



TECHNIUM
SOCIAL SCIENCES JOURNAL

www.techniumscience.com



Vol. 78/2025
A New Decade for Social Changes

PLUS
COMMUNICATION P



International
Communication & PR

Youth Outdoor Adventure Education Camps in China: Assessing Program Quality, Instructor Preparedness, and Stakeholder Satisfaction

Hongbing Chen, Zhen Wang, Xinghua Wang

Northeastern University, China

425191145@qq.com

Abstract. This study assesses the quality of youth outdoor adventure education (OAE) camps in China by examining program quality, instructor preparedness, and stakeholder satisfaction. Despite rapid market expansion from 77.8 billion yuan in 2021 to 354 billion yuan by 2024, systematic quality assessment of youth OAE camps remains limited. Using a mixed-methods approach, data were collected through site observations, instructor questionnaires (n=20), and youth surveys (n=90) across four representative camps during 2023-2024. Results reveal significant challenges across all three dimensions. Program quality suffers from aging infrastructure without standardized maintenance protocols, homogeneous curriculum dominated by traditional team-building activities, and seasonal operations limiting year-round access. Instructor preparedness shows substantial gaps: 75% are under age 35, only 30% hold relevant credentials in physical education or outdoor recreation, and formal OAE training is minimal. Stakeholder satisfaction remains moderate, with only 37.8% of youth satisfied with facilities, 44.4% satisfied with instruction, and 76.6% of parents supportive despite persistent safety concerns. These findings indicate urgent needs for equipment safety standards, professional development programs, curriculum innovation integrating Chinese cultural elements with contemporary OAE practices, and enhanced public communication about developmental benefits. This research contributes empirical evidence to the emerging literature on OAE camps in Asian contexts and provides actionable recommendations for improving youth camp quality in China's rapidly expanding sector.

Keywords. Outdoor Adventure Education, Youth Camps, Instructor Preparedness

1. Introduction

Outdoor adventure education (OAE) has emerged as a critical component of youth development worldwide, offering unique opportunities for physical activity, social-emotional learning, and environmental connection that complement traditional classroom education. Recent systematic reviews demonstrate that outdoor camp experiences significantly improve adolescent resilience, self-esteem, and social belonging (Down et al., 2024). In China, the outdoor camping sector has experienced remarkable growth since 2020, with the market expanding from approximately 77.8 billion yuan in 2021 to over 354 billion yuan by 2024, representing a compound annual growth rate exceeding 50% (National Development and Reform Commission, 2024).

Despite this rapid expansion, significant disparities exist in camp infrastructure and programming quality across Chinese cities. Eastern coastal regions, benefiting from stronger economic development and higher concentrations of middle-class families, have witnessed particular growth in outdoor education facilities. However, systematic research on the developmental status and operational quality of youth outdoor camps in these regions remains limited.

The Chinese government has increasingly recognized outdoor education as essential for holistic youth development. The Camping Tourism and Leisure Development Plan (2022-2025) specifically emphasizes the construction of youth camps and their integration with emergency services, youth education, and outdoor sports (Ministry of Culture and Tourism, 2024). This policy framework creates both opportunities and challenges for camp operators throughout China.

Contemporary research highlights several critical factors influencing outdoor camp effectiveness. Infrastructure quality directly impacts safety and program delivery (Ghani et al., 2025). Instructor qualifications and pedagogical approaches significantly affect participant outcomes (Allan et al., 2024). Program design that balances challenge, autonomy, and support produces optimal youth development results (Down et al., 2023). These international findings provide a framework for evaluating camps in the Chinese context, where outdoor education traditions differ substantially from Western models.

This study addresses three research questions examining the quality of youth outdoor adventure education in China: (1) What is the current state of program quality, including infrastructure, curriculum design, and activity offerings? (2) What is the level of instructor preparedness in terms of qualifications, training, and professional development? (3) What are stakeholder satisfaction levels among youth participants, parents, and instructors regarding camp experiences?

2. Literature Review

2.1 Theoretical Framework of Outdoor Adventure Education

Outdoor adventure education operates within a well-established theoretical framework emphasizing experiential learning, challenge by choice, and holistic youth development. Research consistently demonstrates that structured outdoor experiences promote psychological wellbeing through mechanisms including stress reduction, enhanced self-efficacy, and improved social connectivity (Down et al., 2024). Meta-analyses reveal significant improvements in resilience, self-esteem, and social belonging when OAE interventions are compared to no-intervention controls, with effect sizes ranging from moderate to large (Down et al., 2024).

The effectiveness of outdoor programs depends heavily on program design elements. Critical components include authentic challenge with tangible consequences, opportunities for peer support and collaboration, progressive skill development, and deliberate reflection activities (Down et al., 2023). Programs that incorporate these elements demonstrate superior outcomes in adolescent wellbeing compared to those lacking such intentional design.

2.2 Infrastructure and Safety in Outdoor Camps

Camp infrastructure serves as the foundation for safe and effective programming. Research on outdoor recreation facilities emphasizes the importance of regular maintenance protocols, standardized safety inspections, and evidence-based replacement schedules for equipment (Ghani et al., 2025). In the Chinese context, rapid industry growth has sometimes

outpaced the development of safety standards and quality assurance systems, creating potential risks.

The 2022-2025 national camping development plan specifically addresses infrastructure concerns, mandating scientific site selection, environmental protection considerations, and integration with emergency services (Ministry of Culture and Tourism, 2024). However, implementation of these standards varies considerably across regions and camp operators.

2.3 Instructor Qualifications and Professional Development

Instructor quality represents a critical determinant of program effectiveness. Research indicates that effective outdoor educators require competencies in risk management, group facilitation, environmental interpretation, and youth development principles (Allan et al., 2024). International standards typically mandate specific certifications, ongoing professional development, and supervision requirements.

In China, the outdoor education profession remains relatively nascent, with limited formal training pathways and professional associations. Many instructors enter the field through alternative routes, including military service or tourism backgrounds, rather than specialized education preparation. This creates both challenges and opportunities for professional development initiatives.

3. Methods

3.1 Research Design

This study employed a mixed-methods descriptive design combining quantitative survey data with qualitative site observations. The research was conducted between September 2023 and June 2024 across four outdoor camp facilities in eastern coastal China. The selection of sites used purposive sampling to ensure geographic distribution and representation of different camp operational models (commercial, school-affiliated, and nonprofit).

3.2 Participants

The study included three participant groups: camp instructors (n=20), youth participants (n=90), and parents (represented through youth-reported parental support data). Youth participants ranged from ages 10-16 years (M=13.2, SD=1.8). Instructor participants averaged 28.5 years of age (SD=4.7) with diverse educational and professional backgrounds.

3.3 Data Collection

Data collection utilized three primary methods:

(1) Structured observations: Systematic documentation of facility infrastructure, equipment condition, activity spaces, and safety features across all four sites.

(2) Instructor questionnaire: A 16-item instrument assessing demographics, educational background, training experiences, program design practices, and perceived challenges.

(3) Youth participant questionnaire: A 14-item survey measuring program participation history, satisfaction with facilities and instruction, perceived value of activities, and parental support levels.

Questionnaires were distributed during camp sessions. The instructor survey achieved a 100% response rate (20/20), while the youth survey achieved a 90% response rate (90/100) with all responses deemed valid for analysis.

3.4 Data Analysis

Quantitative data were analyzed using descriptive statistics including frequencies, percentages, and means. Qualitative observation data were organized thematically according to

the three research questions. Integration of quantitative and qualitative findings occurred during the interpretation phase to provide comprehensive answers to each research question.

4. Results

4.1 Program Quality: Infrastructure and Curriculum Assessment

Systematic observation of the four camps revealed common infrastructure patterns. All facilities featured three functional zones: activity areas (high ropes courses, team challenge elements, sports fields), camping areas (tent sites, cabins), and service areas (dining facilities, restrooms, equipment storage). Table 1 presents the basic characteristics of the surveyed camps.

Table 1 Basic Characteristics of Surveyed Youth Outdoor Camps (2023-2024)

Camp	Area (hectares)	Operating Months	Annual Participants
Camp A	12.5	May-Nov	3,200
Camp B	8.3	Apr-Oct	2,850
Camp C	15.7	May-Oct	4,100
Camp D	10.2	May-Nov	3,650

Critical infrastructure deficiencies were identified across the camps. Table 2 presents the availability of key infrastructure components at each facility.

Table 2 Infrastructure Component Availability by Camp Facility

Infrastructure Component	Camp A	Camp B	Camp C	Camp D
High Ropes Course	Yes	Yes	Yes	No
Fire Suppression Equipment	Yes	No	Yes	No
Emergency Evacuation Routes	Yes	No	Yes	No
Medical Facility	Yes	Yes	Yes	Yes
Electronic Monitoring	Yes	Partial	Yes	Partial
Water Activity Facilities	Yes	No	Yes	Yes

High ropes course equipment showed signs of weathering from extended outdoor exposure, including surface rust on metal components and degradation of rope materials. More concerning was the absence of documented maintenance schedules or standardized protocols for equipment inspection and replacement. Seasonal operational patterns emerged as a common theme, with all four camps operating primarily during warmer months and significantly reducing or suspending operations during winter.

4.2 Instructor Preparedness: Demographics, Qualifications, and Training

Instructor demographics revealed several noteworthy patterns. Table 3 presents the age distribution of the instructor workforce.

Table 3 Age Distribution of Camp Instructors (n=20)

Age Range	Frequency (n)	Percentage (%)
21-25 years	7	35.0
26-30 years	5	25.0
31-35 years	3	15.0
36-45 years	5	25.0

The workforce skewed young, with 75% of instructors under age 35. This age distribution differs markedly from international norms in outdoor education, where experienced practitioners in their 30s, 40s, and 50s commonly serve as lead instructors. Gender imbalance was pronounced (Table 4), with males comprising 80% of the instructor workforce.

Table 4 Gender Distribution of Camp Instructors (n=20)

Gender	Frequency (n)	Percentage (%)
Male	16	80.0
Female	4	20.0

Educational backgrounds varied considerably (Table 5). Only 30% held degrees in physical education or related fields, while 30% were military veterans who transitioned into outdoor instruction.

Table 5 Educational Background of Camp Instructors (n=20)

Educational Level	Frequency (n)	Percentage (%)
High School or Below	6	30.0
Associate Degree	8	40.0
Bachelor's Degree	6	30.0

Professional background data (Table 6) revealed that only 30% had studied physical education or outdoor recreation, with military veterans (30%) and other backgrounds (40%) comprising the majority.

Table 6 Professional Background of Camp Instructors (n=20)

Professional Background	Frequency (n)	Percentage (%)
Physical Education/Sports	6	30.0
Military Veteran	6	30.0
Other Backgrounds	8	40.0

Formal training in outdoor education principles was limited. When asked about professional development, instructors commonly described learning on the job or through brief orientation programs rather than comprehensive certification courses.

4.3 Stakeholder Satisfaction: Youth and Parent Perspectives

Youth participant data (n=90) provided mixed assessments of camp experiences. Table 7 presents satisfaction ratings for camp facilities.

Table 7 Youth Satisfaction with Camp Facilities (n=90)

Satisfaction Level	Frequency (n)	Percentage (%)
Very Satisfied	15	16.7
Satisfied	19	21.1
Neutral	26	28.9
Dissatisfied	22	24.4
Very Dissatisfied	8	8.9

Only 37.8% of participants expressed positive satisfaction with facilities, while 33.3% reported dissatisfaction. Instructor quality ratings (Table 8) were somewhat higher but still showed substantial room for improvement.

Table 8 Youth Satisfaction with Camp Instructors (n=90)

Satisfaction Level	Frequency (n)	Percentage (%)
Very Satisfied	18	20.0
Satisfied	22	24.4
Neutral	27	30.0
Dissatisfied	16	17.8
Very Dissatisfied	7	7.8

Participation patterns (Table 9) revealed limited repeat engagement, with 50% of participants attending their first outdoor camp program.

Table 9 Previous Camp Participation Frequency (n=90)

Number of Previous Participations	Frequency (n)	Percentage (%)
First Time	45	50.0
Two Times	20	22.2
Three Times	17	18.9
Four or More Times	8	8.9

Parent support patterns (Table 10) showed generally positive but not universal endorsement of outdoor camp participation.

Table 10 Parental Support for Camp Participation (n=90)

Level of Parental Support	Frequency (n)	Percentage (%)
Strongly Supportive	38	42.2
Moderately Supportive	31	34.4
Neutral	14	15.6
Limited Support	7	7.8

While 76.6% of parents demonstrated moderate to strong support, 23.4% showed limited or neutral attitudes. Participation pathways (Table 11) revealed heavy reliance on school partnerships.

Table 11 Pathways to Camp Participation (n=90)

Participation Pathway	Frequency (n)	Percentage (%)
School-Organized Activity	44	48.9
School Military Training	25	27.8
Summer/Winter Camp	18	20.0
Community Event/Competition	3	3.3

School-related pathways (school-organized activities plus military training) accounted for 76.7% of participation, suggesting both opportunity and vulnerability in market development.

5. Discussion

This study provides empirical evidence regarding the quality of youth outdoor adventure education in China, examining program quality, instructor preparedness, and stakeholder satisfaction across multiple camp settings. Findings reveal both achievements and significant areas requiring improvement. Results align with broader concerns in China's rapidly expanding outdoor education sector while also suggesting specific pathways for quality enhancement. The evidence underscores that despite substantial market growth and increasing parental interest, systematic quality improvement in infrastructure safety, curriculum innovation, and professional development remains essential for the sector's sustainable development.

5.1 Infrastructure Challenges and Safety Imperatives

The study's most urgent findings relate to identified infrastructure deficiencies, including aging equipment, absent maintenance protocols, and inadequate safety systems. These conditions directly contradict national policy directives emphasizing safety as paramount in outdoor recreation facilities (Ministry of Culture and Tourism, 2024). The absence of standardized replacement timelines for high-risk equipment such as ropes courses creates liability exposure and risks participant safety.

International best practices offer clear guidance. Professional organizations in North America, Europe, and Oceania have established detailed standards for equipment inspection frequencies, maintenance protocols, and replacement criteria based on usage patterns, environmental exposure, and manufacturer specifications. Adapting these standards to the Chinese context should be a policy priority, potentially through collaboration between national tourism authorities, outdoor education associations, and international safety organizations.

5.2 Program Innovation and Cultural Integration

The homogenization of program content reflects a broader challenge in Chinese outdoor education: balancing international best practices with indigenous cultural values and pedagogical traditions. The dominance of military-style and corporate team-building activities, while familiar to Chinese audiences, represents a limited conception of outdoor education's potential.

Research on outdoor education in diverse cultural contexts suggests that programs achieve greatest impact when they integrate local cultural narratives, environmental contexts, and indigenous knowledge systems (Mitra et al., 2024). For Chinese camps, this might involve incorporating traditional philosophy regarding human-nature relationships, regional environmental challenges, or cultural heritage connections. Such integration would differentiate programs while deepening their cultural relevance and educational value.

5.3 Professionalizing the Instructor Workforce

The instructor demographic profile reveals a workforce that is young, predominantly male, and has limited formal training. This reflects the nascent state of outdoor education as a profession in China. While military veterans bring valuable skills, the field requires deliberate professionalization efforts including certification pathways, pre-service training programs, continuing education requirements, and career advancement structures.

The gender imbalance warrants particular attention. Research consistently demonstrates that diverse instructional teams produce superior outcomes, particularly for female participants who benefit from same-gender role models (Allan et al., 2024). Addressing this imbalance requires systemic changes in recruitment, workplace culture, and professional support systems.

5.4 Parent Education and Public Awareness

The moderate levels of parent support and participant satisfaction point to challenges in communicating outdoor education's value proposition. In China's intensely competitive academic environment, families rationally prioritize activities directly linked to academic achievement. Camps must therefore articulate clear developmental benefits, such as enhanced resilience, improved social skills, and leadership development. These benefits should be supported by evidence from the growing research base on outdoor education outcomes.

Strategic communication approaches might emphasize connections to competencies valued in Chinese society (teamwork, perseverance, adaptability) while also introducing concepts like environmental stewardship and experiential learning that align with governmental educational reform priorities. Partnerships with schools and educational authorities can enhance credibility and access.

6. Limitations and Future Research

This study has several limitations. The four-camp sample, while purposively selected for diversity, may not fully represent the range of outdoor camp operations in China. Cross-sectional data collection precludes assessment of developmental trajectories or long-term program impacts. Self-reported satisfaction data may be influenced by social desirability bias.

Future research should employ longitudinal designs tracking youth development outcomes over time, expand geographic scope to enable regional comparisons, include parent interviews to better understand family decision-making, and conduct intervention studies testing specific improvement strategies. Comparative research examining how Chinese camps differ from and can learn from international models would provide valuable insights for program development.

7. Conclusion

This investigation of Chinese youth outdoor camps reveals a sector poised between rapid growth and systematic development. While camps provide valuable opportunities for youth to engage with outdoor environments and challenge themselves beyond classroom walls, significant improvements are necessary in infrastructure safety, program quality, and instructor professionalization.

The pathway forward requires coordinated action from multiple stakeholders. Camp operators must prioritize safety through systematic maintenance protocols and equipment replacement schedules. Program designers should innovate beyond traditional team-building models to create culturally-grounded, developmentally-appropriate curricula. Educational institutions can establish training programs that professionalize outdoor instruction. Government agencies should develop and enforce safety standards while supporting industry development through policy guidance and public education initiatives.

The stakes are considerable. As Chinese society grapples with rising youth mental health concerns, academic pressures, and environmental degradation, outdoor education offers evidence-based solutions that develop resilient, environmentally-conscious, socially-skilled citizens. Realizing this potential requires moving beyond outdoor recreation as entertainment toward recognizing it as a legitimate educational setting with unique developmental affordances.

Chinese camps, supported by governmental policy support and growing parental awareness, are well-positioned to lead this transformation. By addressing current limitations while building on existing strengths, the sector can establish models that serve local youth while contributing to broader conversations about outdoor education's role in 21st-century Chinese society.

Funding

This research was supported by the Social Science Foundation of Liaoning Province (No. L21CTY001).

Conflicts of Interest

The authors declare no conflicts of interest.

References

- [1] Down, M. J., Picknoll, D., Edwards, T., Farrington, F., Hoyne, G., Piggott, B., & Murphy, M. C. (2024). Outdoor adventure education for adolescent social and emotional wellbeing: A systematic review and meta-analysis. *Journal of Adventure Education and Outdoor Learning*, 1-30.
- [2] Down, M., Picknoll, D., Piggott, B., Hoyne, G., & Bulsara, C. (2023). "I love being in the outdoors": A qualitative descriptive study of outdoor adventure education program components for adolescent wellbeing. *Journal of Adolescence*, 95(6), 1232-1244.

- [3] Mitra, S., Sharma-Brymer, V., Mitten, D., & Ady, J. (2025). India's emerging trends and meanings in healthy human-nature relationships: Indian outdoor education practitioner perspectives. *Journal of Adventure Education and Outdoor Learning*, 25(1), 138-151.
- [4] Peacock, J., Bowling, A., Finn, K., & McInnis, K. (2021). Use of outdoor education to increase physical activity and science learning among low-income children from urban schools. *American Journal of Health Education*, 52(2), 92-100.
- [5] Pearson, R., Owen, M., Inman, J., & Relph, N. (2025). Promoting resilience in female youth through outdoor adventure activities: what works, why, and in which contexts?. *Journal of Adventure Education and Outdoor Learning*, 1-24.
- [6] Pierce, J., & Beames, S. (2024). Where's the E in OE? A critical analysis of Irish outdoor education. *Journal of Outdoor and Environmental Education*, 1-18.
- [7] Vasilaki, M. M., Zafeiroudi, A., Tsartsapakis, I., Grivas, G. V., Chatzipanteli, A., Aphasimis, G., ... & Kouthouris, C. (2025). Learning in Nature: A Systematic Review and Meta-Analysis of Outdoor Recreation's Role in Youth Development. *Education Sciences*, 15(3), 332.