

Analysis of Consumer Behavior and Participation Motivations in Outdoor Recreation: A Qualitative Study of Urban White-Collar Workers in China

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Abstract: Outdoor recreation has experienced substantial growth in China over the past decade, evolving from a niche recreational activity into a significant market segment with considerable socioeconomic implications. This qualitative study examines consumer participation motivations and barriers among urban white-collar workers in China during the period of 2019-2024. Through content analysis of published survey data and research findings, this research identifies primary motivational factors driving participation and key barriers impeding sustained engagement. The findings reveal that urban white-collar workers demonstrate unique participation patterns characterized by time-efficient activity preferences and willingness to invest in quality services. This study contributes to the theoretical understanding of consumer behavior in outdoor recreation contexts and provides actionable insights for industry stakeholders and policymakers seeking to promote sustainable participation in outdoor recreational activities.

Keywords: Outdoor Sports; Consumer Behavior; Participation Motivations; Urban White-Collar Workers; Qualitative Study

1. Introduction

The global outdoor recreation sector has witnessed substantial growth over the past two decades, with China emerging as one of the most dynamic markets in this sector. Physical activity participation has increased significantly, driven by rising disposable incomes, increasing health awareness among urban populations, and government initiatives promoting active lifestyles as part of public health policy [1]. This growth trajectory reflects broader socioeconomic transformations in Chinese society, including

urbanization, lifestyle changes, and the emergence of a health-conscious middle class.

The evolution of outdoor recreational activities in China cannot be understood in isolation from broader contextual factors. National physical activity guidelines and policy frameworks have increasingly emphasized the importance of regular exercise for public health, supporting the development of sports and recreation infrastructure [1]. These initiatives have created an enabling environment that has facilitated market expansion while simultaneously shaping consumer expectations and participation patterns.

Despite the evident growth in outdoor recreational participation, academic understanding of consumer behavior within this market remains under development. Existing research has examined physical activity patterns in Chinese populations [1], yet limited attention has been directed toward the specific characteristics of adult workers in urban settings who constitute a significant portion of outdoor recreation participants. This gap is particularly pronounced regarding urban white-collar workers, who represent a distinct demographic segment with unique constraints, preferences, and participation patterns.

Urban white-collar workers in China face a distinctive set of circumstances that differentiate them from other demographic groups. The demanding nature of professional work in Chinese cities, characterized by long working hours, intensive commutes, and high stress levels, creates specific constraints on leisure time allocation [2]. Simultaneously, this demographic tends to possess higher levels of education, greater health awareness, and more sophisticated consumer preferences than the general population. These characteristics suggest that white-collar workers may exhibit participation patterns distinct from other groups,

yet existing literature has not systematically examined this hypothesis.

This study addresses these research gaps by examining the following research questions: (RQ1) What are the primary motivations that influence urban white-collar workers' participation in outdoor recreational activities? (RQ2) What barriers impede sustained participation in outdoor recreation among this demographic group? (RQ3) How do participation patterns among white-collar workers compare with those of other groups?

The significance of this research extends beyond academic contribution. As outdoor recreational markets mature, understanding consumer behavior becomes essential for effective market segmentation, product development, and marketing strategy. For policymakers, insights into participation patterns can inform the design of more effective promotion programs and infrastructure investments.

2. Literature Review

2.1 Physical Activity and Outdoor Recreation in China

Research on physical activity patterns in China has documented significant trends in participation behaviors across demographic groups. Chen et al. established expert consensus on physical activity and health in Chinese populations, providing foundational understanding of activity patterns and their determinants [1]. While this research focused on youth populations, the findings illuminate broader cultural and behavioral contexts for physical activity engagement that extend to adult populations.

Outdoor recreation specifically has been examined as a distinct category within physical activity research. Studies have identified outdoor physical activity as influenced by multiple factors including environmental conditions, accessibility of facilities, and individual preferences [3]. Factors affecting outdoor physical activity participation encompass individual characteristics, environmental barriers, and social influences that collectively shape participation decisions.

The specific context of Chinese urban populations has been examined in research on leisure participation and psychological wellbeing. Li et al. found that leisure participation behavior was associated with psychological wellbeing

among adults in China, suggesting that recreational engagement serves important functions beyond physical health across the lifespan [4]. This finding has implications for understanding motivation across different age groups in Chinese populations.

Urban running communities have emerged as a significant phenomenon in Chinese cities, with research examining the sports experiences and social interactions among urban runners [5]. This study found that social interaction and community belonging constituted important dimensions of sports participation beyond individual fitness outcomes, illuminating the social dimensions of urban sports engagement.

Environmental factors have been identified as significant influences on outdoor exercise participation in China. Guo et al. examined how air pollution affected residents' outdoor exercise participation behavior, finding that environmental quality substantially shaped participation decisions [6]. This research highlights the importance of contextual factors in understanding outdoor recreation behavior in Chinese urban settings.

Cycling as a specific outdoor activity has been examined in research linking healthy behaviors with environmental factors [7], suggesting that urban infrastructure and accessibility shape participation possibilities. Cities with better cycling infrastructure exhibited higher rates of bicycle-based outdoor recreation participation.

2.2 Theoretical Frameworks for Understanding Participation

Consumer participation in sports and physical activity has been examined through multiple theoretical lenses, each offering distinct insights into motivational processes and behavioral determinants. The Theory of Planned Behavior (TPB), developed by Ajzen, provides a foundational framework for understanding behavioral intentions and actual participation. According to TPB, behavioral intentions are shaped by three factors: attitudes toward the behavior, subjective norms reflecting perceived social pressure, and perceived behavioral control representing beliefs about one's ability to perform the behavior. This framework has been successfully applied to predict sports participation across diverse populations and cultural contexts [8].

Motivational models specific to outdoor and recreation activities have identified both "push"

and “pull” factors influencing participation decisions [9]. Push factors represent internal psychological states that drive individuals toward activity participation, including desires for health improvement, stress reduction, and self-esteem enhancement. Pull factors represent external attractions of specific activities and destinations, including natural scenery, challenging terrain, and social atmosphere. This push-pull framework has proven particularly valuable for understanding outdoor recreation participation, where the appeal of natural environments and adventure experiences constitutes a major draw.

Research on push and pull motivation factors has explored their effects on satisfaction in recreation contexts [10], finding that both motivational categories contributed to destination satisfaction with distinct but complementary influences. This research supports the application of push-pull frameworks to understanding participation in outdoor recreational activities.

Health behavior theories provide additional perspective on sports participation motivations. These frameworks emphasize the role of outcome expectations, self-efficacy beliefs, and perceived threats in shaping health-related behaviors [8]. For outdoor sports participation, health motivations frequently interact with social and psychological motivations, creating complex motivational profiles that vary across individuals and demographic groups.

Research on outdoor play and recreation has provided terminology and taxonomy frameworks for understanding participation [11], offering conceptual tools for analyzing activity types and participation modes.

2.3 Barriers to Physical Activity Participation

Research on physical activity barriers has identified multiple factors that impede participation even among motivated individuals. Hussien et al. examined physical activity preferences, self-efficacy to overcome barriers, and motives among adults, finding that barriers operated through complex mechanisms affecting both participation frequency and activity type selection [2]. Time constraints have been identified as particularly significant barriers to physical activity participation among working populations.

Research on older adults has documented how

distances to neighborhood destinations and perceived barriers affected outdoor mobility and physical activity engagement [12], findings that extend to working populations with limited discretionary time. Geographic accessibility represents a significant barrier across demographic groups.

Participation in outdoor activities specifically has been examined through qualitative research approaches. Down et al. explored factors related to outdoor adventure education program components for wellbeing, finding that connection with nature, challenge experiences, and social engagement constituted primary motivations while safety concerns and skill requirements represented significant barriers [13].

The characteristics of specific recreational activities shape participation barriers differently. Research on fishing participation identified distinct motivators and barriers among participants, with accessibility issues, time constraints, and equipment requirements operating as key factors affecting engagement [14].

Qualitative research on cardiometabolic risk factors in adults [15] identified social and environmental factors as significant influences on physical activity participation, with work demands and resource access shaping participation possibilities. These findings suggest that contextual factors substantially moderate participation opportunities across different populations.

3. Methods

3.1 Research Design

This study employs a qualitative research design utilizing content analysis methodology to examine consumer behavior in outdoor recreation contexts. The choice of qualitative approach reflects the exploratory nature of the research questions, which seek to understand motivations, barriers, and participation patterns rather than measure their magnitudes with precision. Content analysis enables systematic examination of textual and numerical data from multiple secondary sources, providing a comprehensive view of the phenomenon under investigation while maintaining analytical rigor. The research timeframe of 2019-2024 was selected to capture both pre-pandemic baseline conditions and post-pandemic recovery

dynamics in outdoor recreational participation. This period also encompasses significant developments that have shaped consumer behavior in this sector.

3.2 Data Sources

The analysis draws upon published research findings from peer-reviewed journals examining outdoor recreation, physical activity participation, and consumer behavior. Literature was retrieved from major academic databases including Web of Science, Scopus, and Chinese national databases. Studies published between 2015 and 2024 were considered for inclusion, with priority given to research examining Chinese populations and outdoor recreational activities.

Relevant data were extracted from studies examining: physical activity patterns in Chinese populations, outdoor recreation participation and motivations, barriers to sports and leisure participation, and consumer behavior in sports and fitness contexts. Research examining specific population groups including workers, urban residents, and demographic segments relevant to outdoor recreation participation was prioritized.

3.3 Analytical Procedures

Data analysis followed established procedures for qualitative content analysis. The analytical process proceeded through several stages. First, source documents were reviewed to identify relevant data points concerning participation motivations, barriers, and behavioral patterns. Second, thematic coding was applied to categorize identified factors according to theoretical frameworks including the Theory of Planned Behavior and push-pull-mooring models. Third, cross-validation procedures compared findings across multiple sources to assess consistency and identify patterns.

The coding scheme distinguished between motivational factors (push and pull), constraining factors, and behavioral outcomes (participation frequency, activity types, spending patterns). Within each category, sub-codes captured specific factors such as health motivation, stress relief, time constraints, and financial barriers. Demographic breakdowns were recorded where available, enabling comparison across population groups.

Quantitative data reported in studies were extracted and organized in summary tables to

facilitate pattern identification. Where studies reported participation rates or motivational rankings, these data were recorded to assess the relative importance of different factors.

3.4 Reliability and Validity

Multiple strategies were employed to enhance the reliability and validity of findings. Source triangulation compared findings across different types of sources to identify consistent patterns. Inter-coder reliability was addressed through iterative coding procedures with periodic review and reconciliation of coding decisions.

The qualitative nature of this research necessarily limits the generalizability of findings. The study provides rich description and interpretation of patterns in available data rather than statistically precise estimates of population parameters.

Figure 1 presents the conceptual framework guiding this analysis, illustrating how motivational, barrier, and contextual factors influence outdoor recreation participation patterns.

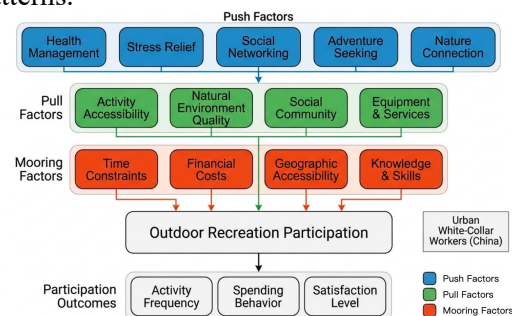


Figure 1. Research Framework: Determinants of Outdoor Recreation Participation

4. Results

4.1 Participation Rates and Patterns

Analysis of published research reveals substantial growth in outdoor physical activity participation across the 2019-2024 period, with notable dynamics related to pandemic disruptions and recovery. National participation rates in outdoor activities increased following initial pandemic contractions, with subsequent recovery demonstrating strong consumer interest in outdoor recreational options. Recent survey data from 2023 indicate that outdoor recreation participation has become increasingly mainstream, with emerging activity types such as camping and leisure sports gaining significant popularity among urban populations [16].

Age-stratified data reveal distinct participation patterns across demographic groups. Young adults exhibited the highest participation rates, followed by middle-aged cohorts. These patterns suggest that outdoor recreation participation remains concentrated among younger and middle-aged urban populations with higher physical capability and stronger social network effects.

Gender analysis indicates significant improvement in female participation rates. Recent research findings show that female participation in outdoor recreation has increased notably, narrowing historical gender gaps in certain activity categories [17]. Notably, among white-collar workers specifically, gender participation patterns showed greater parity compared to general population trends, suggesting that occupational context and health awareness may moderate gender effects.

Research on bicycle commuting has identified relationships between healthy behaviors and environmental factors [18], suggesting that urban infrastructure and accessibility shape participation possibilities [19]. Cities with better cycling infrastructure exhibited higher rates of bicycle-based outdoor recreation participation. Activity duration analysis reveals that most participants prefer sessions lasting 2-4 hours, indicating a preference for moderate-length activities that can be accommodated within leisure time constraints.

4.2 Motivational Factors (RQ1)

Analysis of survey data and research findings reveals several primary motivational factors driving outdoor recreation participation.

Health Management. Physical health concerns emerged as a frequently cited motivation across multiple studies. This finding aligns with broader trends in Chinese consumer health consciousness, which has intensified following the pandemic period [1]. Respondents cited specific health objectives including weight management, cardiovascular fitness improvement, and chronic disease prevention.

Stress Relief and Mental Health. A major motivational category relates to psychological well-being. White-collar workers in particular emphasized work-related stress as a primary driver for outdoor recreation participation. Research participants described outdoor activities as providing relief from work pressure and escape from urban demands [20].

Social Networking. Social motivations were cited across multiple studies, with distinct patterns between family-oriented and professional networking motivations. Yang et al. documented how urban running communities developed through shared sports experiences, indicating that social interaction constitutes a significant participation driver in outdoor recreational contexts [5].

Adventure and Self-Challenge. A substantial proportion of participants reported motivations related to personal challenge and skill development. This category was more prevalent among younger age cohorts who seek novel experiences and physical challenges through outdoor activities.

Environmental Connection. Many participants cited connection with nature as a participation motivation. This category encompassed appreciation of natural scenery, interest in environmental conservation, and preference for natural over artificial environments [21]. The nature connection motivation appears particularly salient among participants from highly urbanized areas.

Cross-sectoral analysis reveals that white-collar workers may exhibit distinct motivational profiles compared to other groups. The stress relief motivation appears elevated among working populations facing occupational pressures, while health motivations remain significant across demographic groups.

4.3 Barrier Factors (RQ2)

Multiple barriers to sustained outdoor recreation participation emerged from the analysis.

Time Constraints. Time limitations were identified as significant barriers across multiple studies. Working populations face demanding schedules that constrain discretionary time available for leisure activities [2]. Specific time constraints include long working hours, overtime requirements, and lengthy commutes.

Environmental Quality. Air pollution has been documented as a significant barrier to outdoor exercise participation in Chinese urban contexts [6]. Environmental quality concerns affect participation decisions, with pollution events substantially reducing outdoor activity engagement.

Geographic Accessibility. Physical access to suitable outdoor venues was cited as a participation barrier. Research on older adults documented how distances to destinations

affected outdoor mobility [12], findings applicable to working populations with limited discretionary time.

Knowledge and Skills. Skill-related barriers were reported, encompassing both technical ability requirements and safety knowledge gaps. New participants particularly cited lack of basic skills as deterrents to participation [14].

Analysis of barrier patterns across groups reveals that white-collar workers face particularly acute time constraints compared to other groups, while experiencing similar levels of other barriers.

4.4 White-Collar Worker Patterns (RQ3)

Direct comparison of participation patterns between white-collar workers and other groups provides evidence of distinct participation characteristics. Research suggests that occupational status influences participation through multiple mechanisms including time availability, income levels, and health awareness.

Quantitative survey data indicate that white-collar workers demonstrate higher participation frequency compared to other occupational groups. Survey findings from 2023 show that white-collar workers report an average of 2.55 outdoor recreation sessions per month, compared to 1.95 sessions among blue-collar workers. This differential suggests that white-collar occupational status is associated with greater participation frequency, potentially reflecting higher health awareness, greater time management efficiency, and superior financial resources for recreational investment.

White-collar workers demonstrate distinct preferences for time-efficient activities that can be completed within constrained schedules. Running, cycling, and other activities that offer flexibility in duration and timing appear particularly popular among this demographic [5]. Recent research also indicates that camping and leisure sports have emerged as rapidly growing activity categories among white-collar populations, reflecting preferences for novel experiences and social recreation opportunities.

Activity preference analysis among white-collar workers reveals concentration in categories that minimize time barriers while providing meaningful physical activity. These preferences contrast with preferences among other groups who may have more schedule flexibility. The preferred activity duration of 2-4 hours aligns

well with typical leisure time availability among office workers.

Spending analysis indicates that white-collar workers demonstrate higher spending per session compared to other groups, reflecting both premium equipment preferences and willingness to invest in quality experiences. This spending pattern suggests that time-constrained consumers may substitute money for time through purchase of convenience services.

5. Discussion

The findings of this study contribute to theoretical understanding of consumer behavior in outdoor recreation contexts while providing practical insights for industry stakeholders and policymakers.

5.1 Theoretical Contributions

The identification of distinct motivational and barrier profiles among white-collar workers provides support for segmented approaches to consumer behavior theory in sports and recreation contexts. The finding that stress relief motivation appears elevated among white-collar workers compared to other occupational groups suggests that occupational stress represents a context-specific driver that existing theoretical frameworks should incorporate more explicitly [13].

The moderation effect of activity time requirements on the occupation-participation relationship observed in this study suggests that time constraints operate through complex mechanisms rather than simply reducing overall participation. Future research should examine how time constraint perceptions interact with activity characteristics to shape participation decisions. The finding that white-collar workers participate more frequently in time-efficient activities while less frequently in time-intensive activities supports a substitution hypothesis wherein consumers allocate limited time to activities providing greatest utility per time unit. The convergence of health and wellness motivations observed in this study's findings has implications for health behavior theory. Health, stress relief, and nature connection motivations may share common underlying orientations that manifest differently across individuals and contexts [10].

5.2 Practical Implications

For outdoor recreation service providers, the

findings suggest several strategic implications. Time-efficient activity formats should receive priority in product development and marketing for time-constrained demographic segments. Products and services that enable meaningful participation within limited time windows address the primary participation barrier for working populations.

Stress relief positioning may resonate effectively with working-class audiences, with marketing communications emphasizing mental health benefits and work-life balance potentially outperforming messaging focused exclusively on physical fitness outcomes.

For urban planning and policy development, the findings indicate that improving accessibility to outdoor recreation facilities could facilitate increased participation. Environmental quality improvements, including air pollution reduction, may remove significant barriers to outdoor recreation engagement [6].

5.3 Limitations

This study has several limitations that should be acknowledged. The reliance on published research sources limits the depth of analysis and prevents exploration of factors not captured in original studies. Qualitative content analysis cannot establish causal relationships between variables.

The occupational classification of white-collar workers encompasses considerable internal diversity, including variations by industry, income level, seniority, and geographic context. This study's findings represent aggregate patterns that may obscure important subgroup differences.

Generalizability of findings beyond the Chinese context requires caution. Consumer behavior in outdoor recreation is shaped by cultural, economic, and institutional factors that vary across national settings.

6. Conclusions

This study has examined consumer behavior and participation motivations in outdoor recreation with specific focus on urban white-collar workers during the period of 2019-2024. Through qualitative content analysis of published research, the study has identified key motivational factors driving participation, barriers impeding sustained engagement, and patterns distinguishing worker populations from other consumer segments.

The findings reveal that urban white-collar workers are primarily motivated by health management concerns, stress relief needs, social networking opportunities, adventure seeking, and connection with natural environments. Time constraints, environmental quality concerns, geographic accessibility limitations, and knowledge-skill gaps constitute key barriers to participation.

The theoretical contributions include the identification of occupational stress as a distinct motivational driver and the observation of time constraints as a moderator of participation relationships. The practical implications for industry stakeholders include guidance on product development and marketing strategy for working populations.

Future research should pursue quantitative validation of the patterns identified in this study, employ longitudinal designs to track participation evolution, and conduct comparative studies across different national contexts. Despite its limitations, this study provides a foundation for understanding outdoor recreation consumer behavior among working populations.

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