Estimating the Willingness to Pay for Safety of Camping Participants using A Double Bounded Dichotomous Choice Contingent Valuation Method

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Abstract
Recently, camping has become a public interest in South Korea. Many camping-related media contents are now broadcasting on TV. Consequently, not only campsites near the city are full of people over the weekend, but also CAMPNIC (camping + picnic), which enjoys camping during the nighttime in town, is popular form of leisure behaviors during the week. The rapid growth in campers causes huge side effects: destroying the local environment, fire accidents, creating traffic jams, etc. Among them, safety issues for camping sites such as enhancing protection fence and using non-flammable materials are considered to be very important. However, these solutions lead to an increase in campsite fees. Therefore, there is a need for research on whether camping participants think that investment in safety is necessary in campsite.

With this practical importance, the purpose of this study to understand campers’ opinion on ‘Safe-camping’ and to estimate the willingness to pay for safety of camping participants by using a double bounded dichotomous choice (DB-DC) contingent valuation method (CVM). CVM is a method to estimate the economic value of a service through the concept of willingness to pay based on a hypothetical situation. In this method, survey respondents are asked to indicate whether or not they are willing to pay (WTP) a certain price that theoretically connects to the perceived value of a proposed situation. Thus, the survey respondents in this study were asked to answer whether or not they are willing to participate in ‘Safe-camping’ even if they have to pay more than they currently spent.

An on-site survey was conducted of camping participants on Jara-island, Gyeonggi Province (the local government) in 16th to 18th and 23rd to 25th, October, 2015. Gyeonggi Province is an appropriate study context in South Korea in that there are a number of campsites within the area. 786 responses were collected and used in this study. To answer research questions, this study used descriptive analysis with SPSS statistics and conducted double bounded dichotomous choice contingent valuation method using R. To examine WTP of ‘Safe-camping’, this study considered 1st bid amount, 2nd bid amount, safety beliefs, demographic variables (number of companions, gender, age, income, job and residence), camping frequency, expense at the region of camping site, expense at out of the region of camping site and re-visit intention as independent variables.

First, descriptive statistics analysis was conducted to understand characteristics of respondents. The proportion of male (69.7%) was higher than that of female (30.3%). Respondents between the ages of 31 and 50 years represented the majority, accounting for...
almost 96.4% of the total respondents. Approximately 97.4% of respondents were come with companions and most of them were with their families (83.0%). These results seem to be representative as camping is popular for family-oriented leisure activities. In terms of camping frequency, slightly most of respondents (79.4%) had camping experience more than 10 times. The most frequency monthly income level was between 3 million KRW and 4.99 million KRW (51.7%), followed by over 7 million KRW (7.5%) and between 5 million KRW and 7.99 million KRW (21.2%). Approximately one-thirds (32.7%) of respondents are working as general office jobs. Lastly, 53.6% of respondents lived in Gyeonggi Province and 25.6% was from Seoul.

Second, DB-DC CVM was conducted to analyze the relationship between possible influencing factors (e.g., demographics, camping experiences) and WTP and to estimate willingness for ‘Safe-camping’. The results indicated that job, gender, income, residence, re-visit intention and bid amounts are important variables in explaining the WTP for ‘Safe-camping’. The coefficient of bid amount was negative, which correspond with the basic assumption of CVM. The WTP of each variable was calculated based on the coefficients of bid amount and each variable. The WTP per 1 person (Adjusted Truncated Mean) was estimated to be 36,261 KRW (USD 32). Most of dummy variables for camping frequency showed negative coefficients; however, gender (male), income (KRW 5 million – 6.99 million) and re-visit intention showed positive. This means that men who has the higher income level and re-visit intention for ‘Safe-camping’, WTP would be increased proportionally. As a result, the willingness to pay for ‘Safe-camping’ per 1 person was approximately KRW 36,261 (approx. USD 32). Taking into account the total number of camping teams (550, the number of participants was approximately 2,000), the overall value of ‘Safe-camping’ was KRW 72,522,000 (approx. USD 64,000). Additional analyses revealed that the willingness to pay for ‘Safe-camping’ is much higher than the money that campers spent for ‘camping’ at this moment (KRW 30,000 per team, KRW 16,500,000 total).

The results of this study provides several implications. First, re-visit intention was lower for camping even camping experiences were higher, there was no difference in WTP for ‘Safe-camping’. Second, married respondents indicated a higher willingness for ‘Safe-camping’. Thus, camp site providers need to design a safe program and build diverse safety-support facilities for family camping participants. Lastly, this study attempted to find camping participants’ desire for ‘Safe-camping’ and estimate amount of WTP for ‘Safe-camping’. This result would be beneficial for both camp site providers and campers in ways to create more economic value as well as provide safer camping opportunities.

Key Words: Safe Camping, Contingent valuation method, Willingness to pay