

ORIGINAL RESEARCH

Effect of restorative experience in reducing the risk perception of COVID-19 infection: Korean male campers' well-being and willingness to pay a premium for camping

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Abstract

During the Coronavirus disease 2019 (COVID-19) pandemic, South Korean men exhibited greater affective risk perceptions than women, displaying anxiety and fear of COVID-19 infection as well as emotional distress. Such negative psychological states can be reduced through exposure to natural environments. Natural settings often provide restorative environments promoting individual mental health, psychological stability, and well-being. Therefore, this study aims to examine the roles of restorativeness as perceived by men in mitigating the affective risk perception of COVID-19, improving well-being, and increasing the willingness to pay a premium to camp in the context of nature-based camping. An online survey was conducted with South Korean men who experienced camping during the COVID-19 pandemic. A total of 208 responses were used for data analysis. The results of structural equation modeling indicated significant relationships between affective risk perception and perceived restorativeness, perceived restorativeness and well-being, and well-being and willingness-to-pay-a-premium. The mediating effect of well-being was also significant. The findings of a multi-group analysis indicated a significant moderating effect of having children on the relationship between perceived restorativeness and well-being, but not on the relationship between well-being and willingness-to-pay-a-premium. The results of this study provide enhanced insight into restorative experiences in nature as a coping mechanism for increased affective risks as perceived by men during the pandemic. In particular, this study examined the psychological benefits of a natural environment in the context of camping and empirically identified the role of camping in promoting a feeling of restorativeness and inducing men's well-being perception by easing negative emotions. This study also provides practitioners with an understanding of changes in men's perceptions and emotional and behavioral responses through positive restorative experiences.

Keywords

COVID-19; Affective risk perception; Perceived restorativeness; Well-being; Willingness-to-pay-a-premium; Camping; South Korean men

1. Introduction

The prolonged crisis of the COVID-19 pandemic has had adverse effects on every aspect of people's lives. To prevent a massive increase in the spread of COVID-19, the South Korean government implemented precautionary measures, such as social distancing [1, 2]. In addition, as individuals' risk perceptions increased, they engaged in voluntary de-crowding behaviors such as reducing their social activities and avoiding highly crowded places [3, 4]. Although stringent measures were implemented to prevent the spread of the virus, the resulting structural changes in society simultaneously increased

people's fear and anxiety about infection [5]. Pandemic containment efforts have caused people to spend more time in places that are limited in the number of people and engage in less socialization, resulting in negative emotional and affective changes such as feelings of isolation, distance, and confusion [6, 7]. In particular, the prevalence of negative emotions related to COVID-19 among people living in urban environments leads to a deterioration of health and quality of life [8].

In South Korea, the new term Corona Blue was coined to indicate feelings of depression and loneliness caused by increased concerns and anxiety about the risk of COVID-19 infection [4]. The Korea Health Promotion Institute reported

that 40.7% of South Koreans experienced Corona Blue due to social isolation and health concerns in 2020, and the percentage increased in 2021 even as social distancing measures were lifted [9, 10]. Moreover, it seems that Corona Blue has a more severe effect on men than women. According to research conducted by the Ministry of Health and Welfare of South Korea [11], suicidal ideation caused by Corona Blue among men increased from 10.1% in 2020 to 17.4% in 2021 and among women from 9.2% in 2020 to 15.1% in 2021, or approximately 7.3 and 5.9 percentage points, respectively. Similarly, Czeisler *et al.* [12] have confirmed that suicidal ideation as an outcome of trauma- and stressor-related disorder related to COVID-19 was more prevalent among American male adults than American female adults in June 2020. Gottert *et al.* [13] also asserted that in 2021, about 37% of men across countries reported feelings of depression, and 34% did feelings of anxiety during the pandemic.

On the other hand, no conclusive evidence has been found so far for gender differences in the impact of COVID-19 in academic literature; previous studies confirm no gender difference [14, 15] and a more substantial psychological effect of COVID-19 on women than on men [16, 17]. Nevertheless, some research (*e.g.*, [18]) shows a higher probability of developing severe COVID-19 in men than women. Notably, it is suggested that not only are men at a high risk of contracting severe COVID-19, but they are also vulnerable to emotional distress because they often hide feelings of depression and anxiety and do not express them publicly [7, 19]. Together, these findings suggest that the psychological well-being of South Korean men during the COVID-19 pandemic should be prioritized; moreover, we must empirically clarify the adverse effect of COVID-19 on men and identify ways of improving their depleted mental health.

Leisure and outdoor recreational activities promote mental stability by lowering people's levels of depression and helping them maintain a positive psychological state [1, 7]. Nature-based travel allows people to enjoy a natural environment [20], particularly when socially isolated owing to the heightened risk of COVID-19 infection [1, 21]. Indeed, camping is the leisure activity that has been the least affected by the pandemic, and it is the preferred travel option for leisure travelers seeking to avoid risk and increase their safety [2, 22]. The growing popularity of camping among leisure travelers during the pandemic [23, 24] may be linked to the positive psychological effects of natural environments. According to Attention Restorative Theory (ART), restoration experiences in nature allow people to restore their attentional capacities by reducing directed attention fatigue accumulated from their daily lives [25, 26]. The psychological benefits of exposure to the natural environment include not only restoration of attention but also improvement of mental health [27–29]. Prior studies have confirmed that nature as a restorative environment reduces negative emotions and affective states such as fear and anxiety regarding risks, stress, and depression, and facilitates positive emotions, thereby promoting an individual's quality of life and happiness [30–32].

Therefore, this study aimed to investigate the vital roles of nature-based camping in mitigating men's affective risk perception during the COVID-19 pandemic and enhancing

well-being perception and positive attitudes/behaviors toward camping. The results of this study provide enhanced knowledge of restorative experiences in nature as a coping mechanism for increased affective risks as perceived by men during the prolonged COVID-19 pandemic. In particular, this study examined the psychological benefits that a natural environment provides male campers and empirically identified the effectiveness of nature-based camping in inducing men's well-being by reducing their negative emotions and increasing a feeling of restorativeness. This study also provides practitioners with an understanding of the changes in men's perceptions and emotional and behavioral responses to positive restorative experiences, thereby offering insights into the development of proper countermeasures for a possible new wave of COVID-19 and the emergence of new infectious diseases.

1.1 Affective risk perception

Risk refers to an undesirable event that may or may not occur [33], involving two attributes: the probability of an event happening and the negative consequences that it will cause (*i.e.*, severity) [34]. Such technical notion of risk distinguishes risk (known risk) from uncertainty (unknown risk); from this viewpoint, risk is generally understood as known risk, indicating that the chance (probability) of an unwanted event happening is known and measurable [33, 35, 36].

Distinct from such objective risk, risk perception represents “intuitive risk judgments” (p. 280) [37] or one's subjective assessment of the likelihood of a risk occurring [38]. An individual's risk perception is their feeling or belief that an action will put them in a dangerous situation and cause them a potential loss [39, 40]. It was suggested that there are broadly two different ways people perceive risks: “experiential system” (*i.e.*, emotion and affect) and “analytic system” (*i.e.*, analytic reasoning) (p. 313) [41]. People generally perceive risk with two fundamental modes of thinking: risk-as-feelings and risk-as-analysis [42]. Whereas risk-as-feelings describes risk perception as an individual's instinctive and intuitive reactions to danger based on experience, images, and associations, risk-as-analysis reflects analytical and deliberate thinking about risks [41]. Similarly, two dimensions of risk perception suggest how individuals respond to risk: cognitive and affective [2, 43, 44]. The cognitive dimension is an individual's perceived susceptibility and severity of risk based on the available information, whereas the affective dimension indicates one's adverse affective reactions to exposure to risk, such as anxiety, dread, worry, and concerns [45–47]. Loewenstein *et al.* [48] suggested a risk-as-feeling hypothesis, asserting that, in some dreaded, risky, and uncertain situations, feelings (affective risk perception) can exert direct and indirect influences through cognitive evaluation of risks on one's behavioral responses to risky situations. For example, whereas a cognitive risk perception may not always be related to an affective risk perception such as worry, worry can signal a cognitive risk perception, thereby inducing intentions and behaviors [46]. Apart from these bidimensional model of risk perception, multidimensional concepts of risk perception are also suggested by Ferrer *et al.* [49] (deliberative, affective, and experiential risk perceptions) and by Wilson *et al.* [50]

(affective, probabilistic, and consequential dimensions of risk perception).

The threats of an infectious disease outbreak naturally evoke concerns and fears about possible infections [8]. Affective risk perceptions, individuals' experience-based responses to risk, precede a cognitive assessment of risk [41] and play a critical role when uncertainties, anxiety, and fear are heightened owing to the continuous occurrence of a new disease and its variants [43]. Loewenstein *et al.* [48] indeed asserted that some determinants, such as the temporal proximity of the risk, the vividness of mentally-represented future outcomes, and public panics are only effective in generating emotional reactions (*e.g.*, fear) but not or minimally involved in cognitive evaluations of risks. The prominence of affective risk perceptions during an infectious disease outbreak is evident in the study by Bae *et al.* [2], who examined the risk perceptions of travelers during the COVID-19 pandemic. The authors found that travelers' favorable attitudes toward untact (*i.e.*, contactless) tourism during the pandemic are rather facilitated by affective risk perception (*e.g.*, worry about contracting COVID-19).

Unlike objective risk, perceived risk individuals deem to be beyond an acceptable level influences their subsequent attitude and behavior [51]. Since individuals innately pursue safety, their high-risk perception leads to risk-aversion or protective behaviors to minimize or eliminate potential damage or uncertainty [32, 45]. For example, consumers change their consumption behaviors to reduce risk to an acceptable level by searching for further information before making a purchase, delaying a purchase, and purchasing a well-known brand [45]. Purchasing leisure or tourism products is inherently susceptible to risks [52]; therefore, travelers' risk perceptions play a crucial role in their travel decision-making and behavior [3, 21, 40, 53, 54]. If a tourist has a high-risk perception in the tourism decision-making process, they may forgo traveling or choose alternative travel options. For example, outbreaks of infectious diseases such as Severe Acute Respiratory Syndrome (SARS), bird flu, and H5N1 were found to severely affect tourists' travel intentions by boosting their health-related risk perceptions [38, 51, 55]. Rittichainuwat *et al.* [51] found that infectious diseases (*e.g.*, SARS and bird flu) and the perceived risk of terrorism led potential travelers to Thailand to select less risky alternative destinations rather than forego their trip. Zhu *et al.* [56]'s study shows that Chinese travelers consider rural tourism a safer travel option during the COVID-19 pandemic owing to its short travel time and low flow density.

1.2 Perceived restorativeness

"Mental fatigue is a fact of life in a world overflowing with information. (p. 258)" [27].

Restoration, particularly at a psychological level, refers to the process by which individuals renew their psychological capabilities "to replenish cognitive resources depleted by everyday activities and to reduce stress levels (p. 1)" [57]. In contemporary environments, individuals are intensively required to engage in volitional concentration (*i.e.*, directed attention) on certain information or stimuli perceived as important [58]. Directed attention necessitates a voluntary and effortful control

of attention by ignoring distractions and impulses [27, 59]. Prolonged and intense directed attention is a threat to mental health; it depletes one's attentional capacity, resulting in increased directed attention fatigue, which causes negative emotions, stress, and depression [27, 58]. To reduce directed attention fatigue and its negative impacts on mental health, exposure to a restorative environment is crucial, where the use of voluntary attention is unnecessary, and the environment facilitates restoration of the directed attention capability [26]. According to ART [25], natural settings have the restorative potential to help restore depleted emotional and functional resources and capabilities. Prior studies also suggest that natural environments create health-promoting effects and provide physical and psychological benefits [28, 29, 60, 61]. Exposure to the natural environment allows a fatigued individual to experience physical and psychological recovery through reduced depression and stress levels and enhanced senses of relaxation and calm [31, 62]. Nature-based tourism and leisure activities can have similar psychological benefits, given that the primary motivations for these activities are to escape from everyday life and seek relaxation [63]. Therefore, outdoor recreation activities in natural settings have greater mental-health-promotion effects than those in urban environments for stress relief and decreased anxiety and negative affect [28, 30, 62].

Owing to the extremely high infection and mortality rates of COVID-19, people tend to fear contracting the disease and prefer less crowded outdoor spaces rather than indoor ones [1, 8]. Knowing an individual's risk perception is essential for predicting their preventive health behavior in the context of tourism [2], accounting for destination crowding is particularly vital in leisure decision-making during the pandemic. In this regard, camping may gain an advantage over other leisure activities as it is a nature-based outdoor activity that entails a relatively low level of physical contact with others. Unlike consumptive leisure activities (*e.g.*, hunting and fishing), appreciative leisure activities such as camping involve a direct, physical connection with a natural environment and, thus, are more likely to cultivate the restorative qualities of nature [64]. Nature-based camping may also benefit campers by easing an affective risk perception exacerbated during the COVID-19 pandemic. Additionally, as negative psychological states, such as worry and anxiety, perceived in routine life can act as a travel motivation for a restorative experience, individuals' strong psychological needs for easing their concern and fear about infection may facilitate their participation in nature-based leisure activities such as camping [65]. Therefore, this study posits that the more men perceive affective risk in everyday life during the COVID-19 pandemic, the more likely they are to perceive a sense of being away from everyday contexts, relaxation, and stress and anxiety reduction from nature-based camping.

H1: Men's affective risk perception during the COVID-19 pandemic is positively related to their perceived restorativeness of camping.

1.3 Well-being

According to the World Health Organization [66], well-being at an individual level is “a positive state experienced by individuals”. Well-being is defined and measured as subjective well-being, an umbrella term for the overall subjective evaluation of one’s own life as satisfactory (*i.e.*, cognitive well-being) and an enduring positive affect resulting from positive experiences in one’s own life (*i.e.*, emotional well-being) [67–70]. Similarly, in marketing and hospitality research [4, 71–73], well-being is defined as consumers’ beliefs that product or service experiences generate positive affect and positively impact their quality of life [71]. In psychology, well-being has been described from two distinctive perspectives: hedonic and eudaimonic. The hedonic view of well-being suggests subjective happiness and a pleasurable experience in life, whereas the eudaimonic view describes well-being as the degree to which one is fully functioning—a feeling of living a meaningful and valuable life, goal-achievement, self-realization, and personal growth [69, 74, 75]. Tourists’ motivations align with the eudaimonic view of well-being [76]. Specifically, tourists seek to fulfill their needs for novelty, rest and relaxation, social relationships, and self-fulfillment through traveling [65]. Such needs, if fulfilled, can promote the well-being perception of tourists [77, 78]. The psychological mechanism by which the fulfillment of such needs promotes well-being is explained by the theory of leisure well-being [67]. According to the theory, tourism and leisure well-being increases when a set of basic and growth needs are gratified. Basic needs include benefits related to escape, health, safety, and sensation or stimulation needs, whereas growth needs are related to benefits from symbolic, aesthetic, moral, mastery, and relatedness needs [4, 75]. Therefore, a leisure experience that fulfills one’s leisure needs, such as health benefits, may promote a sense of well-being through leisure satisfaction.

In sum, by engaging in nature-based tourism, outdoor recreation, or leisure activities, individuals can cultivate positive emotions and improve their health status, thus boosting their well-being perception [32, 64, 65]. As such, camping can improve the well-being perception of campers. The restorative quality of nature-based camping can satisfy male campers’ need for recovery of their mental health conditions that deteriorated during the pandemic. A high level of perceived restorativeness likely facilitates male campers’ perception that the restorative camping experience during the pandemic enhances satisfaction with leisure and social life and, thus, overall well-being perception (life satisfaction). Therefore, individuals who increase restorative perception by engaging in camping activities likely improve their overall sense of well-being.

H2: Men’s restorative perception is positively related to their well-being.

1.4 WPP

In marketing literature, a consumer’s willingness to pay is a measure of their subjective evaluation of the consumption experience based on the value provided by a product or service [79, 80]. WPP refers to “(an individual’s) intention to accept a firm’s price premium on (a product or service) knowing that the set price is higher than those of similar-quality (competitors)

in the marketplace (p. 102874)” [81]. Given that premium prices are defined as prices set above average, consumers’ WPP represents a high consumer evaluation of the quality, value, and uniqueness of a product or service and is viewed as an indicator of consumers’ favorable behavior and choice over available alternatives [82, 83].

Positive experiences with experiential products can increase consumers’ knowledge about the products and determine consumers’ preferences [84, 85]. Psychological benefits from a positive experience enhance an individual’s attitude and perceived value of a product or service experience [86], which weakens their price sensitivity and increases their WPP for such a product or experience [81, 87–89]. In a similar vein, a positive camping experience can strengthen campers’ WPP for camping. Past research has confirmed that individuals’ well-being perception is salient in the development of positive consumer behavior, such as tourists’ revisit intentions to a destination [65, 90], residents’ support for festivals [91], tourists’ attachment to a travel agency [92], tourists’ positive word-of-mouth for a travel website [93, 94], and customer/employee loyalty to a green hotel [95]. Camping activities, which reap benefits to enhance individuals’ well-being through an increased restorative perception, may provide camping participants with a personally fulfilling experience, thereby increasing their positive perceptions of the value of camping activities. People who perceive psychological restoration and well-being by participating in camping activities during the pandemic may be more likely to pay a premium for camping in the future. Therefore, this study hypothesizes the positive effect of well-being on WPP and the mediating role of well-being on the relationship between restoration perception and WPP.

H3: Men’s well-being is positively related to their WPP for camping.

H4: Men’s well-being mediates the relationship between their restorative perception and WPP for camping.

1.5 The moderating effect

Sociodemographic factors are considered vital variables to influence consumer attitudes and behaviors [96, 97]. For example, demographic factors such as gender or marital status have been shown to influence individuals’ health-protective behaviors during the COVID-19 pandemic [2, 98]. In this study, we assumed that having children in the household significantly influences the relationships among male campers’ perceptions of mental restoration, well-being perception, and WPP for camping activities. Having children in the household acts as a constraint on an individual’s participation in leisure activities by decreasing the amount of available leisure time [99]. There may be differences in the levels of mental fatigue, life-event stress, and well-being perception in the daily lives of individuals living with and without children in their households. Since individuals who have children (*vs.* those who do not have children) are more likely to need to allocate available time for family-related obligations such as childcare and house chores, they may have fewer opportunities for physical and mental recovery through participation in leisure activities [99–101]. Koh *et al.* [102] found that after the SARS outbreak, married healthcare workers with children experienced greater

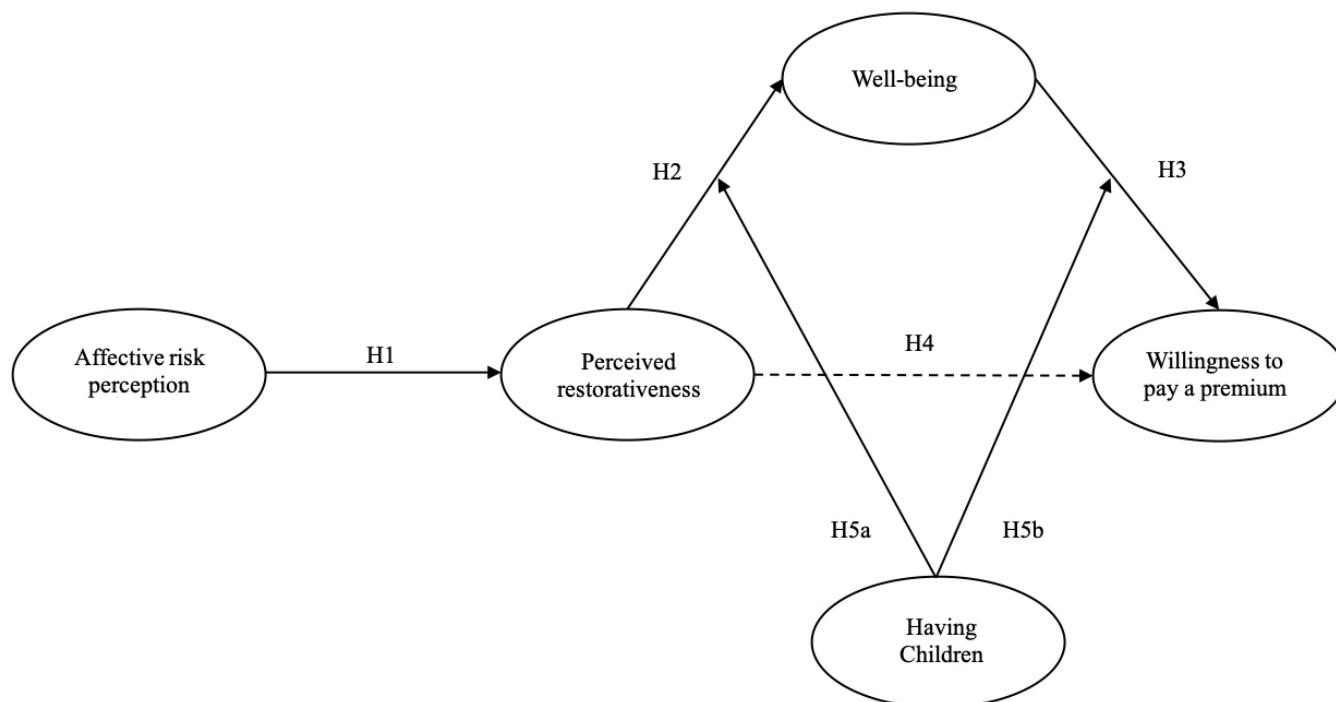


FIGURE 1. The proposed model. The dotted line indicates the mediation effect.

stress and higher workloads than those without children or unmarried workers. In addition, previous studies revealed that during the COVID-19 pandemic, married people were more attentive than unmarried people to the perceived crowding of leisure activity sites and the perceived risk of infection [1]. Bae *et al.* [2] found that the positive effect of tourists' affective risk perception of COVID-19 infection on their attitudes toward untact tourism was weaker for married people than unmarried people because married people tended to reduce high-risk traveling when making family travel decisions. Given that having children in the household during the pandemic can significantly affect individuals' perceptions of affective risk and mental fatigue, the restorative impacts of nature-based camping may differ between men with children and those without children in terms of well-being perception and WPP. Therefore, this study hypothesizes as follows.

H5a: Having children in the household significantly moderates the relationship between perceived restorativeness and well-being.

H5b: Having children in the household significantly moderates the relationship between well-being and WPP.

The proposed research model for this study is provided in Fig. 1.

2. Methods

2.1 Data collection and sampling

An online survey was conducted on male South Korean adults living in South Korea who had camping experience during the COVID-19 pandemic. The online survey link was distributed from 24–26 August 2021, to survey panels of dataSpring (<https://ko.d8aspring.com>), a research survey company based in South Korea. Camping is defined as “an outdoor accom-

modation and form of recreation (p. 103071) [22]” in a natural environment, including tent camping, glamping (*i.e.*, glamorous camping), and trailer/RV/vehicle camping [22, 24]. For choosing eligible survey participants, individuals were asked at the beginning of the questionnaire whether they had experience with camping after January 2020, when the first case of COVID-19 was confirmed. Only those who answered “yes” to the question were allowed to proceed to the main survey. Of the 372 questionnaires collected, 208 responses were included in the final analysis after excluding 164 ineligible responses.

2.2 Measurements

This study employed multiple items to measure each construct of the proposed model, as suggested by Churchill [103]. The scale items to measure the latent constructs were adopted from previous research and revised to fit the current context. The affective risk perception was measured by four items from Bae *et al.* [2], and one item was created based on discussions with expert groups. Perceived restorativeness was measured with five items adapted from Berto [27]. Well-being was measured using four items based on Kim *et al.* [93, 94]. Finally, WPP was gauged by three items derived from Hwang *et al.* [88] and Kiatkawsin *et al.* [89]. All items were rated on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree).

3. Results

The data were analyzed using SPSS Statistics 24.0 and Amos (IBM Corp., Armonk, NY, USA) [104]. To understand the structural relationships between each construct, we first conducted a confirmatory factor analysis (CFA); based on the results, structural equation modeling was employed to examine

the causal relationships between constructs, as recommended by Anderson *et al.* [105]. Also, a bootstrapping analysis was used for the mediation test and a multigroup comparison analysis for the moderation test.

3.1 Sample profile

The demographic characteristics of the sample are provided in Table 1. Additionally, to find our data's brief description, the descriptive statistics were presented in **Supplementary material**.

3.2 Measurement model

CFA was conducted to assess the measurement model's fitness and to verify its reliability, convergent validity, and discriminant validity. The results of the analysis showed that the measurement model provides an acceptable fit to the data ($\chi^2 = 215.405$, $df = 113$, $p < 0.001$; $\chi^2/df = 1.906$; incremental fit index (IFI) = 0.944; Tucker-Lewis index (TLI) = 0.932; comparative fit index (CFI) = 0.944; root mean square error of approximation (RMSEA) = 0.066, $p < 0.001$) [106]. As shown in Table 2, Cronbach's alpha for each construct was greater than the threshold of 0.70, indicating an adequate level of internal consistency reliability [107]. All factor loadings of the measurement items were greater than 0.50 and significantly loaded on the corresponding latent constructs.

Table 3 exhibits the average variance extracted (AVE), composite reliabilities (CR), Fornell-Larcker criterion, and heteromonotrait ratio (HTMT) for correlations of the latent constructs. The CR values for each construct were above 0.70, which indicates acceptable internal consistency [108]. Moreover, the AVE values of the latent constructs were greater than 0.50, indicating that the convergent validity of constructs was well established [106]. The Fornell-Larcker criterion and the HTMT value were evaluated for the discriminant validity of the constructs. The Fornell-Larcker criterion and the squared correlations of all pairs of latent constructs were compared to evaluate their discriminant validity [109]. All Fornell-Larcker criteria were higher than the squared correlations, except for the affective risk perception-well-being pair. For re-examining the affective risk perception-well-being pair, a chi-square difference test between combined and uncombined models was conducted based on the recommendation of Bagozzi *et al.* [108]. The results showed that the two constructs were different. Furthermore, the HTMT values of all latent constructs were lower than the cut-off value of 0.85 [110, 111], indicating that the measures and constructs achieved discriminant validity.

3.3 Structural model

To verify the hypothesized relationships among the latent constructs, a structural model was established. The structural model showed an adequate model fit ($\chi^2 = 220.221$, $df = 115$, $p < 0.001$; $\chi^2/df = 1.915$; IFI = 0.943; TLI = 0.932; CFI = 0.942; RMSEA = 0.066, $p = 0.023$). The affective risk perception showed a significantly positive effect on perceived restorativeness, supporting H1. Perceived restorativeness exhibited a significantly positive influence on well-being, supporting H2.

In addition, well-being showed a significantly positive effect on WPP, supporting H3. The detailed results are shown in Table 4.

3.4 Mediation test

The mediating effect of well-being was verified using bootstrapping analysis. As shown in Table 4, perceived restorativeness had a significant indirect effect on WPP *via* well-being, and did not have a significant direct effect on WPP. The total effect of perceived restorativeness on WPP was also statistically significant. Thus, well-being was found to fully mediate the relationship between perceived restorativeness and WPP, supporting H4.

3.5 Moderation test

To examine the moderating effect of having children in the household, a multigroup comparison analysis was conducted using a chi-square difference test to compare differences in the coefficients of the two relational paths for the "have children" group and the "no children" group [112]. Chi-square differences ($\Delta\chi^2$), which depend on the degrees of freedom between the baseline model and the restricted model for paths, were evaluated to determine whether the model estimates were invariant across the two groups [112]. The results of the analysis are presented in Table 5. The relationship between perceived restorativeness and well-being was statistically different across the two groups ($\Delta\chi^2 = 5.290 > \chi^2_{0.05}(1) = 3.841$, $df = 1$). Specifically, for the "have children" group, the positive effect of perceived restorativeness on well-being was statistically stronger than for the "no children" group. Therefore, H5a was supported. In contrast, although well-being had a significantly positive impact on WPP across the two groups, the difference in the relationship between well-being and WPP was not significant across the two groups ($\Delta\chi^2 = 0.127 < \chi^2_{0.05}(1) = 3.841$, $df = 1$, $p > 0.05$). Therefore, H5b was rejected.

4. Discussion

This study aimed to examine the importance and effectiveness of camping as a restorative experience in nature during the pandemic by reducing men's risk perception of COVID-19 and improving their mental health. Data collected from 208 South Korean males who experienced camping during the pandemic revealed that camping helps men promote their restorative perception, well-being, and WPP for camping. The results of this study highlight the meaningful role of camping in promoting men's mental health and psychological well-being, which have become depleted owing to stress and anxiety caused by the risk of infectious disease during the pandemic. The main findings of this study are as follows.

First, the results of the study suggest that men's perception of affective risk due to COVID-19 positively affected their perception of the restorativeness of camping. This finding is consistent with prior studies [30, 59, 62, 113], suggesting the role of a natural environment in enhancing mental restoration. Hartig *et al.* [114]'s study provided evidence that people perceive more restoration in a natural than in an urban

TABLE 1. Profile of the sample (n = 208).

Variable	n	%
Age		
20–29	20	9.6
30–39	70	33.7
40–49	74	35.6
50–59	22	10.6
60 and over	22	10.6
Annual income		
Less than \$20,000	17	8.2
\$20,000–\$39,999	41	19.7
\$40,000–\$59,999	75	36.1
\$60,000–\$79,999	45	21.6
\$80,000 and over	30	14.4
Marital status		
Married	128	61.5
Single	78	37.5
Other	2	1.0
Occupation		
Office worker	119	57.2
Professional	41	19.7
Self-employed	18	8.7
Student	9	4.3
Other	21	10.1
Having children		
Yes	122	58.7
No	86	41.3
Camping companions		
Alone	18	8.7
Family	130	62.5
Friends or significant others	48	23.0
Colleagues	12	5.8
Camping frequency per year		
Less than 1	31	14.9
1	28	13.5
2	54	26.0
3	29	13.9
4	41	19.7
More than 5	25	12.0
International travel frequency per year		
Less than 1	70	33.7
1	78	37.5
2	46	22.1
3	5	2.4
4	7	3.4
More than 5	2	1.0

The average age of survey participants is 41.81 years old.

TABLE 2. Results of confirmatory factor analysis: items and loadings.

Construct and scale item	Standardized loading	<i>t</i> -value	α
Affective risk perception			
I am worried that I will contract COVID-19.	0.850	-	
I am worried about my family members contracting COVID-19.	0.829	14.555	
I am fearful of the spread of COVID-19 in my region.	0.824	14.411	0.912
I am afraid of COVID-19 emerging as a health issue.	0.845	14.989	
I am worried that our society will be in danger owing to COVID-19.	0.761	12.790	
Perceived restorativeness			
This camping experience made me feel like I was away from everyday demands.	0.628	-	
This camping experience allowed me to relieve my stress.	0.710	8.235	0.835
This camping experience made me feel relaxed.	0.684	8.009	
This camping experience fascinated me.	0.725	8.353	
This camping experience made me forget my worries.	0.789	8.849	
Well-being			
Going camping met my overall well-being needs.	0.735	-	
Going camping played an important role in my social well-being.	0.795	10.828	0.850
Going camping played an important role in my travel well-being.	0.786	10.718	
Going camping played an important role in enhancing my quality of life.	0.750	10.240	
Willingness to pay a premium			
Even if camping would cost me more than it does now, I will go camping.	0.812	-	
Even if camping is more expensive than other tourism/leisure activities, I will go camping.	0.834	10.090	0.760
I think camping should be more expensive than it is now.	0.563	7.619	

All factor loadings are significant at $p < 0.001$; α represents Cronbach's α .

TABLE 3. Reliability and discriminant validity.

	Construct	AVE	CR	Fornell-Larcker Criterion				Heterotrait-Monotrait Ratio		
				1	2	3	4	1	2	3
1	Affective risk perception	0.676	0.911	0.822						
2	Perceived restorativeness	0.502	0.897	0.244	0.709			0.236		
3	Well-being	0.588	0.889	0.314	0.760	0.766		0.318	0.750	
4	Willingness to pay a premium	0.557	0.781	0.187	0.465	0.578	0.746	0.185	0.408	0.526

AVE: average variance extracted; CR: composite reliability; bold diagonal elements in the Fornell-Larcker Criterion represent the square roots of AVE; non-diagonal elements in the Fornell-Larcker Criterion represent the correlations between constructs.

environment, and the more they perceive attentional fatigue, the more they perceive attentional recovery. This study lends support to the literature by indicating that men with higher levels of affective risk of COVID-19, such as fear and concerns related to potential infection and the accompanying social crisis, experience greater mental restoration (e.g., relaxation and a feeling of being away from daily life) by participating in nature-based camping.

Second, this study found that perceived restorativeness has a strong positive effect on well-being, consistent with the

findings of previous studies [5, 32, 64, 115]. The study results indicate that men who relieve stress and anxiety through nature-based camping tend to perceive an enhanced sense of well-being, quality of life, and overall life satisfaction. This result implies that a positive camping experience is accompanied by psychological benefits individuals can derive from participating in such nature-based leisure activities. A restorative camping experience contributes to facilitating male campers' life satisfaction in the life domains (social and travel) and the overall quality of life as spill-over effects [75]. In the

TABLE 4. Standardized parameter estimates for the structural model.

Hypothesis	Path	β	<i>t</i> -value	95% CI	Result
H1	Affective risk perception → Perceived restorativeness	0.272**	3.373	(0.110, 0.439)	Supported
H2	Perceived restorativeness → Well-being	0.767**	7.278	(0.658, 0.855)	Supported
H3	Well-being → Willingness to pay a premium	0.528**	3.679	(0.211, 0.857)	Supported
H4					
Direct effect	Perceived restorativeness → Willingness to pay a premium	0.064	0.469	(-0.264, 0.364)	Supported
Indirect effect	Perceived restorativeness → Well-being → Willingness to pay a premium	0.405**	-	(0.159, 0.681)	
Total effect	Perceived restorativeness → Well-being → Willingness to pay a premium	0.469**	-	(0.342, 0.596)	

** $p < 0.01$; CI: confidence interval.

TABLE 5. Moderating effects.

Hypothesis/Path		Having children (n = 122)			No children (n = 86)			Baseline model	Restricted model
		β	<i>t</i> -value	95% CI	β	<i>t</i> -value	95% CI		
H5a	Perceived restorativeness → Well-being	0.799**	6.175	(0.688, 0.902)	0.731**	3.537	(0.558, 0.863)	χ^2 (230) = 360.801	χ^2 (231) = 366.091
H5b	Well-being → Willingness to pay a premium	0.694**	3.326	(0.201, 1.221)	0.446*	2.165	(0.065, 0.949)	χ^2 (230) = 360.801	χ^2 (231) = 362.204

Chi-square difference test

H5a: $\Delta\chi^2$ (1) = 5.290, $p < 0.05$ (significant; H5a was supported.)

H5b: $\Delta\chi^2$ (1) = 1.403, $p > 0.05$ (insignificant; H5b was not supported.)

* $p < 0.05$; ** $p < 0.01$; CI: confidence interval.

time of a health crisis, limited social contact and the reduced radius of activity may drive greater depression and anxiety in men, deteriorating their social and leisure life satisfaction and overall quality of life. As revealed by the study results, the restorative impacts of camping would help male campers improve well-being perception.

Third, male campers' well-being had a positive effect on their WPP for camping. In other words, men who perceive a sense of well-being through participating in a camping activity during the pandemic tend to choose camping even if camping is more expensive than other leisure activities. The positive consumption experience of experimental products, such as camping, improves consumers' product and service knowledge and value perception and fosters consumer preference for the product or service [84, 85]. The findings of this study indicate that positive outcomes of a camping experience influence men's future camping decisions by promoting men's well-being [65, 89, 90].

Fourth, this study found that well-being is a significant mediator of the relationship between perceived restorativeness and WPP. That is, men who perceive a greater restorative experience through camping report a greater well-being perception and have greater intentions to pay a premium for camping than those who perceive camping as a lesser restorative experience.

These results are consistent with those of Hwang *et al.* [92], Kim *et al.* [72], and Yu [116], who asserted that well-being mediates the relationship between consumers' subjective evaluation of a product or service experience and their behavioral intentions such as WPP and loyalty. The results of this study provide evidence that the restorative benefits of camping as perceived by male campers during the COVID-19 pandemic act as a precursor to their future camping decisions and intentions by increasing their well-being perception. In other words, when men's mental-restoration needs are met through camping, they feel enhanced cognitive and affective well-being such as greater leisure satisfaction and life satisfaction, which strengthens their intention to go camping.

Fifth, the results of this study suggest the significant moderating effect of having children in the household on enhancing the relationship between perceived restorativeness and well-being as perceived by male campers. Specifically, the strength of the relationship was found to be stronger among

the “have children” group than the “no children” group. Such results confirm the significance of sociodemographic factors in explaining customer attitudes [96, 97]. During the pandemic, men who live with children susceptible to diseases and the need for intensive care may have fewer leisure or recreational opportunities to meet their needs for escape from daily life, relaxation, stress, and anxiety relief, and increased positive emotions (*vs.* those who do not) [99–102]. Such time constraints can lead to relatively lower satisfaction levels with the quality of life for men with children. The study findings imply that although the same level of psychological restoration is achieved through camping activities for men with and without children, men with children most strongly perceive an increased quality of life, the gratification of leisure and travel needs, and increased overall well-being.

Meanwhile, the effect of having children in the household on the relationship between well-being and WPP was significantly positive for both groups; however, there was no significant difference in the effect between the groups. It suggests that, regardless of having children in the household, men’s well-being perceptions are strengthened by their restorative perceptions and are indispensable for their behavioral intentions. In other words, their well-being perceptions increase their preference for camping and WPP for camping over other leisure activities. Despite the insignificant moderating effect, the strength of the relationship was found to be slightly stronger for the “have children” group than the “no children” group, indicating a stronger WPP intention to go camping.

4.1 Theoretical implications

First, this study represents academic attempts to contribute to recent research streams on psychological health and well-being during the pandemic by theoretically and empirically examining the role of a natural environment as a restoration environment in the context of camping. This study confirmed that restorative camping experiences in nature reduce risk perceptions and satisfy male campers’ desire for leisure. In particular, by studying participants during the ongoing global issue, this study highlights the critical role of restorative camping experiences in men in highly negative psychological states during the COVID-19 pandemic when individuals are at a greater infection risk than ever before. The mechanism by which natural environments benefit individuals by reducing directed attention fatigue was highlighted based on the attention restorative theory [25]. The benefits offered by the natural environment, such as relieving mental fatigue, cultivating positive emotions, and restoring attention, can play a crucial role in enhancing an individual’s quality of life or happiness, especially in the current COVID-19 pandemic. Expanding the literature on the attention restorative theory, this study examined the psychological restoration mechanism of natural environments in a camping setting and provided insights into the effectiveness and importance of nature-based tourism and leisure activities during a crisis that threatens public health.

Second, this study suggests considerable psychological benefits of camping in nature, thereby providing valuable insights into men’s tourism and leisure-related behaviors through fulfilling their tourism and leisure needs in potential outbreaks

of infectious diseases. This study demonstrates the sequence leading from men’s perception of restoration to increased well-being and behavioral intentions for camping. Well-being perception results from male campers’ cognitive and emotional evaluations of positive leisure experiences. Psychological and physical restoration is one of leisure travelers’ motives and needs for travel or participation in leisure activities [65]. As leisure satisfaction is one domain of life satisfaction, leisure satisfaction through a positive leisure experience is highly associated with the individual’s perception of the quality of life and well-being [67]. By empirically demonstrating the restorative perception-well-being-WPP relationships, the study results suggest that restorative camping experiences contribute to enhanced leisure satisfaction, quality of life, and well-being for male campers, particularly for those with children who may have relatively few chances to relieve negative emotions during the COVID-19 pandemic. Also, this study shows evidence of men’s preference for contactless leisure that can satisfy their travel needs while minimizing the risk of getting an infectious disease.

4.2 Managerial implications

This study also provides practical implications for practitioners in the tourism and leisure industries and tourism authorities who seek effective strategies for responding to the public health crisis and surviving an economic downturn during the pandemic. First, this study empirically demonstrates men’s needs and demands for nature-based leisure and travel activities, suggesting new directions for strategies that industries should seek in times of crisis. With the rapidly evolving global pandemic and the continuous outbreak and epidemic of new infectious diseases such as monkeypox [117], demands are expected to increase for new normal tourism and leisure products that require minimal physical contact with others. Therefore, camping, which enables campers to enjoy the natural environment while avoiding physical contact with others [21], provides them with a safe leisure experience with minimal health risks during the pandemic. In this regard, the provision of a camping environment that minimizes artificial and built facilities can be a decisive factor for male campers in whether they choose to visit a campsite for restoration purposes continuously. In addition, campsite practitioners may need to implement appropriate precautionary measures for safer campsites. Campground safety policies, such as limiting the number of campers in campgrounds and providing small group-based campsites as well as safety-oriented services and spaces, enable campground operators to provide better and safer camping environments that maximize the benefits of the natural environment.

Second, this study confirmed that when male campers’ well-being perception is enhanced by perceived restorativeness, their WPP for camping is increased. Active leisure travelers are more likely to make camping or glamping plans than hotel or resort plans after the COVID-19 pandemic [118]. Therefore, campground operators may highlight the benefits of camping—such as the improved psychological well-being brought about through restoration in nature—in their marketing messages targeting male campers, which would help them

increase demand among male consumers. Furthermore, this study confirmed that camping is more effective in strengthening the well-being of male campers who have children than those who do not have children. Therefore, advertisements, infrastructure, and amenities for family camping can be tailored to broaden the potential market of male campers during and after the COVID-19 pandemic.

4.3 Limitations and future research

Despite its contributions, the limitations of this study need to be noted. First, there are limitations in interpreting the study findings in other socio-cultural backgrounds. Although the context of this study was appropriate for validating the proposed relationships, future research should be replicated in different geographic, cultural, and social contexts. Such academic efforts can reflect institutional and public responses to COVID-19 that may differ by country and culture. Second, the results of this study derived from cross-sectional data reflect male campers' perceptions, attitudes, and behavioral intentions during the early stage of the COVID-19 pandemic; therefore, the findings may be different during the post-peak or post-pandemic periods [119]. Thus, future research may take advantage by comparing male campers' perceptions and behaviors before, during and after the COVID-19 pandemic and examining their behavioral intention. Third, an individual's characteristics such as age, the frequency of camping, and income were not considered; thus, further comparative research depending on specific characteristics is needed for providing more detailed information [120].

5. Conclusions

This study investigates the potential mental health benefits of camping by examining how men's risk perceptions of COVID-19 are mitigated by camping in a natural environment that promotes mental restoration, well-being, and WPP. Accordingly, the results of this study provide valuable evidence of the importance and effectiveness of camping in reducing stress, anxiety, and worry, promoting restoration, positive psychological and emotional states, and changing behavior when men put a halt to all leisure travels. This study found that restorative camping experiences can relieve affective risk perception as perceived by men during the pandemic. Furthermore, a mediating effect was observed wherein perceived restorativeness increases male campers' willingness to pay a premium for camping activities through improved well-being perception. Additionally, this study found a moderating effect of the "have children" in the relationship between perceived restorativeness and well-being, indicating that the relationship is greater among male campers who have children than among those who do not.

The results of this study provide enhanced knowledge of restorative experiences in nature as a coping mechanism for increased affective risks as perceived by men during the prolonged COVID-19 pandemic. This study also provides practitioners with an understanding of the changes in men's perceptions and emotional and behavioral responses to positive restorative camping experiences, thereby offering insights into developing proper countermeasures for a possible new wave of

COVID-19 and the emergence of new infectious diseases.

AVAILABILITY OF DATA AND MATERIALS

The data are contained within this article and supplementary material.

AUTHOR CONTRIBUTIONS

NC and IK—designed the research study. SC, NC and IK—performed the research, wrote the manuscript. IK—analyzed the data. All authors contributed to editorial changes in the manuscript. All authors read and approved the final manuscript.

ETHICS APPROVAL AND CONSENT TO PARTICIPATE

The survey participants provided informed consent and agreed to publication of the details of this study.

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CONFLICT OF INTEREST

The authors declare no conflict of interest.

SUPPLEMENTARY MATERIAL

Supplementary material associated with this article can be found, in the online version, at <https://oss.jomh.org/files/article/1654362533440438272/attachment/Supplementary%20material.docx>.

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