Research on Travel Preferences of College Students Based on Conjoint Analysis

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Abstract. The college student travel market, as a potential and significant tourism sector, holds promising prospects for development. This study employs conjoint analysis combined with questionnaire surveys to comprehensively analyze various influencing factors in college students' travel decision-making. Through quantitative assessment, we not only determine the relative importance of each influencing factor but also gain in-depth insights into college students' preferences for different combinations of these factors. This data provides robust guidance for tourism enterprises, aiding them in developing targeted travel products, formulating effective marketing strategies, and better meeting the needs of college students.

Keywords: Conjoint analysis; attribute; attribute levels; travel preferences.

1. Introduction

With the improvement of living standards and enhanced transportation accessibility, tourism has become an increasingly favored leisure and recreational activity among college students. According to the latest data released by the National Bureau of Statistics, the total number of college students in China reached 34.961 million as of 2021 [1], ranking first in the world. Moreover, a substantial majority of these students harbor a strong desire for travel, underscoring the enormous potential of the college student tourism market [2]. The expanding scale of the college student tourism market can be anticipated. Therefore, gaining timely insights into the travel preferences of the college student demographic can provide vital market information for tourism enterprises. This information can aid them in better catering to the needs of their target consumer group and effectively introducing popular travel products and services.

The influencing factors of college student tourism encompass aspects such as travel destinations, travel distance, accommodation choices, and modes of travel. The concept of college student travel preferences in this study refers to their preferences regarding the influencing factors of travel decisions. For instance, preferences for certain types of travel destinations or whether they prefer solo or group travel.

Currently, research on the influencing factors of college student tourism primarily employs statistical methods like descriptive analysis, factor analysis, and one-way ANOVA. However, these methods often fail to provide insights into the relative importance of each influencing factor. Conjoint analysis, on the other hand, offers a convenient way to achieve this and also reveal consumers' preferences for different combinations of influencing factors, offering practical suggestions distinct from other approaches to tourism enterprises. However, there is only one existing study that employs conjoint analysis to investigate the influencing factors of college student tourism, and it focuses on a specific scenic area [3]. In contrast, my paper opts to use conjoint analysis in combination with a questionnaire survey to explore college student travel preferences. Moreover, it doesn't center on a single attraction but categorizes it into different types of travel destinations (e.g., natural landscapes, cultural and historical sites). This study also takes into account other tourism influencing factors such as travel distance and accommodation choices, which distinguishes it from existing research. This approach offers a new perspective for the application of conjoint analysis.
2. Research Design

2.1 Attributes Selection

When conducting a study on the travel preferences of college students using conjoint analysis, the first step involves determining the various influencing factors of travel decision-making (referred to as attributes in conjoint analysis) and their respective levels (referred to as attribute levels). Subsequently, different combinations of these attribute levels are formed (referred to as product profiles, which represent travel preferences in my study). Through questionnaires, the extent of college students' preference for these product profiles is collected, and ultimately, through calculations, the relative importance of each influencing factor (attribute) is determined, along with the most favored combinations of attribute levels.

Drawing from the research of domestic scholars, the main influencing factors of college student travel include aspects such as willingness to travel, methods of obtaining travel information, travel destination, mode of transportation, accommodation choice, travel budget, travel distance, travel timing, transportation conditions, and site safety [2, 4, 6-11]. To facilitate questionnaire completion and analysis, my study follows the principles of conciseness, highlighting significant factors, and meeting research requirements to make decisions regarding the aforementioned influencing factors.

Considering that my research is centered on a demographic with both the "willingness to travel" and economic capacity, as a consequence, my research omits aspects like "willingness to travel" and the "travel budget" from the mentioned influencing factors. In fact, the notion of "travel budget" could be encompassed within the category of "travel distance" within this study. Moreover, given the prevalence of modern digital platforms like "Douyin," short videos, and "Xiaohongshu," the internet has become the primary means for college students to access travel-related information. Additionally, recommendations from classmates and friends also play a significant role, ranking second [7, 10]. As a result, my research excludes factors related to "methods of obtaining travel information".

Furthermore, research indicates that due to college students having relatively more leisure time, and in order to avoid price hikes and overcrowding during peak travel periods such as "May Day" and "National Day," they often opt to travel during winter and summer vacations as well as during shorter breaks like Qingming Festival, Dragon Boat Festival, and Mid-Autumn Festival. Consequently, my research considers that the factor of "travel timing" has minimal impact on college students' travel decisions and therefore excludes it [2].

Finally, my research is based on the prerequisites of convenient transportation and site safety for travel. As a result, the factors of "transportation conditions" and "site safety" are excluded. Therefore, this paper ultimately retains four influencing factors (attributes): travel destination, travel distance, accommodation choice, and mode of travel.

2.2 Determination of Attribute Levels

For the determined four attributes, it is necessary to establish attribute levels, which involve categorizing each attribute into its respective types. Firstly, concerning the categorization of the "travel destination" attribute, based on the present study's investigation and analysis, the "travel destination" attribute is categorized into three types: natural scenery, cultural and historical, and bustling urban areas. Thus, the "travel destination" attribute is defined with three attribute levels.

Furthermore, regarding the "travel distance" attribute, some studies suggest that medium to short travel distances are preferred by college students, with 52.5% of them opting for such distances, followed by long-distance travel. This categorization is adopted in my study, resulting in the division of the "distance" attribute into two levels: "medium-short distance" and "long distance."

Thirdly, regarding the attribute "accommodation choice," drawing from the aforementioned research, my study divides the levels of accommodation choice into three categories: "homestays," "youth hostels," and "small and medium-sized inns/chain hotels."
Lastly, in terms of the attribute "mode of travel," the categorization of attribute levels has been informed by various research findings. Some studies indicate the distribution of travel modes as follows: traveling with classmates constitutes 46%, school or class-organized trips account for 19%, family trips encompass 15%, individual travel represents 12%, and participation in organized tours by travel agencies amounts to only 8% [8]. Consequently, given the limited proportion of university students selecting organized tours by travel agencies, my research does not consider this mode. Instead, the attribute "mode of travel" is divided into two levels: "individual travel" and "group travel." The latter encompasses traveling with classmates or friends, school/class-organized trips, and family trips.

### 2.3 Orthogonal Design

Based on the aforementioned attribute level divisions, a total of $3 \times 2 \times 3 \times 2 = 36$ combinations can be formed. In this study, the Orthogonal Design module of the SPSS software was used to screen and select 9 representative combinations. The output results are presented in Table 1, representing 9 distinct travel preferences.

<table>
<thead>
<tr>
<th>Combination</th>
<th>Travel destination</th>
<th>Travel distance</th>
<th>Accommodation choice</th>
<th>Mode of travel</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>bustling urban areas</td>
<td>long distance</td>
<td>homestays</td>
<td>group travel</td>
</tr>
<tr>
<td>2</td>
<td>cultural and historical</td>
<td>medium-short distance</td>
<td>youth hostels</td>
<td>group travel</td>
</tr>
<tr>
<td>3</td>
<td>natural scenery</td>
<td>long distance</td>
<td>youth hostels</td>
<td>individual travel</td>
</tr>
<tr>
<td>4</td>
<td>natural scenery</td>
<td>medium-short distance</td>
<td>small and medium-sized</td>
<td>group travel</td>
</tr>
<tr>
<td>5</td>
<td>cultural and historical</td>
<td>long distance</td>
<td>small and medium-sized</td>
<td>individual travel</td>
</tr>
<tr>
<td>6</td>
<td>bustling urban areas</td>
<td>medium-short distance</td>
<td>youth hostels</td>
<td>individual travel</td>
</tr>
<tr>
<td>7</td>
<td>natural scenery</td>
<td>medium-short distance</td>
<td>homestays</td>
<td>individual travel</td>
</tr>
<tr>
<td>8</td>
<td>cultural and historical</td>
<td>medium-short distance</td>
<td>homestays</td>
<td>individual travel</td>
</tr>
<tr>
<td>9</td>
<td>bustling urban areas</td>
<td>medium-short distance</td>
<td>small and medium-sized inns/chain hotels</td>
<td>individual travel</td>
</tr>
</tbody>
</table>

### 2.4 Questionnaire Design and Data Source

Based on the orthogonal design, a Likert 7-point scale questionnaire was designed for the 9 generated combinations (travel preferences). The survey primarily targeted college students, including both vocational college students and undergraduate students, excluding other demographic groups.

The survey was administered through QuestionStar, and a total of 119 questionnaires were collected, all of which were deemed valid, resulting in a response rate of 100%. Among the respondents, 61 were male (51%), and 58 were female (49%), with a relatively balanced gender distribution. In terms of academic year, the distribution was approximately 16.13% for freshmen, 24.63% for sophomores, 36.39% for juniors, and 22.85% for seniors. The respondents hailed from
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16 different provinces and directly-administered municipalities across China, indicating a representative sample that aligns with the research objectives.

3. Data Analysis and Results

3.1 Correlation Analysis

The collected questionnaires were subjected to data analysis using the SPSS software. The computed Pearson correlation coefficient was 0.990 with a two-tailed significance level of 0.000, while the Kendall correlation coefficient was 0.889 with a two-tailed significance level of 0.000. These results indicate a high overall fit of the conjoint analysis model, signifying its strong reliability for analyzing college students' travel preferences.

3.2 Analysis of Relative Importance of Attributes

By utilizing the SPSS software, calculations were conducted to obtain the relative importance of each attribute as well as the utility values of each attribute level. These values reflect college students' travel preferences for each attribute and their varying preferences for different attribute levels. The results are presented in Table 2.

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Level</th>
<th>Utility Values</th>
<th>Importance Values (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Travel destination</td>
<td>natural scenery</td>
<td>0.331</td>
<td>32.975</td>
</tr>
<tr>
<td></td>
<td>cultural and historical</td>
<td>-0.358</td>
<td></td>
</tr>
<tr>
<td></td>
<td>bustling urban areas</td>
<td>0.026</td>
<td></td>
</tr>
<tr>
<td>Travel distance</td>
<td>long distance</td>
<td>-0.066</td>
<td>17.054</td>
</tr>
<tr>
<td></td>
<td>medium-short distance</td>
<td>0.066</td>
<td></td>
</tr>
<tr>
<td>Accommodation choice</td>
<td>homestays</td>
<td>0.177</td>
<td>26.878</td>
</tr>
<tr>
<td></td>
<td>youth hostels</td>
<td>-0.178</td>
<td></td>
</tr>
<tr>
<td></td>
<td>small and medium-sized inns/chain hotels</td>
<td>0.001</td>
<td></td>
</tr>
<tr>
<td>Mode of travel</td>
<td>individual travel</td>
<td>-0.341</td>
<td>23.092</td>
</tr>
<tr>
<td></td>
<td>group travel</td>
<td>0.341</td>
<td></td>
</tr>
</tbody>
</table>

In terms of attribute importance, college students prioritize "travel destination choice" with a relative importance of 32.9757%. They also value "accommodation choice" and "mode of travel" highly, with relative importance values of 26.878% and 23.092%, respectively. "Travel distance" has a relative importance of 17.054%. Following are the analysis of the calculated results:

(a) The attribute "travel destination" holds the highest importance, several factors may explain this result: for college students, the selection of a travel destination directly influences their travel experience and goal attainment. Different destinations represent distinct travel experiences, such as natural scenery, cultural history, or vibrant urban settings, and these factors may closely align with the individual interests and needs of college students, like enjoying natural beauty or seeking relaxation. Hence, the choice of travel destination is deemed a critical consideration for them.
(b) "Accommodation choice" emerges as the second most influential factor in college students' travel preferences. This could be due to accommodations significantly affecting trip comfort and safety. This also illustrates that the consumption mindset of contemporary college students is distinctly different from that of the traditional parental generation, placing greater emphasis on the quality of life during travel activities [12].

(c) "Mode of travel" ranks third among college students' travel preferences. This choice closely relates to the travel experience and selected destination. Individual travel and group travel may offer different conveniences and experiences in various situations. Therefore, college students take into account their personal preferences and practical considerations when making decisions.

(d) "Travel distance" has the lowest importance in college students' travel preferences. This might be due to the convenience of modern transportation, as the distance to the destination may not pose a significant obstacle for college students. Instead, they focus more on the attractions and experiences offered by the destination itself.

3.3 The Utility Values of Each Attribute Level

For attribute levels, the most favored attribute combination among college students includes: natural scenery, medium-short distance, homestay, and group travel.

(a) "Natural scenery" is the most preferred within the "travel destination" attribute, this suggests that college students tend to be more attracted to natural scenery and environments. Scenic natural landscapes typically include beautiful mountains, lakes, oceans, rivers, forests, and various nature reserves. These landscapes may represent unique experiences and a sense of relaxation. They might seek to escape from busy academic and daily life to embrace the beauty and purity of nature.

(b) "Medium-short distance" is the most preferred within the "travel distance" attribute, this indicates that college students tend to prefer travel destinations that are within a moderate distance and can be covered within a medium-short duration. Firstly, college students might have limited time due to their academic commitments and other responsibilities. Additionally, shorter trips might be more feasible in terms of budget and convenience, as they may require less planning and expenditure.

(c) "Homestay" rank is the most preferred within the "accommodation choice" attribute. Homestays are typically provided by local residents and offer a more intimate, warm, and personalized experience. This type of accommodation allows college students to immerse themselves in the local culture and customs, making their travel experience more enriching and unique.

(d) "Group travel" is the most preferred within the "Mode of travel" attribute, this indicates that college students prefer choosing to travel with others. Firstly, traveling with companions enhances the social and interactive aspects of the trip, making the travel experience more enjoyable and fulfilling, strengthening their relationships. Secondly, traveling with companions can also help share the expenses and responsibilities of the trip, while enhancing the safety of tourism.

4. Implications for Tourism Enterprises

According to the research findings, the preferred attribute level combination for college students' travel is natural scenic destination, medium-short travel distance, homestay accommodation, and group travel. This holds significant implications for the marketing strategies of tourism enterprises.

4.1 Promote local natural scenery vigorously

The tourism industry can highlight the unique landscapes, natural environments, and outdoor activities of natural scenic destinations, emphasizing the beauty of nature and immersive experiences to attract nature enthusiasts. Additionally, strategies like discounted tickets, flexible app refund policies, and sharing experiences through apps can be employed to attract college student travelers, while also enhancing the visibility and reputation of the attractions.
4.2 Concentrate on promoting "medium-short distance" travel

Emphasizing the convenience, flexibility, and enriching experiences of "medium-short distance" trips in promotional campaigns will attract more travelers to opt for such travel options. Furthermore, centered around tourist attractions, establish a radius for short-to-medium distance travel and highlight universities within this radius as focal points for promotion.

4.3 Highlight the advantages of homestays to increase their attractiveness

As "homestay" received the highest score in college students' accommodation choices, the tourism industry can enhance the promotion of homestays, emphasizing their uniqueness, personalized services, and family-like atmosphere. Emphasizing interaction with local residents and cultural experiences will attract more college students to choose homestays as their preferred lodging option.

4.4 Promote the benefits of traveling in groups and offer corresponding discount policies

Highlighting the significance of "group travel", the enjoyment and social aspects can enhance the attractiveness of the tourism offerings. In addition, tourism enterprises can introduce travel packages suitable for companions, such as friend groups or family tours, and offer discounts and incentives to encourage more travelers to opt for group travel options.

References