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The Effect of Green Leadership Perception on Environmental Commitment, Awareness, and Employees' Green Behavior in Hotel Businesses: Research from a Generation Cohort Theory Perspective

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Abstract: This study was carried out to determine the relationships between green leadership perceived by hotel employees and environmental commitment, environmental awareness, and employees' green behavior. In contrast to previous research in the literature, this study also examines the moderating role of generation in these relationships. The study was carried with employees of five-star hotel in Turkey. The data were analyzed with IBM SPSS AMOS 22 programs and significant effects between certain variables were detected. In addition, the research results indicate that generation has a moderating role in the relationships between green leadership, environmental awareness, and environmental commitment. As a result of the evaluation, a number of theoretical and practical contributions are presented for academicians working in the literature, sector representatives, and hotel business managers.

Keywords: green leadership; environmental awareness; environmental commitment; employees' green behavior; hotel businesses; generation

1. Introduction

Human needs are changing with the development of technology, and natural environment and ecosystems are being destroyed to meet these needs [1]. Governments and non-governmental organizations around the world are developing various strategies to reduce the impact of environmental degradation on human life [2]. Environmental sustainability, which is one of the most important issues at this point, is known to have ethical and strategic importance in terms of the continuity of quality of life [3]. It has become a necessity for institutions and enterprises from all sectors to participate in activities that consider environmental factors as well as economic and social development [4].

Sustainable policies that include all sectors also cover fast growing and developing service sectors such as tourism [5]. In addition to being an important part of the global

economy, tourism has some negative effects [6]. With the increase in tourist activities, various problems such as waste, pollution, and degradation of natural and cultural resources arise [7,8]. In this context, it has been observed that sustainable activities are very important in the tourism sector. Sectoral environmental sustainability practices are used by various large organizations. For example, Hilton hotels used environmentally friendly practices that saved 14% water and energy between 2009 and 2014 [9]. Similarly, Marriott hotels have taken various measures to reduce environmental damage by using pro-environmental towels and recycling materials [10]. However, these practices are not sufficient alone to ensure environmental sustainability [11]. Organizations and institutions should develop more rigorous measures and solutions, and the plans and programs created in relation to environmental sustainability should be concretized through employees. More clearly, Norton et al. [12] stated that ensuring environmental sustainability depends on employees' green behaviors.

Employees' green behaviors form the basis of environmentally sustainable plans and programs in the tourism sector [13]. Employees' behaviors that harm or contribute to the environment as little as possible are critical for achieving environmental sustainability goals [14]. Although organizations have developed various legal regulations or incentives for employees to exhibit green behaviors, this kind of situation causes short-term and temporary behavioral changes [15]. In order for long-term and sustainable green behaviors to emerge, employees' environmental commitment and awareness should be developed [15,16]. In the environmental management literature, it is reported that environmental commitment and awareness are very important to achieve companies' environmental sensitivity and sustainable development [17]. With environmental commitment, individuals develop a feeling of commitment to natural life and are more motivated to exhibit pro-sustainable environmental behaviors [18]. On the other hand, it has been known that individuals who are aware of environmental problems have higher beliefs towards performing green behaviors [19]. Environmental awareness is considered as an effective factor in the formation of individuals' beliefs and attitudes [20]. In this respect, it is thought that both commitment and awareness can encourage the formation of green behaviors among employees.

In tourism organizations, green leaders play effective roles both in developing employees' environmental commitment and awareness and in implementing the environmental sustainability programs of the business [21]. Green leaders are known to have an effective impact on the improvement of green behaviors while enhancing the green competitiveness of the organization [22]. When employees working with green leaders increase their awareness of environmental problems, they are more willing to develop new solutions [23]. Green leaders who develop strong relationships contribute to sustainable environmental development by supporting employees' environmentally friendly behaviors [21].

However, it has been recognized that the leadership and management skills of leaders differ, since individuals working in the tourism sector are of various generational ranges [24]. In generation theory, each class has its own unique feelings, thoughts, expectations, and work skills [25]. This situation causes leaders to define the behavior and actions of employees in line with their age generations [26]. Therefore, it is considered that the age factor will have an important moderating role in the development of environmental commitment and awareness of green leaders and employees and the green behaviors of individuals.

In the light of all these explanations, it has been observed that there are limited studies on green employee behavior in the tourism literature [27,28]. For example, Yeşiltaş et al. [11] investigated the mediating role of green human resource management and environmental awareness between organizational green culture and employees' green behavior. In another study, the effect of green behavior on environmental performance was examined [9] and in a further study, the effect of quality of life and social responsibility on employees' green behavior was evaluated [29]. It can be stated that employees' green behavior, which has been examined in a small number of studies in the literature, needs comprehensive

research. In this sense, this study intends to bridge the theoretical void in the current review of the literature and to provide various suggestions to hotel managers for long-term and permanent green behaviors. The primary objective of the present research is to identify the impact of green leaders on environmental commitment and environmental awareness in tourism enterprises and to reveal their impact on employees' green behavior. In addition, our research aims to reveal the moderating role of generation theory in the relationship between green leadership and environmental commitment, environmental awareness, and employees' green behavior.

2. Literature Review and Hypothesis Development

2.1. Green Leadership, Environmental Commitment, and Awareness

Green leadership is a very important concept in terms of sustainable development, defined in many studies in the literature [30–32]. Green leadership is a type of leadership that defends global environmental protection and argues that preventing climate change and providing protective solutions are critical for sustainable development [32]. In another definition, a green leader is defined as adopting 'a leadership style that contributes to the leader's followers and all other stakeholders to create services and products in accordance with environmentally friendly policies' [21]. In another description, green leadership is defined as a leadership style that helps to create products and services and manage the management of the business organization by protecting the natural environment [33]. Green leaders need to develop environmental commitment and awareness to create lasting behavioral changes in employees on the road to green behavior [34].

When the concepts of environmental commitment and awareness are investigated, their definitions find a basis in the literature. Environmental commitment is described as a positive commitment and long-term orientation towards the natural and cultural environment [35]. Environmental awareness is referred to as the state of being willing and interested to reach the values, skills, and knowledge necessary for a sustainable environment [36]. The green leader should enhance employees' interest in environmental issues and help them establish an emotional connection with the natural environment to ensure that business operations proceed in accordance with sustainable environmental policies [37]. Considering that it is vital for hotels to plan their ecological future as well as their economic and social future, the importance of the environmental commitment and awareness that green leaders can create on employees emerges [38]. Moreover, when other related research in the field in the literature is analyzed, it can be seen that there have been a limited number of studies on the subject. In a study conducted in 2020, Asbari stated that if green leaders build correct and strong relationships with their subordinates, employees' concerns about environmental problems increase [34]. Another study indicated that individuals working in the teams of green team leaders have high awareness and are more likely to engage in sustainable behaviors such as waste reduction, energy saving, and environmentally conscious purchasing decisions [39]. Based on these findings, the following hypotheses have been developed in the present study:

H₁. *Green leadership has a positive effect on employees' environmental commitment.*

H₂. *Green leadership has a positive effect on employees' environmental awareness.*

2.2. The Relationship Between Environmental Commitment, Awareness, and Employees' Green Behavior

Considering the wide range of environmental issues facing the tourism sector, there is increasing pressure to utilize sustainable strategic practices [40]. It has been observed that the development of plans and programs to reduce environmental problems in hotels has become as important as economic and social projects [41]. Sample initiatives that contribute to the environmental sustainability of organizations include practices such as recyclable products and services, conservation of natural resources in business operations, preference for recycled products in the materials used, and waste reduction [42]. In this regard, the

green attitudes and behaviors of hotel employees have critical importance. Green attitudes and behaviors, i.e., employees' green behaviors, describe the actions and attitudes of staff that are associated with environmental friendliness and that contribute to environmental protection or reduce waste and degradation [13]. In a different description, employees' green behavior is defined as the behaviors of employees that support environmental policies [37]. In another example, green behavior is defined as behaviors and actions that would be beneficial or cause the least damage to the environment [14]. Ones et al. [13] stated that employees' green behaviors constitute the core of corporate sustainability and that it is most crucial for employees at all levels to contribute to achieving sustainable environmental goals.

It has been reported that the development of green behavior in individuals depends on being aware of the negative effects of environmental problems and developing a sense of responsibility towards the natural environment [43]. Mkumbachi et al. [43] stated that there is a cause-and-effect relationship between individuals' environmental commitment and awareness and their green behaviors. It has been reported that individuals who are committed to the natural environment have a high level of awareness of how their behavior affects the environment [44]. It has been suggested that when individuals have knowledge about their natural environment, they tend to show green behavior for sustainable living by being aware of human-induced problems [45]. Considering this perspective, the following hypotheses have been formulated in this study:

H₃. *Environmental commitment positively affects employees' green behaviors.*

H₄. *Environmental awareness positively affects employees' green behaviors.*

2.3. Relationship Between Environmental Awareness and Commitment

Environmental awareness is a term that includes many fields such as psychological, sociological, and environmental science. Geng and He [46] defined environmental awareness as the interest and perception of individuals towards the problems occurring in the natural environment. In another definition, environmental awareness describes individuals' concerns and knowledge about environmental problems and their effects on behavior [47,48]. Environmental awareness research in the literature focuses on its effects on environmental pollution [49], green behavior [45,50], and life satisfaction [51]. However, studies on the effects of environmental awareness on environmental commitment are scarce. According to a review of these studies, Abramovic and Loria [52] found that as the environmental awareness of individuals increases, their commitment and responsibilities towards the environment also increase. Zhao et al. [53] stated that environmental awareness in executive managers has a positive effect on commitment and eco-innovation. In the light of the studies, it can be said that permanent and long-term behavior in humans is only possible if people are emotionally attached to the subject.

It has been reported that businesses with strong environmental commitment are more likely to adopt environmental protection initiatives [54]. In this respect, commitment is a critical issue in terms of the emergence of environmental behaviors. Considering this perspective, the following hypothesis has been formulated in this study:

H₅. *Environmental awareness positively affects environmental commitment.*

2.4. The Moderating Role of Generational Cohort Theory

Generational classification, which was first expressed by Karl Mannheim in 1928, was theorized in the book published by Strauss and Howe [55]. According to the theory, it is suggested that individuals in the same age range born and growing up in certain periods show similar behavioral characteristics, and that these characteristics change in new generations [25]. Generation theory suggests that historical and social events experienced by individuals in societies born at the same time can affect those individuals'

value judgments, tendencies, attitudes, and behaviors [26]. This situation means that individuals in the same age groups have similar tendencies and cognitive behaviors.

There are various discussions in the literature on the formation of generations [56,57]. Generally accepted cohort sizes, however, are divided into Boomer, X, Y, and Z generations [26]. In terms of age range, the Boomer generation represents individuals born between the 1940s and 1960s. Individuals in this generation generally believe that hard work will bring success in working life [58]. When the age range of Generation X is considered, it is observed that these are individuals born between 1960 and 1980s. When the perspective of Generation X on working life is evaluated, it can be seen that they are independent, self-confident, unaffected by authority, and think that self-development is more productive [59]. When the age range of Generation Y is evaluated, they are individuals born between 1980 and 2000. When the working life perspective of Generation Y has been evaluated, results reveal that they are self-confident, optimistic, outspoken, and have a perspective that blends work and private life [60]. Generation Z consists of individuals born in the 2000s. This generation, born into technology, has fast consumption habits. In this context, they frequently change jobs or turn to more mobile jobs [24].

Tourism is among the sectors with employees from each of the generations [24]. In this regard, tourism activities include the working habits of each generation. Therefore, the generations' perceptions towards the work and the organization also differ. It has been thought that generation has a moderating role in the relationship between green leaders and their employees' environmental commitment and awareness. In addition, it is believed that the environmental commitment and awareness of each generation will have a moderating role in the formation of green behavior. In this regard, the following hypotheses have been developed in the current research:

H₆. *Generational theory has moderated the relationship of green leadership and environmental commitment.*

H₇. *Generational theory has moderated the relationship of green leadership and environmental awareness.*

H₈. *Generational theory has moderated the relationship of environmental awareness and environmental commitment.*

H₉. *Generational theory has moderated the relationship of environmental commitment and employees' green behavior.*

H₁₀. *Generational theory has moderated the relationship of environmental awareness and employees' green behavior.*

The research model is given in Figure 1.

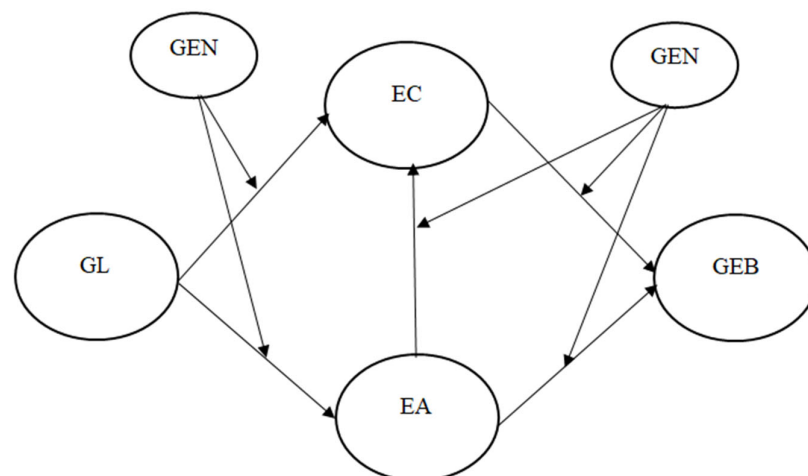


Figure 1. Hypothetical research model. GL: green leadership; EC: environmental commitment; EA: environmental awareness; GEB: employees' green behavior; GEN: generation.

3. Research Methodology

3.1. Research Design

The instruments utilized in the current research were chosen as a result of a comprehensive literature review. In this context, the 8-statement scale for the perception of green leadership was modified from the studies on green leadership [61–63]. The 8 statements for measuring environmental commitment were obtained from the studies by Raineri and Paillé [64] and Cop et al. [65]. The 4 statements for environmental commitment were derived from the study of Aytekin et al. [5]. Finally, 7 statements for employees' green behavior were determined based on the research by Asante [63]. A total of 27 statements were measured using a 5-point Likert-type scale (1 = strongly disagree; 5 = strongly agree), which is considered ideal in social science research and minimizes the margin of error [66]. Since the native language of the scales is English, the scales were translated into Turkish and the two-stage control phase suggested by Brislin [67] was applied in the translation phase. The measures were first converted into Turkish by a linguistic expert. In the second stage, the scale was converted back into English by a specialist from a different province. At the end of the two-way analysis, it was decided was suitable for use, since there were no problems with the meaning of the expressions.

3.2. Sampling

This research was performed in Manavgat, Antalya, which is one important tourist destinations in Turkey. The tourism sector is one of the most important in Turkey. In fact, in 2023, over 56 million tourists visited Turkey [68]. Moreover, Manavgat has confirmed that it is one of the most important centers in Turkey, with more than four million tourists. In addition, there are 197 tourism business certified facilities in Manavgat [69]. In Manavgat, which has a population of more than 250,000 people [69], 1 out of every 5 people works in the tourism sector [70]. For these reasons, the research data were obtained from hotel staff working in Manavgat.

A pilot study was conducted on 35 hotel staff between 15–30 July 2024, in 6 five-star hotels that agreed to participate in the study. Format, clarity, and reliability tests were carried out on the scales. As a result of the evaluation, the Cronbach alpha levels of each scale were determined as minimum 0.79 and it was determined that there were no problems regarding the comprehensibility of each statement. Based on this result, the actual data for the research were collected between 1–22 August 2024. In order to prevent common method bias, which is one of the common problems in social sciences, statements including as 'Participation is completely voluntary' and 'There are no right or wrong answers in this research' were added to the research questionnaire [71]. Within the scope of the research, data were obtained from 465 hotel personnel and 448 questionnaires were analyzed after the removal of incorrect and missing data.

3.3. Data Analysis

The data obtained were first transferred to the SPSS Statistics 24.0 package program and a number was assigned to each questionnaire. Before testing the research hypotheses, a data screening process was applied. Firstly, Mahalanobis distance was examined to determine whether there were deviating values and it was found that 21 data samples contained extreme values. In this context, these data were removed from the analysis and the research continued with 427 questionnaires. In the second part of the process, normality distributions were investigated and it was determined that the expressions in each structure were in the range between +1.5 and −1.5. Based on this result, it was determined that the data were normally distributed [72]. In the final part of this process, we investigated whether a multicollinearity problem was present; it was found that the highest VIF value was 1.792 and the lowest tolerance value was 0.316. The results obtained indicated that there was no multicollinearity problem [73]. In the light of all these evaluations, the process of testing the research hypotheses started.

The research hypotheses was evaluated in a two-stage process (confirmatory factor analysis and path analysis) and the evaluations were carried out using the AMOS (Analysis of Moment Structures) program, which is one of the most preferred applications in structural model research [70]. SPSS Process Macro (Model 1) was preferred for the analysis of the moderator variable.

4. Findings

4.1. Demographic Profile

The demographic information of the respondents is shown in Table 1. According to the results of the table, 63.5% of the sample was found to be male. The results of the evaluation according to generation showed that 53.2% of the participants belonged to Generation Z, 33.3% to Generation Y, and 13.7% to Generation X. Almost all the employees participating in the study (87.8%) were bachelor's graduates. It can also be stated that approximately 50% of the employees had been working at their current hotel for less than 5 years. Lastly, when the revenues of the respondents were investigated, it was determined that more than half of the employees had an income between TRY 17,000 and TRY 25,000 (approximately USD 500–USD 735).

Table 1. Employee characteristics (n = 427).

	n	(%)
Gender		
Men	271	63.5
Women	156	36.5
Age range		
From 18 to 24 years old	227	53.2
From 25 to 34 years old	99	23.1
From 35 to 44 years old	43	10.1
From 45 to 54 years old	41	9.6
55 or more	17	4.0
Generation		
X	58	13.7
Y	142	33.3
Z	227	53.2
Education status		
Primary education	12	2.8
Secondary education	17	4.0
Bachelor's degree	375	87.8
Postgraduate	23	5.4
Duration of work at the hotel		
Less than 5 years	216	50.6
6 to 10 years of employment	73	17.1
11 to 15 years of employment	81	19.0
16 years and over	57	13.3
Income		
17.001–25.000 TL	231	54.2
25.001–35.000 TL	89	20.8
35.001–45.000 TL	50	11.7
45.001 TL and over	57	13.3

4.2. Confirmatory Factor Analysis

Before proceeding to the path analysis of the research, the two-stage approach suggested by Anderson and Gerbing [74] was used. In this context, confirmatory factor analysis was performed as the first step. In the first stage, factor loadings were evaluated and it was determined that the factor loading of a statement from the environmental commitment dimension (“I strongly value the environmental efforts of my hotel”) was found to be 0.38. Hair et al. [73] recommend that statements with a factor loading of 0.50 or less should be removed from the scale. In this context, the relevant statement was removed from the scale and the model was reanalyzed. Within the scope of the final evaluation results, goodness of fit values were confirmed to be satisfactory ($\chi^2/df = 2.159$, NFI = 0.924, RFI = 0.911, IFI = 0.941, TLI = 0.931, RMSEA = 0.080, and CFI = 0.940).

When the Table 2 is examined, it is revealed that the values in each construct have a minimum factor load of 0.50 and above. In addition, all statements have significance at $p < 0.001$ level. It can be observed that the reliability levels are at minimum 0.70 or above for each factor. In addition, it can be said that AVE is at least 0.501 and CR is at least 0.716. In the light of these data, it was decided to proceed to the second stage of the research.

Table 2. Structural Model Confirmatory Factor Analysis Results.

Factors/Statements	Standard Loads	t-Value	R ²	CR	AVE	CA
Green leadership				0.897	0.535	0.925
My manager speaks about his/her environmental values and beliefs.	0.559		0.31			
My manager communicates enthusiastically about what we need to do to protect nature	0.652	11.21	0.36			
My manager gets me to look at environmental problems in new ways	0.986	18.51	0.87			
My manager provides teaching and coaching on environmental issues.	0.682	11.87	0.46			
My manager tells me what rewards I will get when I meet environmental goals (contingent reward).	0.587	10.15	0.34			
My manager does not act until environmental problems become serious (passive management by exception).	0.989	18.55	0.88			
My manager does not get involved when environmental issues arise in this facility.	0.675	11.73	0.45			
My manager is not very interested in how we minimize our facility energy usage.	0.572	9.92	0.32			
Environmental Commitment				0.900	0.610	0.875
I really care about the environmental concern of my hotel	0.642	10.07 *	0.35			
I would feel guilty about not supporting the environment	0.618	9.01 *	0.31			
The environmental concern of my hotel means a lot to me	0.708	10.93 *	0.38			
I sense a mission to support environmental concerns	0.970	13.01 *	0.84			
I sense that environmental concerns of my hotel are my own	0.681	10.43 *	0.36			
I take a personal interest in the environmental concerns of my hotel						
I have a sense of responsibility to promote the environmental efforts of my hotel	0.982	13.15 *	0.86			
I highly appreciate the environmental commitment of my hotel						
Environmental awareness				0.772	0.589	0.844

Table 2. Cont.

Factors/Statements	Standard Loads	t-Value	R ²	CR	AVE	CA
The effects of pollution on public health are worse than we realize	0.784		0.61			
Over the next several decades, thousands of species will become extinct	0.628	12.90 *	0.39			
Current environmental pollution has caused the world's climate to change	0.799	16.94 *	0.63			
Environmental protection will provide a better world for me and my children	0.844	17.90 *	0.71			
Employees' green behavior				0.974	0.843	0.924
I advise managers and guests on environmental protection practices	0.936		0.87			
I encourage the favourable practice of national and corporate environmental policies at this hotel	0.947	40.42 *	0.89			
I buy as much as I can green office products and services (e.g., energy-saving devices)	0.945	40.24 *	0.89			
I recycle materials that can be recycled in the hotel (e.g., paper/plastic packaging)	0.870	34.42 *	0.84			
I make efforts to reduce energy consumption in this facility (e.g., switching off lights when leaving the office, double-sided photocopying)	0.869	34.06 *	0.83			
I dispose of rubbish in the appropriate recycling bins in this hotel	0.913	35.05 *	0.85			
I engage in programmes for environmental protection (e.g., cycling/walking to work)	0.946	40.24 *	0.89			

* $p < 0.001$.

4.3. Hypothesis Testing

Hypothesis tests were carried out in light of the positive results obtained from goodness of fit values, factor loadings, convergent validity, and reliability tests [74]. The values of fit obtained from the path analyses were similar to the results obtained from the confirmatory factor structure analyses ($\chi^2/df = 2.155$, NFI = 0.924, RFI = 0.911, IFI = 0.941, TLI = 0.931, RMSEA = 0.080, and CFI = 0.940). The results of the research indicate that the perception of green leadership in hotel businesses significantly affected environmental commitment ($\beta = 0.439$; $t = 7.063$; $p = 0.001$). Similarly, it was determined that as green leadership practices for hotel employees increase, their environmental awareness also increases ($\beta = 0.380$; $t = 6.891$; $p = 0.001$). The effect of environmental awareness on environmental commitment was significant ($\beta = 0.0450$; $t = 7.690$; $p = 0.001$). However, no significant effect of environmental awareness on employees' green behavior was found ($p > 0.05$). On the other hand, when the effect of environmental commitment on employees' green behavior is evaluated, it can be said that it has a significant positive effect ($\beta = 0.521$; $t = 8.316$; $p = 0.001$). Conclusion: H₁, H₂, H₃, and H₅ are supported while H₄ is not supported.

4.4. Moderator Effect Result

The moderating effect of generation on the effects of green leadership perceived by hotel employees on environmental commitment and environmental awareness is indicated in Table 3. The findings of this study indicated a moderating effect of generation on the relationship between green leadership perception and environmental commitment (H₆: $\beta = 0.13$, CI [0.020, 0.245], $p < 0.05$) and between green leadership perception and environmental awareness (H₇: $\beta = 0.10$, CI [0.008, 0.208], $p < 0.05$). At the same time, the role of generation as a moderator in the relationship between environmental awareness and

environmental commitment was identified (H_8 : $\beta = 0.21$, CI [0.109, 0.314], $p = 0.001$). For each accepted moderating effect, it can be said that individuals belonging to Generation Z have higher effect intensity than individuals belonging to Generation X. For example, Generation Z individuals' perceptions of green leadership have a higher effect on their environmental commitment than those of Generation X individuals (Generation X: $\beta = 0.62$, $t = 12.98$, $p = 0.001$; Generation Z: $\beta = 0.75$, $t = 13.29$, $p = 0.001$). The moderating role of generation in the effect of individuals' high environmental commitment on employee's green behavior was insignificant. ($p > 0.05$). Based on these results, H_6 , H_7 , and H_8 are accepted while H_9 and H_{10} are rejected.

Table 3. Moderator Effect Results.

Moderating Effect:		Environmental Commitment				
		β	Confidence Interval			
			Min.	Max.		
Hypothesis 6						
Green leadership (X)		0.35 **	0.083	0.631		
Generation (W)		0.31 **	0.091	0.793		
X.W (Interaction)		0.13 **	0.020	0.245		
R ²		0.39				
Generation	β	S.E.	t	LLCI	ULCI	
X	0.62 *	0.04	12.98	0.534	0.714	
Y	0.73 *	0.05	13.05	0.640	0.869	
Z	0.75 *	0.05	13.29	0.644	0.897	
		Environmental Awareness				
		β	Confidence Interval			
			Min.	Max.		
Hypothesis 7						
Green leadership (X)		0.46 *	0.222	0.710		
Generation (W)		0.29 **	0.094	0.694		
X.W (Interaction)		0.10 **	0.008	0.208		
R ²		0.47				
Generation	β	S.E.	t	LLCI	ULCI	
X	0.61 *	0.04	15.21	0.690	0.893	
Y	0.68 *	0.04	15.27	0.601	0.839	
Z	0.72 *	0.05	16.38	0.606	0.765	
		Environmental Commitment				
		β	Confidence Interval			
			Min.	Max.		
Hypothesis 8						
Environmental Awareness (X)		0.18 **	0.065	0.429		
Generation (W)		0.57 *	0.272	1.042		
X.W (Interaction)		0.21 *	0.109	0.314		
R ²		0.46				
Generation	β	S.E.	t	LLCI	ULCI	
X	0.60 *	0.04	14.78	0.526	0.687	
Y	0.71 *	0.04	15.63	0.715	0.921	
Z	0.78 *	0.05	15.80	0.719	0.928	

Table 3. Cont.

Hypothesis 9	β	Confidence Interval	
		Min.	Max.
Environmental Commitment (X)	0.01 ^a	−0.409	0.441
Generation (W)	0.07 ^a	−0.703	0.548
X.W (Interaction)	0.02 ^a	−0.197	0.152
R ²	0.09		
Employees' green behavior			
Hypothesis 10	β	Confidence Interval	
		Min.	Max.
Environmental Awareness (X)	0.44 ^a	−0.003	0.878
Generation (W)	0.28 ^a	−0.384	0.976
X.W (Interaction)	0.01 ^a	−0.316	0.045
R ²	0.02		

* $p < 0.001$, ** $p < 0.05$, ^a: no significant.

The results related to the hypotheses can be seen in Table 4.

Table 4. Results of inner model.

Relations	Path Coef.	t-Value	p	Supported
GL → EC	0.439	7.063	0.001	Yes
GL → EA	0.380	6.891	0.001	Yes
EA → EC	0.450	7.690	0.001	Yes
EA → GEB	0.053	0.714	0.206	No
EC → GEB	0.521	8.316	0.001	Yes
GL × GEN → EC	0.130	2.319	0.028	Yes
GL × GEN → EA	0.108	2.127	0.033	Yes
EA × GEN → EC	0.212	4.071	0.001	Yes
EC × GEN → GEB	0.022	0.250	0.802	No
EA × GEN → GEB	0.013	1.472	0.141	No

GL: green leadership; EC: environmental commitment; EA: environmental awareness; GEB: employees' green behavior; GEN: generation.

5. Discussion

Despite the economic and social benefits of the tourism sector, it also causes various damages to the natural environment and ecosystems [75]. Solutions such as low energy consumption [76], use of recyclable materials [77], waste management [78], and environmental management strategies [79] have been developed to minimize or eliminate these problems. These precautions taken alone are not sufficient and the impact of tourism on natural and cultural heritage is increasing [80]. It has been stated that the spread and development of sustainable tourism will become possible by including the personnel working in the sector in the plans and programs prepared in this context [12]. It is known that the green behaviors of individuals working in tourism and accommodation businesses are critical in achieving the goals of sustainable policies.

When we reviewed the studies examining green employee behaviors in the tourism literature, we observed that studies on general topics such as happiness [81], corporate social responsibility [29], environmental performance [9], environmental knowledge and anxiety [82], and job performance [83] have been reported. However, to make sustainability permanent and long-term, it is very important to develop employees' awareness and commitment to environmental issues through their leaders [35]. The achievement of

environmental sustainability policies depends on the green behaviors of employees [12]. From this point of view, our research has tried to explain the effect of green leadership behavior on employees' environmental commitment, awareness, and green behavior in sustainable tourism activities and has additionally examined the moderating role of the age categories of employees on these processes.

Firstly, the impact of green leadership on employees' environmental awareness and commitment was investigated. As a result of the analysis, it was observed that green leaders positively increase the environmental awareness and commitment of employees. It has been found that there are a limited number of studies in the literature examining the relationship between green leaders and environmental commitment and awareness. Those limited studies were analyzed; in their research on the manufacturing sector in Pakistan, Khan et al. [84] found that green leadership positively increased environmental knowledge. It is known that increasing environmental knowledge in individuals directly increases awareness. In this respect, the research supports the results obtained. In another study, Asbari [34] stated that one of the three most important roles of a green leader is to raise awareness. Green leaders contribute to the development of their subordinates' awareness by increasing their concern about environmental problems [34]. From the opposite perspective, it has been stated in the literature that an increase in environmental awareness also increases the performance of the green leader. In this respect, Suliman et al. [85] indicated in their study that leaders with high environmental awareness have a high potential to encourage environmentally friendly behaviours. In another study, it was mentioned that leadership increased the environmental commitment of individuals and in addition, it was noted that green creativity developed [86].

Considering the other findings of our research, the effect of environmental commitment and awareness on employees' green behaviors was examined. It was found that environmental awareness had no effect on green employee behavior, but environmental commitment had a positive effect on green employee behavior. Nasir et al. [87] stated that environmental commitment had a moderating role on the development of environmentally friendly behaviors in their study. They also stated that green human resource management practices increased commitment within the organization and environmental commitment mediated green behavior [87]. In another study, it was determined that consumers' environmental commitment had a positive effect on green purchasing and thus, on green behavior [88]. The results of our research overlap with the results obtained in that study. However, Shen et al. [89], in their study on 370 visitors in Yangmingham National Park, reported that levels of environmental commitment did not have any effect on the willingness to pay the entrance fee to the park required for environmental protection. That result does not overlap with the results of our study.

When we consider the studies in the literature that examine the relationship between environmental awareness and employees' green behavior, it can be seen that there are studies both compatible and incompatible with the results of our research. Safari et al. [90] stated that environmental knowledge and awareness positively affected the green behaviors of managers by 34%, in a study conducted on a business in Iran. This conclusion is not compatible with the conclusions of our research. Neruja and Arulrajah [91] conducted research on commercial bank employees in Sri Lanka and stated that environmental awareness had a significant positive effect on the green behavior of bank employees. The findings of that study conducted by Neruja and Arulrajah [91] coincide with the findings of our research. However, in a different study, it was stated that although individuals may have high environmental awareness, if individuals have weak environmental commitment, they do not feel responsible for behaviors that support sustainable tourism practices [92]. In other words, it can be stated that high awareness among individuals does not bring green behavior [92]; the results of that study coincide with the findings of our research. In a different field study, it was emphasized that environmental awareness does not guarantee active environmentally friendly behavior [45].

When another finding of our research was evaluated, it was observed that the environmental commitment of hotel employees with high environmental awareness increased. This finding is supported by other studies in the literature. In their study, Perron et al. [93] claimed that as the environmental awareness training of the members of an organization increased, their understanding of environmental policies increased. This situation has been found to lead to the development of permanent knowledge and commitment to environmental issues in employees [93]. In another study, it was stated that the environmental commitment of staff with increased environmental information and awareness was positively affected [90]. When the previous studies are examined, it can be seen that the results of our research are compatible with those in the literature.

When the other findings of our research were evaluated, the moderating role of generation on the relationship between green leadership awareness, commitment, and green behavior was examined in the context of generational theory. The findings revealed that generation had a moderating role in the relationship between green leadership and environmental commitment and awareness. As a result, it was determined that the effect of the green leadership perceptions of Generation Z individuals on their environmental commitment and awareness is higher than for Generations X and Y. According to the review of studies in the literature, Törn-Laapio and Ekonen [24] stated in their research that the tourism sector includes individuals from all generations and therefore, each generation has its own behaviors. Loverioa et al. [94] argued that Generation Z working in tourism will be more likely to exhibit green behaviors when environmental awareness is created with the right training and guidance. In another study, it was reported that guiding and educating Generation Z individuals, who are newly entering the tourism sector and called the green generation, about sustainable activities increased environmental awareness [95]. Moreover, another study indicated that the environmental protection awareness of the next generation is higher than that of the previous generation [96]. As emphasized in previous studies, it is known that each generation exhibits different behaviors depending on their beliefs and attitudes [26,58,59]. It was found that the findings obtained in previous studies overlap with the findings of our study.

Another finding of this study was that in the context of generational theory, generation played a moderate effect on the correlation existing between environmental awareness and commitment. In the literature, the research by Severo et al. [97] stated that the knowledge and awareness in each generation regarding environmental problems does not create environmental responsibility. It has been observed that the high awareness of Generation Y does not create environmental commitment [97]. In another study by Severo et al. [98], it was found that environmental awareness and people's awareness of responsibility for environmental sustainability differed according to their age.

In the final findings of this study, it was determined that the generational theory model does not indicate have a moderating role for generation in the relationship between environmental commitment and awareness and employees' green behavior. This result can be compared with other studies in the literature; Kim et al. [99] expressed that generational differences had an effect on the relationship between environmental concerns and awareness and pro-environmental behavior, according to their research in the tourism and hospitality sector. It has been reported that Generations X and Y differ significantly in terms of their relationships between environmental concern and green behavior [99]. In another study, it was revealed that Generation Z individuals have less environmental awareness than Generation X and Generation Y individuals and that they participate much less or not at all in collective actions to protect the environment [100]. These results in the literature do not coincide with the findings of our study.

6. Conclusions

The results of this research can be expressed as follows. Firstly, it was determined that green leadership positively affects environmental commitment by 43% and awareness by 38% among hotel employees. This result indicates that the awareness of hotel

employees operating in summer tourism activities regarding environmental problems, and their commitment to the natural environment, can be improved through green leaders. Amoaka et al. [21] suggested that a green leader has a leadership style that contributes to the creation of services and products by employees in accordance with environmentally friendly policies. Our research shows that green leaders are an important factor in creating lasting behavioral changes on the way to employees' green behaviors.

The second result of the research is that employees' green behaviors are positively affected by environmental commitment, at a rate of 52%, but not by environmental awareness. This situation clearly shows that employees' knowledge and awareness of environmental problems alone is not effective for the formation of green behavior. However, it was also observed that the individual applies his/her commitment to an issue at the point of performing his/her behavior, and when employees feel commitment to the natural environment and sustainable policies, they intend to exhibit pro-environmental behaviors. The third result of this research is that environmental awareness positively affects environmental commitment, by 45%. This indicates that individuals with environmental knowledge and awareness can develop their beliefs and attitudes towards the natural environment and create long-term commitment.

The fourth result of our research is that 13% of the relationship between green leadership and environmental commitment is moderated by generational theory, and 10% of the relationship between green leadership and environmental awareness is moderated by generational theory. In addition, it was found that the generational theory has a moderating role in the relationship between environmental awareness and environmental commitment, at a rate of 21%. In our research, it was determined that the impact intensity of individuals belonging to Generation Z is higher than individuals belonging to Generation X. However, it has been revealed that generational theory does not show any moderating role in the relationship between environmental awareness and commitment and employees' green behavior.

7. Implications

The study has examined the effect of environmental commitment and awareness on green employee behaviors, which are at the center of the concept of sustainability and very important in terms of tourism. Furthermore, the correlation between environmental commitments and awareness and green leadership has been explored and the role of generation as a moderator in these relationships has been identified. The results have been compared with previous studies in the literature and the differences between this study and other studies have been presented. In light of the above results, our research offers various practical and theoretical contributions to tourism and hotel businesses as well as academic studies.

7.1. Theoretical Implications

Environmental issues in the tourism sector have been studied in many research projects. However, it has been observed that the research on employees, who constitute the basis of environmental sustainability, has been quite limited. Meanwhile, this issue has not been investigated in detail. At this point, our research has determined that the concept of green leadership increases the environmental awareness of tourism employees and positively improves environmental commitment. When the contributions of this result to the literature are evaluated, it helps us to understand the impact of green leadership on employees in tourism and hospitality businesses. It is thought that increasing environmental commitment will provide an important force for hotels to implement sustainable policies. In addition, increasing the environmental awareness of employees also suggests that there will be more participation in the environmental practices planned by the hotels.

Tourism is one of the sectors that includes four different generations of employees. However, studies examining the moderating effect of generation on the emergence of green behaviors are quite limited in the tourism literature. At this point, the main objective of

the theoretical support for our research is that the age categories of employees have a moderating impact on the environmental awareness and commitment of green leaders in tourism and hospitality businesses. The lack of studies addressing this issue in the literature points to an important gap. In addition, our research also indicates that awareness of environmental problems, which constitutes the main motivation for employees to exhibit green behaviors, is effective in transforming long-term and permanent behaviors. This result indicates that personnel with high environmental awareness will be more willing to fulfil the solutions developed for environmental problems. This provides an essential addition to the related literature.

7.2. Practical Implications

The present study has several potential practical consequences for practitioners. Firstly, green leadership behavior increases the environmental commitment and awareness of employees. In this respect, it is thought that it would be beneficial for tourism and hospitality businesses to create spaces where green leaders can apply the necessary strategies to manage their teams. For example, by choosing green human resources management practices and selecting employees from environmentally responsible individuals, leaders will be able to guide individuals more easily on environmental sustainability issues. The green leader's support for the environmentally friendly behaviors of his/her teammates via various reward mechanisms will be an important factor in strengthening loyalty [101]. In addition, it is thought that department managers sharing with employees their knowledge on current environmental problems will further increase environmental awareness. This result provides some competitive advantages to tourism and hospitality businesses in the sector. Having a working environment where sustainable activities are at the forefront contributes to creating a pro-environmental corporate image. Based on this result, it is thought that trust and loyalty towards the business can be increased by attracting the attention of tourists.

The results of this research indicate that environmental awareness positively affects employees' environmental commitment. This finding offers various practical implications for the tourism and hospitality sector. It is thought that increasing the environmental awareness of the personnel working in hospitality businesses will help them to adopt sustainable policies. This will facilitate the implementation of energy saving, waste reduction, and environmentally friendly projects. In addition, it is thought that individuals with high environmental commitment will be willing to take part in non-governmental organizations dealing with environmental problems. In this respect, it is predicted that individuals with high environmental commitment will be more likely to participate in sustainable social activities.

In our research, it has been found that environmental commitment and awareness positively affect the green behaviors of employees. In this regard, tourism and hospitality businesses should emphasize the importance of employee behaviors while implementing sustainable policies and plans [27]. For example, managers should involve employees in the hotel's pro-environmental policies by using internal communication channels. It is thought that it will be important to implement sustainable policies in relation to issues such as waste management, use of recyclable materials, and prevention of waste. Moreover, it is suggested that if employees with high environmental commitment exhibit green behaviors while performing their duties, it will be important for the sustainability of their behavior that the hotel management should introduce practices such as various awards or green stars to encourage the employees. Providing up-to-date environmental training to employees can improve awareness and commitment.

In our research, it has been revealed that the age categories of the employees are moderators in the relationship between green leadership and environmental commitment and awareness. These results include various suggestions for leaders in practice. As stated in the literature section, it is known that each generation has a different view of working life. Green leaders should be aware of these beliefs and attitudes towards working life according

to the age categories of the individuals in their teams. In this way, it will be easier for the leader to direct the team, and it will be easier for the sustainable policies of the enterprise to be realized. In addition, this result suggests that in tourism and hospitality businesses' efforts to create environmental commitment, it would be beneficial for leaders to approach experienced employees via traditional and practical methods and young employees via technology-oriented and innovative methods.

7.3. Limitations and Future Research

Our research was carried out in hotels in the Manavgat district of Antalya, among the most important tourism destinations in Turkey. The hotels in our research were not considered within the scope of green hotels. This situation represents the limitation of our research. However, the testing of the research model on employees in both green and non-green hotels to see to what extent green hotels serve these purposes will provide various benefits to both the literature and practitioners. Additionally, it is thought that it will be useful for readers to take this limitation into consideration when generalizing the results of our research.

The model which was created in our research was carried out with employees of summer tourism activity hotels. This situation constitutes a limitation, as it covers only one field of activity. In this respect, it would be useful to test the research model on individuals working in different tourism organizations (e.g., winter tourism, cultural tourism), in future studies. Furthermore, in our study, generational theory was tested in its moderating role. It is thought that it will also be useful to study the moderator role of social norms [102], self-efficacy [103], and altruism [104] to better explain the long-term and permanent development of employees' green behaviors, which are very important for environmental commitment and sustainable tourism.

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