

A study of the core principles underlying the mountain tourism phenomenon

Um estudo dos princípios fundamentais do fenómeno do turismo de montanha

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Abstract

Human urbanization began around 13,000 years ago in lowland areas along rivers due to favourable conditions for survival and productivity. In contrast, mountainous regions, with their difficult accessibility and dangers, were initially avoided. However, mountains have always been revered as sacred in various religions and hold profound significance for humanity as places for physical, emotional, and spiritual exercise or relaxation. Since the 1860s, mountain tourism has emerged from human interaction with mountains, reflecting the evolution of human behaviour. Mountain tourism is studied across various scientific fields, intersects with other niches, such as sports, hiking, religion, adventure, and health tourism, and involves tourists, locals, entrepreneurs, and volunteers. The literature research reveals conflicting approaches in proposed methods, such as prioritizing funding for modern infrastructure versus fostering empathy and human connections. Additionally, the terminology of mountain tourism is ambiguous and includes expressions such as active, smart, responsible, ecological, and meaningful tourism. This study aims to identify the core principles of mountain tourism to clarify these conflicts and promote a holistic approach to challenges like sustainable development and seasonality.

Keywords: Mountain tourism; core principles; human behaviour.

Resumo

A urbanização humana começou há cerca de 13.000 anos nas zonas de planície ao longo dos rios, devido às condições favoráveis de sobrevivência e produtividade. Em contrapartida, as regiões montanhosas, de difícil acesso e perigosas, foram inicialmente evitadas. No entanto, as montanhas sempre foram veneradas como sagradas em várias religiões e têm um significado profundo para a humanidade como locais de exercício físico, emocional e espiritual ou de relaxamento. Desde a década de 1860, o turismo de montanha surgiu da interação humana com as montanhas, refletindo a evolução do comportamento humano. O turismo de montanha é estudado em várias áreas científicas e cruza-se com outros nichos, como o turismo desportivo, de caminhadas, religioso, de aventura e de saúde, envolvendo turistas, habitantes locais, empresários e voluntários. A pesquisa bibliográfica revela abordagens contraditórias nos métodos propostos, tais como dar prioridade ao financiamento de infra-estruturas modernas em detrimento da promoção da empatia e das ligações humanas. Além disso, a terminologia do turismo de montanha é ambígua, incluindo termos como turismo ativo, inteligente, responsável, ecológico e significativo. Este estudo tem como objetivo identificar os princípios fundamentais do turismo de montanha para clarificar estes conflitos e promover uma abordagem holística a desafios como o desenvolvimento sustentável e a sazonalidade.

Palavras-chave: Turismo de montanha; princípios fundamentais; comportamento humano.



1. Introduction

The United Nations World Tourism Organization (UNWTO, 1998) defines mountain tourism as activities in specific geographical areas, such as hills or mountains, characterized by unique landscapes, topography, climate, biodiversity, and local communities. It encompasses physical activities, emotional experiences, and spiritual processes. Mountain tourism originated as religious and spiritual tourism in the 1800s (UNWTO, 2018), evolved into luxury tourism for British aristocrats in the early 1900s (Gaulis & Creux, 1976), and became mass tourism for affluent Central Europeans in the 1970s due to technological advancements and increased leisure time. Since 2000, it has become a multifaceted form of alternative tourism, as the Organization for Economic Cooperation and Development (OECD, 2006) reported.

Studies have examined its various forms (e.g., ski tourism, ecotourism), stakeholders, challenges (e.g., sustainability, seasonality), and factors influencing its evolution, such as environmental sensitivity, climate change, and destination management.

2. Literature review

2.1. Dimensions of human personality. Tangible and intangible assets

The study explores the various dimensions of mountain tourism by considering both the tangible and intangible needs of human personality (Alberts & Hazen, 2010; Balmford et al., 2009; Beard et al., 2003; Breejen, 2007; Goldenberg et al., 2008; Lambert, 2003; Moira et al., 2021; Nawijn, 2011). Mountain tourism activities encompass physical (body and needs), emotional (relationships and nature), and mental (thoughts and uncertainty) dimensions, with varying intensities tailored to participants' needs (MonViso Institute, 2024; Torres, 2016; UNWTO, 1980).

2.2 Contrasting tendencies in human behavior

Mountain tourism integrates 'exercise' and 'relaxation', embodying the concept of 'adventure by day and luxury by night' (e.g., camping-glamping). 'Exercise' involves physical activity and risk-taking (Doyle, 2016; Hinteregger, 2018; Joachim, 2014; Sport England, 2015), while 'relaxation' focuses on rest and personalized services (Hinteregger, 2016; Petković, 2012; Thiele, 2016). Descending mountaineers conserve energy while ascending ones expend it. Those who follow weather forecasts gain mental energy, while thrill-seekers expend it. Group leaders provide emotional energy, while athletes receive admiration (Buhalis, 2018; Cervone & Pervin, 2013; Laidlaw, 2012; Passafaro et al., 2021; Ploog, 2003; Silverman, 2015; Smith, 2010). Pain and joy are fundamental human motivators. Healthy individuals balance 'exercise' and 'relaxation'. Urban residents prioritize convenience, physical exercise, teamwork, and a connection with nature. (Nydegger, 2014; UNWTO, 2018), The advent of urbanization around 11,000 B.C. established urban centres near rivers and seas, enhancing access and connectivity (Harari, 2015) in contrast to the mountainous regions characterized by inaccessibility and danger. Mountain activities are driven by motivations ranging from

physical health and social status to deep connections with nature and an escape from daily pressures (Csikszentmihalyi, 1990; Cohen, 2010; Franch et al., 2008; Motel-Klingebiel, 2019).

2.3 Variability, development and diversity in mountain tourism

Mountain resort services aim to meet evolving tourist needs (Lalande, 2016; Moira & Drivas, 2017;). By 2030, Millennials, who value personalized experiences and are skilled in using digital technologies, will constitute 22% of the population (Prensky, 2001). Entrepreneurs are adapting to trends and overcoming challenges such as seasonality and adverse weather. The state should promote adaptability and create a market-friendly environment. Protected landscapes and accessible mountains attract more visitors (Keller, 2014), and adapting to climate change is essential (Gotsiridze, 2017). Walking is popular across demographics, with seniors and younger individuals hiking for health benefits (Germier-Hamel, 2016; Thiele, 2016). Tourists increasingly seek authentic experiences, expanding the market to new destinations (Bourn, 2014; Doyle, 2016; Franch et al., 2008; Torres, 2016; UNWTO, 2014; 2016). Studies have highlighted shifts in tourist profiles and behaviours (Butler, 2006; Farini, 2015). Challenges such as complex regulations, climate change, and demographic changes demand sustainable solutions, including four-season recreation and cooperative planning (Downes, 2015; Hinteregger, 2014; 2016; UNWTO, 2013; 2018; Wearing & McGehee, 2013).

2.4 The interdependence of environmental and human interactions in mountain tourism

Mountain tourism development emphasizes sustainability, requiring ecological limits and an understanding of the economy, society, and environment (Hawken, 1993). Key areas include material-emotional-mental health, reuse, energy, water use, social responsibility, and equity (McDonough & Braungart, 2002; Unruh, 2020). Tourism relies on local awareness and visitor experiences. It can drive change but faces environmental challenges due to growth (UNWTO, 2019). Sustainable policies must consider energy, infrastructure, and climate change (UNWTO, 2017). Modern tourists are well-informed and demanding (Gale & Wood, 1994). The industry must create environments that encourage personal interaction and authentic experiences (Crompton & McKay, 1997; Otto & Ritchie, 1996). However, tourism can strain natural resources, while younger generations face concerns related to connectivity (Lalande, 2016). Ecotourism shows demographic variations rather than a clear distinction between ecotourists and non-ecotourists (Downes, 2015; Wight, 2022). The coexistence of different generations and cultures within the same region adds further complexity.

2.5 The complexity and multifactorial nature of mountain tourism

Mountain tourism thrives in challenging and unpredictable environments. Heisenberg's uncertainty principle from Physics illustrates the impossibility of precisely measuring both position and momentum simultaneously, highlighting the pervasive uncertainty and relativity in everyday life. The uncontrollable force of nature, reminiscent of pre-agricultural times, serves as an "exercise of humility". Modern society's focus on possession over participation leads to moral dilemmas and a departure from holistic truth. Science, religion, and philosophy suggest that self-delusion and the illusion of possession hinder true joy (Sandel, 2011).

Ancient Greek philosophy and Eastern religions emphasize striving for, but never fully attaining, absolute truth (Aristotle, 2004; Krishnamurti, 2011).

In contrast, Western religions' promotion of absolute truth has contributed to the deification of technology. Complexity science supports participatory control in dynamic systems, while marketing should be localized and aligned with stakeholders' shared vision. Although fear of uncertainty is inherent, it is mitigated by science. Self-centred thinking persists, especially in survival scenarios. Monopoly capitalism absorbs smaller firms to maximize profits, optimizing productivity but stifling innovation (European Commission, 2016). However, mountain communities emphasize creative collaboration and independence from central administration. Like the body, the brain requires practice, as expressed by the phrase "use it or lose it." (Rieckmann, 2019). Life requires movement, connection, and meaning.

At the MonViso Institute, sustainability involves real-time decision-making under uncertainty (MonViso Institute, 2024). Effective planning for mountain tourism must consider environmental limits to meet the needs of both residents and tourists. Comprehensive planning is essential for successful mountain resort development. Historically, tourists have been a resource for local populations, making mountain tourism a complex phenomenon. Tourism activities provide jobs and income for mountain communities (Cousquer, 2016). The categorization of tourists is relevant, as stereotypes can hinder optimization. Adventure combines physical activity, cultural exchange, and interaction with the unpredictable natural environment. The 'difficulty of the mountains' contrasts with the 'ease of urban life'. Predicting a resurgence in mountain tourism remains uncertain as the market economy evolves through trial and error (Keller, 2014).

2.6 Paradoxes and the coexistence of opposing tendencies and social stereotypes in mountain tourism

Human behaviour follows a "deterministically chaotic" logic, where the present shapes the future, yet approaches remain unpredictable (Lorenz, 2005). Order can emerge from chaos (Negrepontis et al., 2020). Development strategies must balance biological diversity, authenticity, social equity, and local economic benefits (UNWTO, 2017), with sustainability as the primary goal. Fox (2017) emphasizes collaboration, balanced decision-making, and creative solutions for economic development, while Löffler et al. (2014) discuss new ways of living in mountain areas, highlighting the "difficult joy" of alpine life. The MonViso Institute (2024) investigates why people are drawn back to the mountains and what sustains them. Euromontana (2022) explores the needs of young people in mountain areas, where tradition meets innovation (Hinteregger, 2018), turning weaknesses into strengths (Buhalis, 2018; Franch, 2008; Kämpf, 2016; Olmedo, 2017; Petković, 2012). Education and public consultation help broaden perspectives, reduce stereotypes, and foster innovation and adaptability, which are vital for smaller players (Martin, 2018; Nicolau, 2018).

2.7 Reciprocity in mountain tourism

In mountain tourism, hosts and tourists engage in reciprocal exchanges, sharing experiences and inspiration. This reciprocity reflects Newton's Third Law: "For every action, there is an equal and opposite reaction" (Fox, 2017; Franch et al., 2008; Germier-Hamel, 2016). Regenerative Design (R.G.) goes beyond maintenance to actively restore by mimicking natural ecosystems, going beyond maintenance to active restoration. R.G. transforms tourism and agriculture into mutual benefit and cooperation systems, eliminating the need for pesticides and fostering sustainable growth (Wahl, 2016).

2.8 Seasonality, circularity, and periodicity in mountain tourism

Terzibasoglu (2016) notes that mountain adventure tourism helps reduce seasonality with minimal infrastructure requirements. The ski market's decline highlights the need to address seasonality (Farini, 2015). Stravs Podlogar (2019) supports Slovenia's Tourism Green Plan as a strategy for climate adaptation (Interreg Europe, n.d.), while Serbia's 'Mountain and Lake Holidays' initiative targets year-round tourism despite infrastructure challenges (Petković, 2012). Downes (2015) highlights China's four-season resorts, and Keller (2014) suggests that mountains help mitigate seasonal extremes. New Zealand aims to distribute visitor flows more evenly to combat seasonality (Milne, 2018), and Franch et al. (2008) emphasize the importance of innovation and seasonal balance for profitability. Pierret (2012) emphasizes web 2.0 and year-round operations for better returns. Mountain tourism professionals often hold multiple certifications and engage in volunteer work (Sport England, 2015). The World Tourism Code of Ethics (World Tourism Organization, 1999) underscores the importance of protecting workers' rights, particularly given the challenges of tourism seasonality. Sustainability in mountain tourism involves circularity, bioregional respect, regenerative design, and systemic innovation. Circularity focuses on closing resource loops and eliminating waste (MonViso Institute, 2024), while the circular economy aims to eradicate waste and regenerate nature (Ellen MacArthur Foundation, n.d.). Systemic design integrates systems thinking for sustainability (Swat et al., 2019). Wolf (2019) emphasizes humanity's responsibility to protect nature. Tourism must innovate to address global warming and balance seasonal benefits. When aligned with natural principles, seasonality can be an advantage. (Franch, 2008).

3. Methodology

To identify and classify the fundamental principles of mountain tourism, a primary research study was conducted utilizing a structured questionnaire available in Greek and English via Google Forms.

The questionnaire consisted of 25 groups of statements, rated on a five-point Likert scale, organized into eight sections. Each section aimed to examine the presence or absence of the eight fundamental operational principles of the mountain tourism phenomenon, as identified through the literature review, and to assess the respondents' attitudes towards these principles. Two supplementary sections, comprising 11 additional questions, explored respondents' involvement in mountain tourism and their demographic characteristics. The

questionnaire was distributed to the researcher's acquaintances, members of mountaineering clubs, and mountain enthusiasts. It was also posted on relevant websites (e.g., www.eooa.gr, www.snowreport.gr, www.snowclub.gr, www.eosvolos.gr).

Conducted between September 15 and December 15, 2023, the study received 453 responses. The data underwent factor analysis, validated through the Kaiser-Meyer-Olkin (K.M.O.) measure and Bartlett's Test of Sphericity, extracting factors with eigenvalues greater than one and using varimax rotation. A second-order factor analysis identified two superfactors. Five-point scale responses were converted to binomial variables for further statistical analysis, with demographic details correlated with factors using Fisher's exact test and t-tests.

The findings revealed eight fundamental principles underlying the operation of mountain tourism.

4. Results

This paper presents selected findings for each investigated operating principle of mountain tourism. For clarity and brevity, these findings are grouped by relevant operating principles rather than following the exact order of the questionnaire statements.

4.1. Three layers of human personality. Material-Emotional-Mental

Regarding statement No. 7 (Table 1), the average mountain tourist prioritizes: a) developing interpersonal relationships (76%), b) diverse and affordable options (62%), c) advanced expertise (59%), and d) modern facilities (23%). Statistical analysis indicated that individuals with an income below €20,000 significantly prioritize organizing their thoughts more than those with higher incomes. Higher-income individuals demonstrate a significant preference for modern facilities. However, emotional benefits, such as meaningful relationships and honest communication, are considered the most important (76%), while material goods like modern facilities are considered the least significant (23%). Consequently, the average mountain tourist seeks a balance of material, emotional and mental benefits, addressing the three layers of personality (67%). This finding confirms the existence of these three aspects of human personality and health as documented in interdisciplinary literature. (Caldwell, 2005; Cervone & Pervin, 2013; Filep, 2014; MacLean, 1989; Smith & Puczko, 2014; Spiers & Walker, 2008).

Table 1. Pursuits during the exercise of mountain activities

No.7: During a mountain tourism activity, I enjoy and I look more for ...	I disagree completely or slightly, %	I neither disagree nor agree, or I don't answer, %	I agree completely or slightly, %
...modern material infrastructures (e.g. modern transport networks, luxury hotels, technologically advanced equipment)	36%	42%	23%
...an abundance of alternative and affordable options.	6%	32%	62%
...The development of interpersonal contact , which favors meaningful human relationships (e.g. honest communication with everyone involved, the authenticity of the local community and the natural environment)	3%	21%	76%
... advanced know-how (e.g. the processing of data for the continuous improvement of forecasting of weather conditions and integrated planning of alternative solutions in case of unforeseen situations)	6%	35%	59%
...a combination of the above.	4%	29%	67%

4.2 Two poles of human behaviour

Regarding statement No. 8 (Table 2), 51% of respondents prefer 'difficult' pleasure, compared to 43% who favour 'easy' pleasure. However, 62% express greater satisfaction with a balanced alternation between the two (Natural England and other parties, 2015, O'Dowd, 2016; Podlogar Stravs, 2019; Voigt et al., 2011).

Respondents' engagement with mountain tourism reveals a clear trend: those strongly connected to these activities tend to pursue 'difficult pleasure', which involves effort, risk, and personal growth. In contrast, those with a weaker connection favour 'easy pleasure,' focusing on relaxation and comfort. This correlation is especially significant for mental exercise and the desire for adventure.

Table 2. Satisfaction from easy or difficult pleasure

No.8: If "easy" joy includes easiness, comfort, looseness, speed, individuality, certainty and "hard" joy includes difficulty, exercise, dedication, patience, teamwork, risk, I am usually more satisfied with...	I disagree completely or slightly %	I neither disagree nor agree, or I don't answer %	I agree completely or slightly %
....The "easy" pleasure (e.g. a fun, comfortable, safe activity in a controlled environment such as a popular ski resort). I generally think that joy doesn't need to be fulfilled with difficulties.	19%	38%	43%
....The "difficult" joy (e.g. a slow, tiring climb/hike, in a difficult, unfamiliar, mountainous environment). I generally think that many important, special joyful situations in our life could involve difficulties..	15%	34%	51%
...A balanced alternating of the above 2 depending on the occasion..	9%	30%	62%

4.3 Persistent variability, volatility, and evolutionary change

In response to statement No. 2 (Table 3), "To cope with variability and constant changes, I mainly prefer...", there is a significant preference for frugality and simplicity, especially among individuals with incomes below €20,000. Specifically, 43% favour minimal equipment, 70% support constant redesign to meet current needs, and 58% reject inaction.

Table 3. Addressing persistent variability, instability, and evolution

No.2: To deal with the volatility caused by the changes that are constantly happening around me, I prefer mainly ...	I disagree completely or slightly %	% I neither disagree nor agree, or I don't answer	I agree completely or slightly %
Advanced, specialized equipment in large quantities (e.g. I climb the mountain with a large backpack or I prefer a large, high displacement vehicle).	36%	46%	18%
Frugal, simple equipment in a small amount (eg I climb the mountain with a small backpack or I prefer a small, low displacement vehicle).	14,6%	42,6%	42,8%
Both of the above, depending on the situation.	12%	38%	50%
Strict planning according to the original objective & schedule	15%	41%	44%
Constant adjustments of the plan according to the current needs.	7%	23%	70%
Both of the above , depending on the situation.	8,6%	32,7%	58,7%
None of the above.	58%	40%	2%

Preferences for frugality versus wealth (50%) and flexible versus strict planning are influenced by this context (59%). This statement demonstrates bipolarity, where individuals may have opposing preferences depending on the situation. (Fox, 2017; Joachim, 2014; Sport England, 2015).

4.4 Holistic continuity, seamless integration, ambiguity, and interdependence

In response to statement No. 9 (Table 4), 64% of respondents enjoy group interactions (19% strongly agree, 1% strongly disagree), while 47% prefer independent interactions (15% strongly agree, 4% strongly disagree). Additionally, 56% report mixed feelings, varying their preferences depending on the situation (23% strongly agree, 3% strongly disagree). (Milne, 2018; Weaver & Lawton, 2007,).

Table 4. Collaborative teamwork, individual autonomy, or as appropriate

No. 9: There is an interdependent relationship between me and the physical and social environment. As far as this relationship is concerned ...	I disagree completely or slightly %	I neither disagree nor agree, or I don't answer %	I agree completely or slightly %
I usually feel good when I'm experiencing interaction with the physical and social environment. I enjoy participating in groups and maintaining a "give and take" relationship with the environment.	4%	32%	64%
I usually prefer to define the relationship that I will have with my physical and social environment. I prefer to act independently and to receive whatever I need from my environment.	17%	36%	47%
Sometimes, I like my interdependent relationship with the physical and social environment, and sometimes I don't, depending on the situation.	10%	34%	56%

4.5 Uncertainty, infinite complexity, and multifactorial dynamics

Statement No. 13 (Table 5) notes that numerous factors contribute to the complexity and uncertainty of the tourist experience. While 53% of tourists enjoy risk-taking, 46% prefer predictability, and 55% appreciate both, depending on the situation, confirming the coexistence of these opposing tendencies (Doyle, 2016).

Table 5. Multifactoriality. Do you like the unpredictable or the predictable?

No. 13: The multiple factors that co-shape the touristic experience (e.g. the unfamiliar environment, fellow travellers, business owners, working staff, local communities, V.I.P.s, volunteers, etc.), often make it uncertain and complex . As regards this uncertainty...	I disagree completely or slightly %	I neither disagree nor agree, or I don't answer %	I agree completely or slightly %
...I like risk-taking and adventure (e.g. organizing a trip to an unknown destination by myself).	15%	32%	53%
... I like a pre-organized adventure with predictable parameters (e.g. organizing my trip to an unknown destination from a travel agency).	23%	31%	46%
... Depending on the situation , sometimes I like safety and security and other times I like adventure and risk.	15%	30%	55%

Numerous factors, potentially infinite, influence the development of mountain tourism. Among these, a crucial factor is the public's perception of various stakeholders' reliability, responsibility, and efficiency, especially in public administration. In statement No. 18 (Table 6), respondents attribute the lack of consensus on sustainable mountain tourism development primarily to political administration, especially local officials (81%). Other responsible groups include professionals (66%), residents (59%), employees (57%), journalists (54%), workers (28%), volunteers (26%), athletes (22%), and tourists (21%), with responsibility distributed proportionally to each group's perceived influence (Price et al., 1997, UNWTO, 2013; 2019).

Table 6. Who is primarily responsible for the unrealistic development of sustainable mountain tourism?

No. 18: I believe that a significant share of responsibility for the lack of unanimity regarding the direction to be followed, in order to achieve the realistic development of sustainable mountain tourism activities , belongs to the...	I disagree completely or slightly %	I neither disagree nor agree, or I don't answer %	I agree completely or slightly %
A. Administrative Accountability	5,2%	17,5%	77,3%
... Political representatives of the local society (e.g. mayors, regional governors, politicians of various parties)	5,3%	14,1%	80,6%
... Political representatives of the country's government , lawmaking bodies or coordinators of European funding	6,6%	17,7%	75,7%
... Administration or management bodies of mountain centers or regions (e.g.	3,8%	20,8%	75,5%

management of ski centers or national parks).			
B. Community Responsibility	11,6%	31,0%	57,4%
... Professionals , providers of tourist services .	10,4%	23,8%	65,8%
... Investors and entrepreneurs .	8,6%	31,1%	60,3%
... Local people , residents of mountain destinations.	11,7%	29,4%	58,9%
... Employees of public services (forest rangers, policemen, relevant ministries).	11,5%	31,6%	57,0%
... Private service contractors hired by the government.	11,3%	32,5%	56,3%
... Journalists , shapers of public opinion.	10,6%	34,9%	54,5%
... Multinational companies manufacturing and selling mountain tourism items.	17,4%	33,6%	49,0%
C. Liability of Mountain Tourism Participants	37,9%	38,1%	24,0%
... Employees that work for tourist service providers.	30,9%	41,3%	27,8%
... Volunteers , members of mountaineering/sports/cultural clubs.	40,2%	33,8%	26,0%
... Coaches, athletes .	34,2%	44,2%	21,6%
... Tourists , travelers, whoever receives tourist services.	46,4%	33,1%	20,5%

4.6 Paradoxical coexistence of opposing tendencies

According to responses to statement No. 19 (Table 7), 84% oppose the use of stereotypes in market segmentation, 9% find opposing trends as harmful, and 47% remain neutral, with more disagreement (28%) than agreement (25%) (O'Dowd, 2016; Roux, 2017). Statistical analysis shows that postgraduates are more likely to agree using social stereotypes initially but less likely to prefer fixed direction over non-temporal periodicity than those with up to tertiary education.

Table 7. Social stereotypes. Coexistence of contrasting trends. Tourism market segmentation

No. 19: In the tourist market, it seems that sometimes two opposing trends coexist (e.g. older and younger people who participate in outdoor adventure activities), and occasionally social stereotypes dominate and "forbid" the coexistence of opposite trends.	I disagree completely or slightly %	I neither disagree nor agree, or I don't answer %	I agree completely or slightly %
There should be no stereotypes or separation within the tourist market. It is possible and mutually beneficial for both opposing trends to coexist (e.g. participation of the elderly or disabled people in properly designed adventure touristic activities).	3%	13%	84%

It is impossible and potentially harmful for two opposing trends to coexist. Each group should be targeted only with the "theoretically" appropriate type of touristic activity for them (e.g. no participation of disabled or elderly people in sports or adventure tourism activities).	58%	33%	9%
We follow social stereotypes to the extent that they facilitate us, only as a first approach to reality .	28%	47%	25%

4.7 Mutualistic interactions, action-reaction dynamics, and reciprocal relationships

In statement No. 23 (Table 8), 83% agree that relationships among tourists, consumers, entrepreneurs, locals, workers, and nature should be mutually beneficial (Keller, 2014; Milne, 2018). However, 45% are neutral on whether their interests are better served when others' interests are also served, and only 38% agree. Meanwhile, 50% agree with the principle of reciprocity, akin to Newton's Third Law: "For every action, there is an equal and opposite reaction". The statistical analysis revealed that individuals over 45 significantly agree more with statements 23a and 23c than those under 45.

Table 8. Shared interest, mutual benefit, and reciprocity

No. 23...In the tourism there are many factors involved (tourists, entrepreneurs, local people, employees, nature, etc.) I believe that	I disagree completely or slightly %	I neither disagree nor agree, or I don't answer %	I agree completely or slightly %
No 23a... My interest is served best, whenever the interest of others involved is served as well.	17%	45%	38%
No 23b ... The relationships between the consumers, tourists on the one hand and the business owners, local community and nature on the other hand can and should be mutually beneficial .	5%	12%	83%
No 23c ... "What you give is what you get" is actually true.	14%	36%	50%

4.8. Seasonality, periodicity, and cyclicity

In statement No. 25 (Table 9), "Cyclical changes in tourism, like seasonal shifts, are common." 72% of respondents appreciate these changes, with 50% disagreeing with the statement "I don't like the periodicity." Only 13% prefer a fixed direction, with 8% disagreeing with the statement "I enjoy cyclical changes." indicating a general tendency toward agreement on seasonality (MonViso Institute, 2024; Terzibasoglu, 2016).

Table 9. Which is preferable: Periodicity or constant direction?

No. 25: Within the tourist phenomenon, periodic and repeated changes often appear , such as the change of seasons (e.g. winter-summer), the "lifestyle" fashion , or the switch between the natural mountain and the artificial urban environment .	%	%	%
... I enjoy these repeated changes and temporal periodicity of the phenomena.	8%	20%	72%
... I don't like the temporal periodicity of phenomena.	50%	37%	13%

5. Discussion and conclusions

The research identifies three dynamic fields—Material, Relational, and Mental— that underpin mountain tourism, involving the body, emotions, and thoughts. It also highlights two main poles: exercise and relaxation. Depending on the context, mountain tourists may seek physical exercise or relaxation, distinction or integration, and planning or adventure. Bibliographical research reveals confusion in defining mountain activities and their values, often influenced by marketing. We propose a clearer typology, describing Mountain Tourism as a blend of active-passive (exercise or relaxation) and material-emotional-mental tourism (body, emotion, thought) dimensions.

This three-layer, two-pole model helps stakeholders understand active and passive tourism as well as the material, emotional, and mental aspects involved. Using "energy" in its three forms—material/mass, emotional/attention, and mental/knowledge—avoids subjective and vague terms often found in ethics and marketing. When a tourist primarily receives energy (material, emotional, mental) from their environment, such as through services or technology for rest and care, while seeking personalized services, and ensuring their goals with certainty, this is termed "passive" tourism (person-centric energy flow). Conversely, when a tourist expends energy through activities like sports, adapting to group settings, seeking novelty, or accepting risks associated with adventure, this is termed "active" tourism (holocentric energy flow).

Analyzing tourism through the lens of energy flow (person-centric or holocentric) rather than ethical or marketing lenses helps address challenges such as sustainable development and seasonality. Imbalances in energy flow can lead to issues like overtourism, which harms sustainability and health. Balancing activity and relaxation—similar to energy balance—is crucial for all tourism stakeholders.

An integrated approach to mountain tourism is essential for sustainable and effective results. This approach should balance diverse perspectives, such as immediate profitability versus long-term investment, collaborative participation versus competitive authenticity, and productivity versus creative design. Understanding these viewpoints is critical to optimizing stakeholder coordination and preventing inefficiencies in material, emotional, and intellectual resources.

The literature indicates that stakeholders in mountain tourism operate within a constantly evolving historical context, connected to various physical, social, and ideological environments, including the economy, nature, moral values, ideology, and technology. Furthermore, mountain tourism appears to be governed by principles of the positive sciences, such as the superposition of dynamic fields, oscillations, energy flow, infinite calculus, finite elements, periodicity, reciprocity and the coexistence of opposite tendencies. Therefore, it is proposed to study mountain tourism as a system of infinite three-dimensional dipoles, oscillating within a pulsating three-dimensional dynamic field that includes material, emotional, and mental dimensions. The interactions between these dipoles are characterized by inertia, damping, and elasticity, corresponding to their material, emotional, and mental aspects.

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