCUSSION

In this study, the relationship between human resource acquisition, human resource training, human resource development, resource allocation and incentive mechanisms and performance development in Chinese dancesport institutes was analyzed. The results confirmed all the direct relationships within the structural model. Resource allocation and performance development were positively related to human resource acquisition, training and development. Resource allocation also positively impacted performance development and partially mediated the relationships among the three human resource factors and performance development. Moreover, the interaction between incentive mechanism and the relationship between resource allocation and performance development was positively moderated.

There are positive relationships between human resource acquisition and resource allocation and human resource development, suggesting the importance of human resource acquisition for effective operation of dancesport institutes. This is in line with the strategic human resource management literature that highlights the link between HR practices that have the potential to enhance human

capital, employee motivation and organisational outcomes (Jiang et al., 2012). In a dance sport institute this relationship can become particularly significant as teachers and staff should have an interdisciplinary mix of skills related to sport, dance, music, aesthetics, teaching and performance. Professional competency, teaching ability and an appropriate fit for dancesport programmes should therefore be stressed in recruitment.

The relationship between HRTD and resource allocation, and HRTD and performance development, were also positive. The findings confirm the possibility of systematic learning opportunities enhancing employees' knowledge, skills and ability to support organisational objectives. Meta-analysis studies have revealed a positive association between training and organisational performance in the past (Garavan et al., 2021). Based on the results of the present research, it is recommended that dancesport institutes must offer continuous professional development (CPD), including training that meets changes in teaching practice, coaching needs and dancesport knowledge. The findings of the interviews also pointed to a need for quality and timely training and professional development opportunities, as well as improved feedback systems.

Resource allocation is an important mechanism that connects human resource acquisition, training and development with performance development, as indicated in the mediation findings. This indicates that mere investment in human resource does not necessarily lead to better performance unless the personnel are deployed in jobs where they are best suited. Resource allocation in the context of dancesport means allocating teachers, coaches, managers and support staff to suitable roles and provide developmental opportunities and institutional support. The discovery could benefit HRM studies and highlight the significance of resource allocation in a specialised sport-art educational environment.

The incentive mechanism reduced the impact of resource allocation on performance development. In particular, the relationship between resources allocated to a person and the improvement of their performance was stronger the more effective the incentive mechanism. The incentive mechanism should therefore be read as a moderator, and not a mediator. This finding backs the significance of open promotion chances, performance

comments, acknowledgment, and compensation. Additionally, it is consistent with organisational justice research that indicates that employee attitudes and work-related outcomes are a result of organisational procedures and outcomes that are perceived as fair (Colquitt et al., 2001). For dancesport institutes, incentives will be tied to the quality of teaching, professional development, collaboration and institutional service.

The results also have implications for performance management. The results from the interviews noted concerns related to not having adequate performance indicators and feedback being delayed. Performance-management systems should include clear criteria, frequent feedback, developmental support, and should not be based on the use of quantitative indicators alone. Current performance-management research highlights the need for goal setting, feedback, coaching and employee development (Pulakos et al., 2019) to be incorporated into an effective system. In dancesport institutes performance-management processes should be in line with the variety, scope and nature of the work involved by the teachers and staff members and should be transparent and consistent.

There are some limitations to this study. First, the design of the cross section does not allow for causal interpretation, so relationships identified should not be interpreted as evidence of causation. Second, the questionnaire was self-reported, which may have made for common-method bias. Third, the study included all 10 Chinese sport institutes that provide dance sport related programmes, but the results might not be applicable to comprehensive universities, other sport disciplines and institutes in other countries. Lastly, the qualitative results were limited to voluntary interviewees and should not be taken as representative, but as contextual evidence of all employees. Longitudinal designs, multiple data sources and comparative samples across the various educational and sport settings could be applied in future studies.

CONCLUSION

This mixed methods study examined Chinese dancesport institutes' human resource acquisition, training, development, allocation, incentive mechanism, and performance development. HR acquisition, training, and development were positively connected with resource allocation and performance. Performance improvement was also linked to resource allocation.

Performance development was partially mediated by HR acquisition, training, and development. This shows that efficient human resource allocation and institutional resources contribute to performance directly and indirectly. Additionally, the incentive system positively controlled the resource allocation-performance development link. Therefore, efficient incentive systems boosted resource allocation performance gains.

One of the few studies on human resource management in Chinese dancesport institutes, it examines the effects of

HR practices, allocation, and motivation. The results show that institutes need a mix of human resource techniques to improve recruiting, training, professional development, resource allocation, and incentives.

This study has limitations. Second, the data came from 10 Chinese dancesport institutes; therefore, the results may not apply to other higher education institutions, regions, or nations. Second, the cross-sectional design prevents causal inferences. Third, the questionnaire and interviews were self-reported, which may have been affected by common-method bias and social-desirability bias. Last, the qualitative results should be interpreted cautiously because the interviews were with volunteers and not all institutional stakeholders.

To research human resource practices and performance development across time, longitudinal or multi-wave designs are needed. The research should include additional dancesport institutions, higher education institutions, and comparative samples from various areas and nations. Leadership, corporate culture, funding, and digital learning resources may affect dancesport education human resource practices. Future research should examine these elements.

RESEARCH CONTRIBUTION

In recent years, the Chinese government has worked to promote performance management and development. It has introduced policies to advance the implementation of performance development initiatives, supporting the sustainable development of human resources in institutes and improving education quality. Dancesport institutes in China have an important role in developing high-level athletes, directly impacting the future talent pool in the field. However, systematic research on human resource development in dancesport institutes has been limited. This study serves as a pioneering effort in advancing human resources development in these institutes. It contributes to achieving inclusive, equitable, and high-quality education and strengthens the theoretical foundation for human resources development in China's sports institutions. This research offers valuable support for cultivating future athletes.

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