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Digital Natives on the Move: Cross-Cultural Insights into Generation Z's Travel Preferences

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Abstract

Generation Z (Gen Z; born 1997–2012) is reshaping global tourism through digital fluency, ethical awareness, and a desire for authentic, sustainable travel experiences. This study surveys 413 Gen Z travelers across France, Portugal, Romania, and the USA to map their booking behaviors, information sources, transport modes, accommodations, dining practices, and leisure activities. The findings reveal a strong preference for independent online bookings and social-media-influenced destination choices (Instagram, TikTok), with air and car travel being used for long-distance journeys and walking/public transit being used for local journeys. Accommodation spans commercial hotels and private rentals, while informal, local dining and nature- or culture-centered leisure prevail. Chi-square tests were performed to identify differences between countries. To reveal distinct traveler segments and their country's modulations towards sustainability, a hierarchical cluster analysis was performed. The results uncover four segments: "Tech-Active, Nature-Oriented Minimalists" (32.3% in France); "Moderate Digital Planners" (most frequent across all countries, particularly dominant among Romanian respondents); "Disengaged and Indecisive Travelers" (overrepresented in the USA); and "Culturally Inclined, Selective Sustainability Seekers" (>30% in France/Portugal). Although sustainability is widely valued, only some segments of the studied population consistently act on these values. The results suggest that engaging Gen Z requires targeted, value-driven digital strategies that align platform design with the cohort's diverse sustainability commitments.

Keywords: Gen Z; tourism preferences; cross-national trends; sustainability; clusters

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1. Introduction

Tourism is a dynamic global industry that significantly contributes to the worldwide economy, with an increasing emphasis on consumer behaviors that are constantly evolving in response to changing societal, technological, and environmental factors. As the first true digital native population, Gen Z has grown up surrounded by technologies that continuously shape their values, interactions, and purchasing decisions [1,2]. With technological fluency, a preference for experiences over material goods, and a strong focus on sustainability, Gen Z represents the future of global consumption, including in the tourism sector [3,4]. Previous research offers some insights into Gen Z's consumption behavior within the service sector [5–8]. In tourism and travel, Generation Z is considered

an incredibly important cohort [9]. Chhabra [10] highlights the need to understand the internal decision-making processes of young tourists, as this helps explain how different factors influence their travel choices.

Understanding the tourism preferences of this emerging generation is paramount for businesses and policymakers alike. Gen Z's travel behaviors are significantly shaped by their familiarity with digital tools, desire for authentic and immersive experiences, and growing emphasis on social responsibility and environmental sustainability [11]. Unlike their predecessors, this generation is not just seeking traditional vacation getaways. They are instead motivated by a deeper pursuit of personal growth, cultural immersion, and experiences that are meaningful and shareable [12,13].

Prior research has mapped travel preferences across older cohorts [14–16]. Despite this rich inter-generational work, Generation Z (born 1997–2012) remains under-examined [4,17]. Yet, Gen Z already accounts for over 20 percent of global tourism spending and grew up fully immersed in digital platforms [18]. This study aims to address a significant gap in the literature by examining the travel preferences of Gen Z in detail, focusing on their booking methods, sources of information, transportation choices, destination preferences, accommodation preferences, dining habits, and entertainment selections.

Also, research into Gen Z's travel preferences, particularly how these preferences vary across different countries, remains scarce and fragmented. Most current research treats Gen Z as a homogeneous group, overlooking meaningful intra-generational segmentation that could capture diverse values, motivations, and sustainability behaviors [19,20]. Existing Gen Z tourism research has largely been single-country or qualitative in nature; for instance, studies of Gen Z's sustainability attitudes have been conducted in Portugal [21] and narrative analyses of social media influence have been conducted in Australia [17]. Several cross-cultural studies demonstrate that Gen Z travel behaviors are far from homogeneous. Styvén and Foster [22] surveyed travelers in Sweden, the UK, and India, showing that reflected self-appraisal's influence on opinion leadership is stronger in Sweden than in India. Entina et al. [23] compared Gen Z preferences across the USA, UK, Australia, China, and India, mapping desired destinations, planning websites, agent use, and top platforms for travel content. Finally, D'Acunto et al. [24] used a big data analysis of eWOM across six regions—Africa, Asia, Europe, Latin America, North America, and Oceania—to reveal that Gen Z male business travelers in Asia, especially those in hotel chains, most frequently mention sustainability practices in online reviews. Together, these findings underscore the need for intersectional, context-specific research to capture Gen Z's diverse travel motivations and behaviors. What remains lacking is a rigorous, cross-national, cluster-based segmentation of Gen Z traveler profiles that integrates both digital and sustainability dimensions. Our study addresses this gap by surveying 413 Gen Z participants in France, Portugal, Romania, and the USA, applying Chi-square and cluster analyses to reveal distinct traveler segments and their cultural modulations.

In addition, while Gen Z's alignment with sustainability values is increasingly acknowledged [20], few studies explore the actual alignment between stated pro-environmental attitudes and consequent travel decisions, especially regarding transport, accommodation, and consumption behaviors. This study investigates these gaps directly through behavioral analysis across multiple dimensions [1–4,11,12,17,19–21].

By examining these key aspects, the study will provide valuable insights into the evolving patterns of tourism consumption among Gen Z, offering implications for both the private and public sectors. The findings will enable businesses in the travel and hospitality industry to better tailor their offerings to the unique needs of Gen Z and help policymakers design more effective tourism strategies that engage this influential demographic. Importantly, the study highlights the challenge of aligning Gen Z's sustainability values with

consistent travel behaviors, which is a very important area for developing more responsible tourism systems. In doing so, this research will contribute to our broader understanding of how tourism consumption is changing in the digital age and will lay the groundwork for future studies on the intersection of digital behavior and global travel trends. The primary research questions are as follows: (Q1) How do Gen Z's travel behaviors and sustainability orientations vary across France, Portugal, Romania, and the USA? (Q2) Which distinct traveler segments emerge as a result? To address these questions, this study aims to achieve the following objectives:

1. Investigate the predominant methods Gen Z uses to make travel bookings.
2. Identify preferred sources of tourist information for Gen Z and understand how they gather knowledge about travel destinations.
3. Examine Gen Z's preferences regarding modes of transportation during travel.
4. Identify the decisive factors that influence Gen Z's choice of travel destinations.
5. Investigate Gen Z's accommodation preferences when traveling.
6. Understand Gen Z's dining preferences during travel.
7. Explore the types of entertainment and activities preferred by Gen Z during their travel experiences.
8. Analyze cross-national trends within Gen Z's travel preferences.
9. Segmentate Gen Z travelers based on sustainability-related travel choices regarding transportation, accommodation, dining preferences, and leisure activities, but also motivations for travel and technology usage.

By answering these research objectives and identifying traveler segments, this study offers a comprehensive and comparative perspective on Gen Z's engagement with tourism, delivering actionable insights for destination marketing, service innovation, and sustainable travel planning.

2. Literature Review

Gen Z, typically defined as those born between the mid-1990s and early 2010s, represents a generation that has grown up in a world dominated by digital technologies such as smartphones, social media, and high-speed internet [1,2]. As digital natives, they have unique preferences and behaviors when it comes to travel and tourism. Gen Z's tech-savviness, preference for personalization, and desire for authentic, meaningful experiences have reshaped travel behaviors and trends [11]. With their increasing economic influence, the tourism industry needs to understand how this generation makes travel decisions, what sources they trust, and what factors influence their travel choices.

Despite a growing awareness of sustainability principles, Gen Z often exhibits contradictory travel behavior, showing interest in authentic experiences but not always adopting sustainable travel practices [21]. Profiling Gen Z based on both values and motivations reveals a split between hedonic (fun-driven) travel goals and value-based ethical goals, such as support for sustainable tourism [25].

This literature review aims to address the following research objectives:

1. The predominant ways Gen Z makes travel bookings.
2. Preferred sources of tourist information for Gen Z.
3. Gen Z's preferences regarding modes of transportation for travel.
4. Decisive factors influencing Gen Z's choice of travel destinations.
5. Gen Z's accommodation preferences.
6. Gen Z's preferred dining options during travel.
7. Types of entertainment and activities preferred by Gen Z during travel.

2.1. The Predominant Ways Gen Z Makes Travel Bookings

Gen Z's travel booking habits are defined by their digital-first approach. This cohort is highly reliant on online platforms, especially mobile apps, for making travel reservations [26]. Studies confirm that Gen Z largely bypasses traditional travel agents in favor of using OTAs (online travel agencies) like Booking.com, Expedia, and Airbnb for planning and booking their trips [27]. According to prior research, 70% of Gen Z uses smartphones to conduct research and make bookings [28]. This behavior is driven by the ease and convenience of using apps, allowing them to access and book travel experiences anytime, anywhere. Mobile booking apps are particularly popular due to their instant gratification and the ability to make last-minute decisions [27]. Recent studies highlight the importance of personalized interfaces, user-generated reviews, peer recommendations, and platform aesthetics as additional influences on Gen Z booking choices [19].

2.2. Preferred Sources of Tourist Information for Gen Z

When gathering information about destinations, digital platforms dominate Gen Z's research process. According to Dewi et al. [29], 88% of Gen Z use the internet as their primary source of travel information. The most influential platforms are social media networks like Instagram, YouTube, and TikTok, where they discover destinations through travel influencers, user-generated content, and visual storytelling [27]. Instagram serves as a key source of inspiration, with users relying on images and stories from influencers and peers to shape their travel decisions [17].

Moreover, peer recommendations in the form of online reviews play a critical role in Gen Z's decision-making process. Platforms like TripAdvisor, Google Reviews, and Facebook groups provide perceived as authentic and reliable insights that resonate more with this cohort than traditional advertisements [30]. Gen Z values transparency and community-driven content, often trusting peer feedback more than brand messaging [19]. Additionally, travel blogs and destination websites offering insider tips and personalized suggestions are favored for their depth and practicality [28].

2.3. Gen Z's Preferences Regarding Modes of Transportation for Travel

Affordability and emerging eco-consciousness are central to Gen Z's transportation choices. For long-distance travel, Gen Z tends to favor budget airlines such as easyJet, Ryanair, and Spirit Airlines, reflecting their cost-consciousness, especially as many are students or early-career professionals [27,31]. For local transport, ride-sharing services like Uber and Lyft are popular for their flexibility and app-based convenience.

Public transportation is also widely used, particularly in destinations where it is sustainable and efficient. Gen Z increasingly chooses eco-friendly options such as electric buses, shared bikes, and low-emission trains when available, showing a growing commitment to sustainable mobility [20,32]. Shared mobility services such as car-sharing and bike rentals are also aligned with Gen Z's on-demand and sustainability-oriented lifestyle [27].

Recent findings suggest that college student tourists can be segmented into "pro-convenience" and "pro-experience" travelers, with mode choice significantly influenced by factors such as travel cost, service frequency, seat comfort, and in-vehicle time. Enhancing the frequency and comfort of coach services may shift preferences toward low-carbon options [33].

Moreover, while Gen Z is generally perceived as less car-centric than previous generations, this trend varies widely depending on urban infrastructure, accessibility to alternatives, and social norms. In some regions, Gen Z still exhibits significant reliance on private vehicles, particularly where public transport is underdeveloped [34]. Interestingly, gender differences have also emerged in mode preference evaluations, with Gen Z travelers who

are women showing a greater sensitivity to comfort-related attributes such as legroom or seating space [33].

2.4. Decisive Factors Influencing Gen Z's Choice of Travel Destinations

Gen Z's destination choices are influenced by affordability, authenticity, social media visibility, and growing interest in sustainability. Budget-consciousness remains key, with Gen Z seeking destinations that offer good value for money, often choosing lower-cost locales or those with special offers [27]. Authenticity is also critical; Gen Z prefers destinations that reflect genuine local culture and allow for immersive experiences such as community-based tourism and visits to off-the-beaten-path locations [17].

Social media plays a central role in destination selection. Visually engaging and "Instagrammable" locations with a strong influencer presence are especially attractive to this generation [29]. This behavior reflects a blend of social validation and experiential aspiration, where shareability becomes a measure of destination appeal.

Sustainability is an increasingly decisive factor. Gen Z demonstrates a growing preference for destinations that practice eco-tourism, support local communities, and reduce environmental impact [20,27]. However, recent research indicates that there is often a gap between Gen Z's stated sustainability values and their actual travel behaviors, which this study seeks to explore further.

Interest in rural and culturally rich destinations is also rising, as Gen Z increasingly seeks traditional gastronomy and heritage-based experiences, particularly in off-the-beaten-path environments [35]. Despite their awareness of sustainability issues, many Gen Z travelers lack consistent eco-behaviors in practice, underlining the need for motivational strategies to align intentions with actions [36].

2.5. Gen Z's Accommodation Preferences

Gen Z's accommodation choices are shaped by affordability, social atmosphere, personalization, and eco-consciousness. While hotels are still commonly used, alternative lodging options like Airbnb, hostels, and vacation rentals are preferred for their affordability and social engagement opportunities [30].

Personalized and culturally immersive accommodations such as boutique hotels and homestays are also favored. Gen Z values accommodations that offer authentic, localized experiences and are digitally integrated (e.g., smart check-ins, app-controlled features) [27]. Sustainability is another key factor: many Gen Z travelers opt for accommodation that incorporate green practices such as energy efficiency, recycling, and eco-certifications [20]. Studies also show that Gen Z prefers accommodations that balance cost-effectiveness with sustainability, especially those that support circular economy initiatives [37].

2.6. Gen Z's Preferred Dining Options During Travel

For Gen Z, food is a central part of the travel experience. They actively seek out local cuisine, street food, food markets, and traditional dishes to engage with local culture [38]. Instagram-worthy food presentation is also a driver, as many young travelers share their culinary experiences online [29].

Health and sustainability are also growing concerns [39]. Gen Z shows increased interest in plant-based, vegan, and organic food options, as well as restaurants that prioritize sustainability, zero-waste policies, and ethical sourcing [20,38]. Ethical eating and support for local food systems are part of Gen Z's broader value-based consumption patterns. In rural contexts, traditional gastronomy rooted in cultural heritage is a major draw for Gen Z travelers, aligning their culinary preferences with a desire for authenticity and sustainability [35].

2.7. Types of Entertainment and Activities Preferred by Gen Z During Travel

Gen Z's travel activities reflect a balance of adventure, cultural engagement, and social interaction. Outdoor and adventure-based activities such as hiking, zip-lining, and extreme sports appeal to their sense of thrill and independence [27]. Simultaneously, they show strong interest in cultural experiences like visiting museums, historical sites, local festivals, and art events [17].

Social and immersive experiences are also highly valued. Activities such as group tours, cooking classes, volunteer tourism, and community events allow Gen Z to interact with locals and co-create meaningful experiences [12,20]. These activities reflect their desire to make travel socially enriching and ethically purposeful.

Gen Z is particularly drawn to tourism models that allow for personal exploration and intercultural exchange, favoring "explorer" or "individual mass tourist" profiles that prioritize autonomy over group travel [40]. These behavioral profiles indicate the need for destination managers to adapt offerings based on a spectrum of values, ranging from experiential novelty to pro-environmental commitments [36].

3. Study Context

Gen Z represents a significant portion of the global population, and their tourism preferences have the potential to reshape the industry. According to data from national statistics agencies, Gen Z's size varies across different countries, but in all cases, it is a large and influential group:

- The total population in France was about 67 million in 2021, and 16% of this total, or approximately 10.72 million, were Gen Z [41].
- In Portugal, with a population of approximately 10.3 million in 2021, Gen Z (ages 9–24) accounted for around 15%, or 1.55 million people [42].
- In Romania, in 2021, the resident population was approximately 19 million, with Gen Z representing 16%, equaling 3.04 million individuals [43].
- The USA Census Bureau estimated the population at 331 million in 2021, with 20% of this group, or 66.2 million, falling within Gen Z [44].

Given the sizable proportion of Gen Z within the populations of these diverse countries, this study aims to investigate travel behaviors and this group's preferences across multiple cultural contexts.

The selection of France, Romania, Portugal, and the USA for this comparative study is based on their geographical diversity and the size of Gen Z in each country. These nations represent distinct regions, providing a broad cultural and economic context: Western Europe (France), Southern Europe (Portugal), Eastern Europe (Romania), and North America (USA).

France, Portugal, Romania, and the USA were selected to maximize geographic and economic diversity and to leverage substantial Generation Z demographics (15–20 percent of each country's population), thereby enabling meaningful cross-cultural comparisons. The USA and France represent established tourism markets with advanced infrastructure, while Portugal and Romania, emerging destinations, offer insight into how developing tourism sectors shape Gen Z's travel choices. These countries also differ in overall economic development, allowing us to examine the influence of economic factors on preferences. Finally, despite cultural distinctions, shared drivers such as globalization and digital connectivity create common travel trends, supporting a comparative analysis of both universal behaviors and national variations.

4. Methodology

As stated before, the main purpose of this study is to collect data about the specific travel preferences of Gen Z through a detailed examination of their booking methods, sources of information, transportation choices, destination preferences, accommodation preferences, dining habits, and entertainment selections. Additionally, this study aims to collect data that will enable us to conduct a comparative analysis of Gen Z's travel behaviors across several European countries (France, Portugal, and Romania) and the USA.

For these purposes, a specific research design was developed. The research follows an interpretivist approach to understand the social context in which human actions occur, and in terms of time frame it is cross-sectional, as it aims to capture a single point in time.

As a methodological choice, the research is descriptive, and the research strategy is quantitative using self-administered surveys for data collection—one version in French, one in Romanian, and another in English. To ensure linguistic and conceptual equivalence, the French and Romanian versions were translated by native speakers and then backtranslated into English.

The study population is composed of 413 respondents from the above-mentioned countries (France n = 92, Portugal n = 93, USA n = 115, Romania n = 113), all born between 1997 and 2012; they are all considered digital natives, since they were born and grew up in a world where the internet and technology, in general, were parts of their daily life.

The survey instrument consisted of structured questions. Questions were developed based on the existing literature and were adapted from the 2010, 2016, and 2021 Flash Eurobarometer surveys [45–47], known for their thorough analysis of travel behavior. This provided a reliable framework for studying Gen Z's travel patterns, ensuring comparability with past research. Established Eurobarometer scales were used to enhance reliability, and internal consistency checks were applied to validate responses and were adapted for clarity and relevance to the Gen Z respondents. A pilot test was conducted with 15 participants to assess clarity, length, and usability, and adjustments were made accordingly to improve reliability and minimize ambiguity.

The questionnaire was made on Google Forms, with one version in French, another in Romanian, and another in English for Portuguese and USA respondents. Distribution was carried out through various digital channels, including WhatsApp, Facebook, and email networks, between 10 February and 30 April 2025.

The use of convenience and snowball sampling methods introduces a potential bias toward digitally engaged and university-educated respondents; this is acknowledged as a limitation in the sampling strategy. To move beyond simple country comparisons and uncover deeper behavioral typologies, a two-stage cluster analysis was conducted on the full sample (N = 413). The goal was to segment Gen Z travelers based on sustainability-related travel choices regarding transportation, accommodation, dining preferences, and leisure activities, but also motivations for travel and technology usage. A total of 36 categorical variables reflecting sustainable travel dimensions were included (see Appendix A, Table A1). These variables spanned transportation modes, motivations, key destination attractions (impattr), technological tools, accommodation types, dining choices, and leisure activities. All were dichotomous (0/1), except for impattr ("most important attraction"), which includes a category indicating indecision (6 = "don't know").

Chi-square tests were paired with hierarchical cluster analysis to go beyond aggregate comparisons and delineate distinct traveler profiles, each characterized by unique combinations of booking channels, information sources, sustainability orientations, and activity preferences. Customer profiles cluster analysis was conducted in SPSS 20 for accurate data processing. This multivariate method groups cases with similar response patterns based on multiple variables, revealing natural segments in the data. Unlike methods that

test variable relationships, cluster analysis explores data structure without predefined outcomes [48]. Interpreting results depends on the researcher's judgment, especially in assessing the coherence within and differences between clusters, making the process both analytical and interpretive [49].

An agglomerative hierarchical clustering was first performed using Ward's method and squared Euclidean distance to identify the optimal number of clusters. Based on the hierarchical result, a K-means cluster analysis was performed using the specified number of clusters. The K-means algorithm grouped cases into clusters that minimize within-group variance and maximize between-group variance. Cluster membership was saved for further analysis. ANOVA was used to examine mean differences across clusters for each included variable, noting that significance tests are descriptive due to post hoc group formation [50].

To explore how these clusters align with national contexts, a crosstabulation was conducted between cluster membership and respondents' country. The Pearson Chi-square test was employed to test the statistical significance association between cluster and country.

5. Results

5.1. Sample Characteristics

The study sample consisted of 413 participants from four countries: the United States (27.8%), Romania (27.4%), Portugal (22.5%), and France (22.3%). The distribution was relatively balanced across countries.

In terms of travel frequency over the past 12 months, most respondents reported taking three trips (38.0%), followed by two trips (25.2%) and four trips (24.2%). A smaller segment (12.6%) took only one trip during the period.

Regarding age, most participants were between 18 and 25 years old, reflecting a typical Gen Z profile. Specifically, the largest age groups were 20 years (19.1%), 22 years (13.6%), 19 years (13.1%), and 23 years (11.4%).

5.2. Country Comparisons

This section presents the main findings of the survey, structured around the study's core themes: booking behavior, sources of tourist information, transportation preferences, destination choice factors, accommodation types, dining habits, and leisure activities. The analysis highlights both shared trends and cultural differences in travel preferences among Gen Z from France, Portugal, Romania, and the USA.

5.2.1. Predominant Methods of Travel Booking

Most Gen Z respondents reported booking their most recent trip independently, without using a travel agent or agency (84.5%, agtuse). This behavior was especially prevalent in France (91.3%) and the United States (89.6%), followed by Romania (84.1%). In Portugal, only 72.0% booked independently, with 27.9% relying on agencies for transportation (17.2%) or accommodation (10.8%).

A Chi-square test confirmed a significant association between country and agency use ($\chi^2(6, N = 413) = 17.61$, $p = 0.007$), indicating that Gen Z's reliance on travel agencies differs across national contexts.

In terms of booking methods, professional online travel platforms (21.0%) and combined platform use (18.0%) were dominant. Direct provider contact (19.9%) was preferred in France, whereas traditional agencies were least used in the USA and Romania. Chi-square tests revealed significant differences for private lists ($\chi^2 = 76.17$, $p < 0.001$), professional platforms ($\chi^2 = 10.24$, $p = 0.017$), direct calls ($\chi^2 = 161.41$, $p < 0.001$), and traditional agencies ($\chi^2 = 41.65$, $p < 0.001$), but not for combined platforms ($\chi^2 = 4.85$, $p = 0.183$).

5.2.2. Preferred Sources of Tourist Information

Respondents used diverse sources when selecting destinations, with personal networks (18.8%) and personal experience (11.7%) ranking highest. Chi-square tests indicated national differences in preferences, including significant effects for personal networks ($\chi^2 = 9.67$, $p = 0.022$), online reviews ($\chi^2 = 26.43$, $p < 0.001$), and social media ($\chi^2 = 26.86$, $p < 0.001$). Instagram (33.5%) and TikTok (28.0%) were dominant social media tools, with country variations showing for Instagram ($\chi^2 = 10.36$, $p = 0.016$) and Facebook ($\chi^2 = 109.69$, $p < 0.001$).

Technology use also showed variation: offline content ($\chi^2 = 31.77$, $p < 0.001$), social media tools ($\chi^2 = 31.05$, $p < 0.001$), and maps ($\chi^2 = 16.54$, $p = 0.001$) differed significantly. Notably, non-use of any technology differed by country ($\chi^2 = 37.55$, $p < 0.001$).

5.2.3. Transportation Preferences

Air travel was most common overall (39.2%) and predominant in France, the USA, and Portugal, but this was much lower in Romania. Car travel followed (36.3%), particularly in Romania. Trains and buses varied less.

Significant Chi-square results supported differences for air ($\chi^2 = 28.33$, $p < 0.001$), car ($\chi^2 = 31.06$, $p < 0.001$), and train ($\chi^2 = 45.95$, $p < 0.001$) travel. Within-destination transport also showed differences: public transport (19.0%), walking (17.8%), and taxis (15.1%) varied notably. Chi-square results revealed significant effects for taxis ($\chi^2 = 58.44$, $p < 0.001$), walking ($\chi^2 = 51.47$, $p < 0.001$), and owned vehicles ($\chi^2 = 51.59$, $p < 0.001$).

5.2.4. Determinants of Destination Choice

The main travel motivations varied by country: in Portugal, the top reason was sun, sea, and sand (26.6%); in France, it was culture (23.1%); in the USA, visiting family and friends ranked highest (19.5%); and in Romania, nature was the leading motivation (25.3%).

Chi-square tests confirmed significant differences for nearly all categories: sun–sea–sand ($\chi^2 = 125.78$, $p < 0.001$), visiting relatives ($\chi^2 = 42.10$, $p < 0.001$), culture ($\chi^2 = 47.34$, $p < 0.001$), and city visits ($\chi^2 = 26.79$, $p < 0.001$). Influential attractions further supported national variation. Natural environment (37.0%) and cultural heritage (24.7%) were most cited. Chi-square tests confirmed a strong association ($\chi^2 = 149.37$, $p < 0.001$).

5.2.5. Accommodation Preferences

Respondents demonstrated varying preferences. The top choice was commercial accommodation with board (28.0%), especially in Romania and Portugal. Private direct bookings were highest in France (41.3%).

Chi-square results confirmed significant variation for board services ($\chi^2 = 23.12$, $p < 0.001$), private bookings ($\chi^2 = 10.87$, $p = 0.012$), and own homes ($\chi^2 = 12.63$, $p = 0.005$). Staying with friends/relatives (17.0%) was notably higher in the USA (26.2%) ($\chi^2 = 79.59$, $p < 0.001$). Cruises and "other" options also showed differences ($\chi^2 = 15.13$, $p = 0.002$), though with small cell counts.

5.2.6. Dining Preferences During Travel

Dining preferences varied widely. Specialty restaurants (19.8%) were most selected overall, especially in Romania (34.5%). Street food (15.6%) and food markets (14.5%) were more common in the USA and Portugal, while Romania reported the lowest informal food use. Of French respondents, 22.2% prefer specialty restaurant (e.g., Italian, Turkish, Chinese, etc.).

Statistical tests showed significant differences across all categories: dine_spec ($\chi^2 = 76.99$, $p < 0.001$), dine_multi ($\chi^2 = 69.56$, $p < 0.001$), dine_fast ($\chi^2 = 13.69$, $p = 0.003$), and dine_none ($\chi^2 = 24.28$, $p < 0.001$).

5.2.7. Preferred Leisure Activities

Independent leisure activities dominated (22.9%), with the highest rates in Romania and Portugal. Hiking (13.5%) was more common in Romania and France, while spa use (4.4%) and cooking (2.2%) were higher in France.

Chi-square tests revealed significant differences for leisure_indep ($\chi^2 = 35.89$, $p < 0.001$), leisure_hiking ($\chi^2 = 28.72$, $p < 0.001$), leisure_spa ($\chi^2 = 28.09$, $p < 0.001$), and leisure_cooking ($\chi^2 = 22.47$, $p < 0.001$). A notable finding was the proportion of USA respondents reporting no leisure activity (7.3%), significantly different from other countries ($\chi^2 = 49.66$, $p < 0.001$).

5.3. Cluster Analysis

The cluster analysis suggested a four-cluster solution, with a visible jump in linkage distance beyond the fourth node ("elbow criterion"). The dendrogram is presented in Appendix A, Figure A1. Based on the hierarchical result, a K-means cluster analysis was performed using the specified number of clusters (k = 4). The K-means algorithm grouped cases into clusters that minimize within-group variance and maximize between-group variance. Cluster membership based on sustainability-related travel choices regarding transportation accommodation, dining preferences, and leisure activities, but also motivations for travel and technology usage (Appendix A, Table A1), was saved for further analysis. ANOVA tests revealed statistically significant differences across most input variables (Table 1), validating the typological distinctions.

To explore how these clusters align with national contexts, a crosstabulation was conducted between cluster membership and respondents' country. The Pearson Chi-square test showed a statistically significant association between cluster and country (χ^2 (9, N = 413) = 56.12, $p < 0.001$), suggesting that cluster membership is not randomly distributed by nationality.

Below is a profile-based interpretation of each cluster.

- Cluster 1—Tech-Active, Nature-Oriented Minimalists ($n = 64$; 15.5%):

This segment is defined by high environmental awareness and strong digital engagement. All members reported using offline travel websites (tech_offweb = 1), reviews (tech_reviews = 1), social media (tech_social = 1), digital maps (tech_maps = 1), and price comparison tools (tech_price = 1). These variables all showed significant variance across clusters (e.g., tech_maps: F = 29.62, $p < 0.001$; tech_social: F = 12.04, $p < 0.001$).

They were also motivated by nature (mot_nat = 1) and cultural heritage (mot_cul = 1), with both dimensions significantly different across clusters (F = 12.93 and F = 14.05, respectively, both $p < 0.001$).

This group favors low-impact mobility and leisure, with all respondents engaging in hiking (leisure_hiking = 1; F = 34.05, $p < 0.001$), walking (trans_walk = 1; F = 10.02, $p < 0.001$), and public transportation (trans_pub = 1; F = 4.25, $p = 0.006$). Dining choices were similarly sustainable, as 100% street food options used (dine_street = 1; F = 9.14, $p < 0.001$). They also preferred private direct accommodation (accomtype_priv_dir = 1), which, although not statistically significant, aligns with their low-commercial profile.

This cluster represents sustainability-conscious digital travelers who are active, independent, and eco-minded.

Table 1. ANOVA output.

ANOVA						
	Cluster Mean Square	**df**	**Error Mean Square**	**df**	**F**	**Sig.**
trmod_bus	0.561	3	0.120	409	4696	0.003
trmod_train	0.747	3	0.140	409	5343	0.001
trmod_bike	0.022	3	0.010	409	2337	0.073
trmod_hitchhiking	0.001	3	0.002	409	0.386	0.763
mot_nat	2956	3	0.229	409	12,925	0.000
mot_cul	3215	3	0.229	409	14,051	0.000
mot_sport	2164	3	0.113	409	19,156	0.000
impattr	348,401	3	0.238	409	1,463,205	0.000
tech_offweb	0.660	3	0.229	409	2879	0.036
tech_reviews	0.757	3	0.243	409	3117	0.026
tech_apps	0.593	3	0.241	409	2461	0.062
tech_social	2715	3	0.225	409	12,043	0.000
tech_maps	5818	3	0.196	409	29,619	0.000
tech_guides	0.087	3	0.037	409	2353	0.072
tech_vlogs	1519	3	0.184	409	8260	0.000
tech_trans	1553	3	0.124	409	12,508	0.000
tech_price	2887	3	0.163	409	17,731	0.000
tech_budget	0.182	3	0.045	409	4035	0.008
tech_forums	0.484	3	0.077	409	6305	0.000
tech_none	0.383	3	0.030	409	12,641	0.000
accomtype_priv_dir	0.174	3	0.245	409	0.710	0.546
accomtype_rel_friends	1225	3	0.192	409	6388	0.000
accomtype_camp_site	0.021	3	0.053	409	0.392	0.759
dine_street	1938	3	0.212	409	9138	0.000
dine_market	0.199	3	0.216	409	0.919	0.432
dine_store	0.185	3	0.194	409	0.954	0.414
trans_own	0.140	3	0.228	409	0.612	0.608
trans_train	1301	3	0.118	409	11,065	0.000
trans_bike	0.541	3	0.051	409	10,538	0.000
trans_hitch	0.008	3	0.014	409	0.526	0.664
trans_pub	1012	3	0.238	409	4245	0.006
trans_escoot	0.134	3	0.046	409	2934	0.033
trans_walk	2246	3	0.224	409	10,016	0.000
leisure_cooking	0.208	3	0.069	409	3036	0.029
leisure_hiking	6816	3	0.200	409	34,049	0.000
leisure_wine	0.148	3	0.108	409	1365	0.253
leisure_art	0.033	3	0.057	409	0.578	0.629

The F tests should be used only for descriptive purposes because the clusters have been chosen to maximize the differences among cases in different clusters. The observed significance levels are not corrected for this and thus cannot be interpreted as tests of the hypothesis that the cluster means are equal.

- Cluster 2—Moderate Digital Planners (n = 191; 46.2%):

Comprising nearly half of the sample, this segment demonstrates average digital engagement and general travel interest. All respondents used offline websites, review platforms, and social media (tech_offweb, tech_reviews, tech_social = 1), but did not engage with mobile apps or map/navigation tools (tech_maps = 0).

Like Cluster 1, all were motivated by both nature and cultural heritage (mot_nat = mot_cul = 1). However, they lacked strong behavioral signatures: none of the transport, dining, or leisure activity variables had values above 0, and the ANOVA showed no statistically significant differences in those dimensions.

This group reflects mainstream, planning-oriented travelers, who are digitally connected but not particularly committed to sustainable or immersive practices.

- Cluster 3—Disengaged and Indecisive Travelers (n = 65; 15.7%):

This cluster is marked by minimal engagement and high uncertainty. All final cluster centers were zero across transport, motivation, leisure, and tech dimensions—except for impattr, which had the maximum value of 6, corresponding to "Don't know" ($F = 1463.2$, $p < 0.001$).

No other cluster approached this level of indecision, making this group statistically and conceptually distinct. Their behavioral pattern suggests passivity in planning and disconnection from digital tools, motivations, and sustainability practices.

They are best described as uninvolved travelers, with little effort or clarity in trip decision making.

- Cluster 4—Culturally Inclined, Selective Sustainability Seekers (n = 93; 22.5%):

This segment combines high cultural and environmental motivation (mot_nat = mot_cul = 1; both $p < 0.001$) with selective digital engagement. Respondents used offline websites, reviews, and social media (tech_offweb, tech_reviews, tech_social = 1), but notably avoided map tools, apps, and price comparison tools.

Unlike Cluster 1, they did not engage strongly in outdoor or sustainable activities (all transport and leisure values = 0), suggesting a more cognitive than behavioral sustainability orientation. Still, they scored lower on indecision (impattr = 3) than Cluster 3 (impattr = 6).

This group reflects intentional and reflective travelers, who are driven by cultural values and selective in how they use technology to shape their travel choices.

5.4. Cluster Distribution by Country

To assess how the identified clusters were distributed across national contexts, a crosstabulation was conducted between the final cluster solution and respondents' countries of origin (Table 2).

Table 2. Cluster distribution by country.

Cluster Number of Case * Country Crosstabulation							
			Country				Total
			France	Portugal	USA	Romania	
Cluster Number of Case	1	Count	21	9	18	16	64
		Expected Count	14.3	14.4	17.8	17.5	64.0
	2	Count	41	48	43	59	191
		Expected Count	42.5	43.0	53.2	52.3	191.0
	3	Count	4	6	39	16	65
		Expected Count	14.5	14.6	18.1	17.8	65.0
	4	Count	26	30	15	22	93
		Expected Count	20.7	20.9	25.9	25.4	93.0
Total		Count	92	93	115	113	413
		Expected Count	92.0	93.0	115.0	113.0	413.0

As shown in Table 3, Cluster 2 (Moderate Digital Planners) was the most frequent across all countries, particularly dominant among Romanian respondents (30.9%). Cluster 3 (Disengaged and Indecisive Travelers) was strikingly overrepresented in the USA (60.0%), suggesting lower engagement in sustainability-related travel behaviors or planning. In contrast, Cluster 1 (Tech-Active, Nature-Oriented Minimalists) comprises 32.3% of French respondents, reflecting a stronger combination of digital proficiency and environmental

orientation in that market. Conversely, Cluster 4 (Culturally Inclined, Selective Sustainability Seekers) had higher-than-expected frequencies in Portugal and France (over 30%), indicating a stronger alignment with cultural experiences and sustainable practices.

Table 3. Chi-square tests.

Chi-Square Tests			
	Value	**df**	**Asymp. Sig. (2-Sided)**
Pearson Chi-square	56.121 [a]	9	0.000
Likelihood Ratio	54.901	9	0.000
Linear-by-Linear Association	0.149	1	0.700
N of Valid Cases	413		

[a.] 0 cells (0.0%) have expected count less than 5. The minimum expected count is 14.26.

The Chi-square analysis confirms that national background significantly shapes the probability of belonging to different Gen Z traveler segments, underscoring the relevance of both cultural and contextual factors in travel behavior patterns (Table 3). The distribution revealed meaningful differences in the prevalence of each cluster by country (χ^2 (9, N = 413) = 56.12, $p < 0.001$), confirming a significant association between cluster membership and national background.

Adjusted standardized residuals were examined to identify which countries contributed the most to the significant association between cluster membership and nationality. USA respondents were significantly overrepresented in Cluster 3 (Disengaged and Indecisive Travelers; +6.3) and underrepresented in Clusters 2 and 4 (−2.2 and −2.9), indicating a lower engagement with both planning and sustainability. French respondents were more likely to belong to Cluster 1 (Tech-Active, Nature-Oriented Minimalists; +2.2) and less likely to be in Cluster 3 (−3.4), reflecting strong digital and eco-oriented behaviors. Portuguese respondents were overrepresented in Cluster 4 (+2.6) and underrepresented in Cluster 3 (−2.8), suggesting a stronger cultural and sustainability focus. Romanian respondents showed no significant deviations, though a mild tendency toward Cluster 2 (Moderate Digitals Planners; +1.5) was noted. These patterns underscore the role of national context in shaping Gen Z travel behaviors.

6. Discussion

The present study explored the travel preferences and behavioral segmentation of Gen Z across four distinct national contexts, each characterized by unique socio-economic and cultural profiles: France, Portugal, Romania, and the USA. The comparative framework allowed for both validation of cross-generational trends and identification of culturally embedded travel behaviors. The findings confirm several general patterns that are consistent with the findings in the prior literature: Gen Z travelers are digital natives who rely heavily on mobile devices, online booking tools, and social media platforms for travel planning and destination selection. In line with previous studies [1,19], the results underscore the centrality of digital fluency in Gen Z's tourism behavior, particularly the use of platforms such as Instagram and TikTok, which significantly influence travel decisions through peer-generated content and influencer narratives.

Despite these overarching similarities, the results also reveal important cross-cultural variations and internal segmentations within the cohort. The cluster analysis yielded four distinct behavioral types—ranging from "Tech-Active, Nature-Oriented Minimalists" to "Disengaged and Indecisive Travelers"—which highlight the heterogeneity that exists within Gen Z. This segmentation challenges the prevailing assumption that Gen Z can be approached as a uniform market segment. These differentiated profiles reflect the influence

of diverse value systems, digital proficiencies, and resource constraints. The presence of distinct subgroups with divergent motivations, degrees of digital engagement, and sustainability orientations suggests that national cultural contexts and economic constraints play a substantive role in shaping individual travel choices.

Notably, while sustainability emerged as a frequently cited value among respondents, the actual behavior aligned with sustainable travel practices was more prevalent in specific clusters, particularly those from France and Portugal. This gap between values and actions mirrors prior research findings that highlight an "attitude–behavior gap" in sustainable tourism [20,51]. Cluster 4 ("Culturally Inclined, Selective Sustainability Seekers). The high proportion of USA respondents in the "Disengaged and Indecisive" cluster—marked by minimal planning and low digital tool usage—may point to broader variations in how travel is approached and resourced across countries. Rather than attributing this solely to cultural differences, the result likely reflects a complex interplay of institutional support, affordability, and habitual digital literacy. These findings imply that structural and contextual factors such as economic resources, environmental awareness campaigns, and public transportation infrastructure are critical moderators of Gen Z's sustainable travel behavior.

Dining and leisure preferences further reinforced the experiential nature of Gen Z tourism. Respondents demonstrated a preference for street food, local cuisine, and immersive culinary experiences, confirming the role of food as both a cultural encounter and a social activity [38]. Similarly, leisure activities such as hiking, cultural tours, and wellness experiences indicated that Gen Z values both physical activity and cultural engagement, often in pursuit of authenticity and personal growth. These tendencies underline the importance of immersive and emotionally resonant travel offerings for Gen Z audiences. These preferences align with the literature, describing Gen Z as purpose-driven, identity-seeking, and socially connected consumers [2,12].

Overall, the findings suggest that, while Gen Z is broadly characterized by digital dependency and sustainability awareness, these traits manifest in varied and contextually nuanced ways. Understanding these variations is essential for both theoretical modelling and practical strategy development in tourism.

7. Conclusions

Digital transformation, defined as the integration of digital technologies into tourism operations, can both advance sustainability through optimized resource use—for instance, helping to transition from paper-based systems to digital systems through data-driven eco-management—and challenge it by accelerating consumption and over-tourism without proper regulatory safeguards. This study reveals nuanced cross-national insights into Gen Z's travel behavior, highlighting both generational commonalities and context-specific variations. The unique contribution of the study lies in quantifying Gen Z's internal heterogeneity across four national contexts. The summary table (Table 4) encapsulates key findings across behavioral dimensions, illustrating that, while Gen Z broadly exhibits digital literacy, experiential orientation, and value-driven preferences, the cohort cannot be treated as a homogenous market.

By mapping distinct traveler segments and their country-specific distributions, the study delivers actionable, culturally tailored strategies for practitioners and introduces a novel framework for combining digital engagement and sustainability metrics in travel behavior research. This framework employs large-scale cross-national sampling alongside hierarchical cluster segmentation based on sustainable travel indicators; this is an approach that has not previously applied to Gen Z cohorts.

Table 4. Summary of key cross-national findings.

Travel Behavior Dimension	Main Findings
Travel Booking	Gen Z favors digital independence; direct bookings dominate in France; respondents in Portugal show higher agency use.
Tourist Information	Instagram and TikTok are leading sources; platform preferences vary by country.
Transportation Preferences	Respondents in Romania favor car travel; walking and public transport are more common elsewhere, reflecting sustainable trends.
Destination Choice	Natural and cultural motivations are strong; Portuguese respondents prefer beach-focused tourism.
Accommodation Preferences	French respondents prefer private bookings; American respondents often stay with friends/relatives.
Dining Preferences	Informal, local dining (e.g., street food) is popular among respondents in the USA and Portugal; the population in Romania prefers specialty restaurants.
Leisure Activities	Respondents in Romania and France show high engagement in active and cultural activities; USA respondents show more leisure disengagement.

Segmentation analysis revealed four behavioral profiles, each shaped by differing motivations, digital habits, and national contexts. This typology underscores the importance of moving beyond generational generalizations to develop more precise, behaviorally grounded insights.

Practically, these findings inform tailored tourism strategies. Destination marketers should prioritize mobile-optimized content and influence partnerships to connect with Gen Z's visual and peer-influenced decision making. Tourism service providers must design authentic, personalized, and ethically aligned offerings—such as local food tours, sustainable stays, and cultural immersions—that resonate with Gen Z's experiential and value-oriented travel styles.

At the policy level, investment in sustainable infrastructure and youth-oriented programs is essential. National governments should support eco-conscious travel through affordable public transport, green certifications, and low-impact tourism campaigns, ensuring alignment with Gen Z's environmental concerns.

To effectively apply these findings in practice, tourism providers must consider the behavioral diversity within Gen Z. Some tailored recommendations for each segment are outlined here.

For the Tech-Active, Nature-Oriented Minimalists, tourism providers should prioritize eco-certified, low-impact travel options that allow immersion in nature and cultural authenticity. These travelers respond well to digital engagement, so mobile-friendly platforms offering real-time updates, booking tools, and sustainability credentials will enhance their travel experience.

To engage Cluster 2—Moderate Digital Planners—digital content should focus on websites, review platforms, and social media which align with their planning habits. Providing pre-made cultural and nature-based itineraries in downloadable formats can support their interests while minimizing effort. Sustainability can be encouraged subtly by highlighting eco-friendly options within familiar digital tools. While they avoid mobile apps, offering offline maps or itinerary links via email or SMS may ease them into on-the-go tools. Finally, promoting simple, curated experiences with peer reviews can enhance engagement without requiring major behavioral change.

The Disengaged and Indecisive Travelers benefit most from simplicity and ease of use. Tourism providers should offer turnkey travel packages with clear, streamlined booking

processes and minimal decision making. Digital aids such as planning bots and suggestion algorithms can reduce cognitive load. Messaging should make travel easy, relaxing, and socially desirable.

The Culturally Inclined, Selective Sustainability Seekers prefer meaningful cultural experiences combined with comfort. Destination offerings should include workshops, heritage tours, and local culinary experiences, with a soft emphasis on sustainable practices. This group values quality and depth over volume and prefers curated, informative digital content when planning their trips.

8. Limitations

While the study provides valuable insights, several limitations must be acknowledged. The cross-sectional design restricts our ability to observe changes over time or establish causality. The online distribution method may have skewed the sample toward more digitally literate individuals, potentially underrepresenting offline or less-engaged subgroups. Additionally, behavioral self-reporting carries the risk of social desirability bias, and differences in cultural interpretation of survey items may affect cross-national comparability. The cluster typology, although informative, is shaped by selected input variables and may not capture the full complexity of Gen Z's tourism behavior.

9. Future Research Directions

Future studies should explore how Gen Z's tourism behavior evolves longitudinally, particularly as younger cohort members enter adulthood and increase their purchasing power. Qualitative and ethnographic research can illuminate the emotional and symbolic aspects of travel decisions that are not fully captured in quantitative surveys. Expansion to countries in the Global South and Asia–Pacific will enrich understanding of how digital access and cultural diversity shape Gen Z travel practices.

Also, future research should deepen the exploration of structural variables such as income inequality, access to public transportation, digital infrastructure, and national sustainability policies, and identify how these influence Gen Z travel behavior. Additionally, there is a need to refine the interpretation of national differences by avoiding reductive characterizations and instead grounding comparisons in socio-economic, cultural, and policy contexts. Cross-disciplinary approaches that integrate tourism studies with sociology, media studies, and political economy could enhance the robustness of such analyses.

Comparative studies with other generations (e.g., Millennials, Gen Alpha) clarify what behaviors are distinctly generational versus those reflecting broader technological or societal trends. Follow-up research might also test hypotheses around the sustainability "attitude–behavior gap", or examine how digital platforms influence travel planning across different cultural contexts.

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Conflicts of Interest: The authors declare no conflicts of interest.

Appendix A

Table A1. Final cluster centers.

	Cluster			
	1	**2**	**3**	**4**
trmod_bus	0	0	0	0
trmod_train	0	0	0	0
trmod_bike	0	0	0	0
trmod_hitchhiking	0	0	0	0
mot_nat	1	1	0	1
mot_cul	1	1	0	1
mot_sport	0	0	0	0
impattr	1	1	6	3
tech_offweb	1	1	0	1
tech_reviews	1	1	0	1
tech_apps	1	0	0	0
tech_social	1	1	0	1
tech_maps	1	0	0	0
tech_guides	0	0	0	0
tech_vlogs	0	0	0	0
tech_trans	0	0	0	0
tech_price	1	0	0	0
tech_budget	0	0	0	0
tech_forums	0	0	0	0
tech_none	0	0	0	0
accomtype_priv_dir	1	0	0	0
accomtype_rel_friends	0	0	0	0
accomtype_camp_site	0	0	0	0
dine_street	1	0	0	0
dine_market	0	0	0	0
dine_store	0	0	0	0
trans_own	0	0	0	0
trans_train	0	0	0	0
trans_bike	0	0	0	0
trans_hitch	0	0	0	0
trans_pub	1	0	0	0
trans_escoot	0	0	0	0
trans_walk	1	0	0	0
leisure_cooking	0	0	0	0
leisure_hiking	1	0	0	0
leisure_wine	0	0	0	0
leisure_art	0	0	0	0

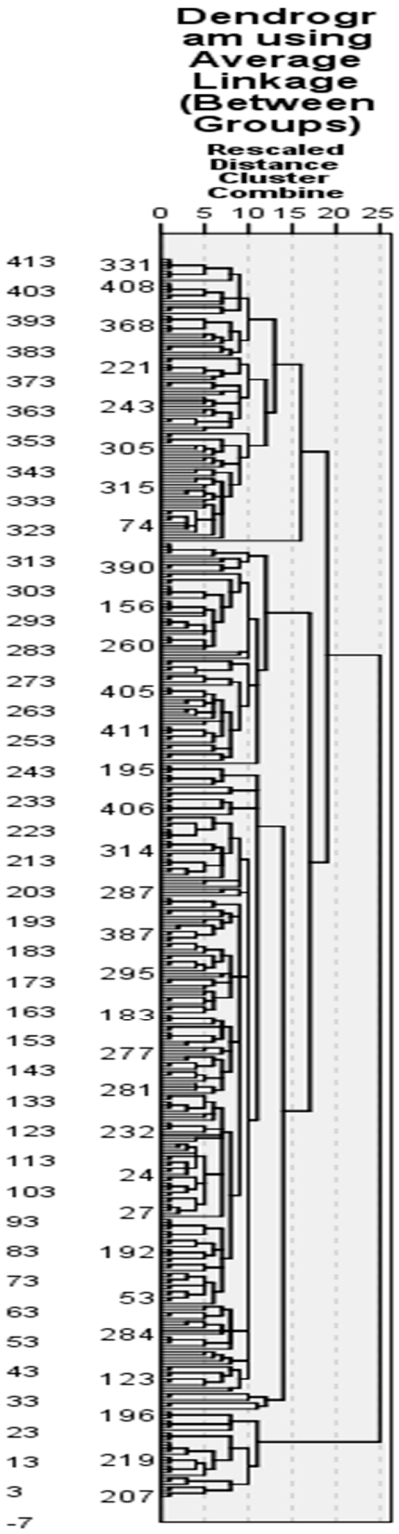

Figure A1. Hierarchical clustering dendogram.

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