

Research Paper

Do Yoga Be Sustainable: Examination of sustainable consumer behaviour of yoga practitioner

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ABSTRACT

One of the most critical conditions for individuals to develop and adapt the sustainable consumption understanding is to create sustainable consumer behaviors. Therefore, it is considered important that the individuals become conscious and act with sustainable consumption behaviors. At this point, examining the current circumstances for the relationship between Yoga and sustainable consumer behaviors and knowing the effects of Yoga on sustainable consumption behavior is one of the significant matters that must be assessed within the scope of sustainable consumer behavior and the context of sports and health services sector. Accordingly, the aim of present study was to examine and compare the sustainable consumption behaviors of yoga practitioners environmentally, economically, and socially. The sample of the study was consist of 307 yoga practitioners. To determine sustainable consumer behavior of yoga practitioners, the "Sustainable Sports Consumer Behavior Scale" was used. Sustainable consumer behavior of yoga practitioners was examined through descriptive analysis. In comparisons, t-test and one-way analysis of variance (ANOVA) were used. Also, Bivariate correlation analyses were used to examine the relationship with some variables. As a result of the research, it was found that yoga practitioners have a high level of sustainable consumption behaviors. Besides, it has been determined that the sustainable behaviors of yoga practitioners do not differ based on variables such as education and age but differ based on yoga experience. In this regard, it has been concluded that, as the yoga experience of individuals increases, their tendency to behave as sustainable consume also increases.

Keywords: Sustainability; yoga; sustainable consumer behavior; sustainable marketing.

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1. INTRODUCTION

Sustainable consumption has become one of the key subjects of recent years, which must be carefully addressed to meet the requirements of future generations and due to its effects on the economy, society, and environment (Banbury et al., 2012; Yüce et al., 2020a).

Global climate changes, changes in ecological structure, consumption-driven growth, and the resulting social inequalities and such circumstances have caused humanity to feel more stressed and concerned about these matters and driven individuals to take actions for solutions of these problems or look for alternative solutions (Sheoran & Kumar, 2020; Helm et al., 2018). "Responsible Consumption and Production" is goal 12 of the 17 goals in total in the report "2030 Sustainable Development Goals" published by the UN. In this respect, it could be expressed that it leads the solution recommendations deriving from sustainable consumption concept and the relevant elements (Sheoran & Kumar, 2020; Seyfang, 2007; Belz & Peattie, 2012).

One of the essential objectives of sustainable marketing concept is to encourage individuals to adopt a sustainable life and create a culture for sustainable lifestyles (Grant, 2007). In this regard, it could be suggested that the main objective of the sustainable marketing activities is not limited with the sustainable consumption behaviors, but it also aims to create sustainable consumer behaviors. The most significant stage of creating a sustainable consumption insight based on the idea of sustainable marketing for sustainable consumption (Sheth & Parvatiyar, 2021; Yüce & Katırcı, 2020) is to raise awareness of sustainable consumer behaviors and ensuring its continuity (Quoquab et al., 2019; Belz & Peattie, 2012; White et al., 2019; Sheoran & Kumar, 2020; McKenzie-Mohr, 2011; Trail & McCullough, 2019; Rathinamoorthy, 2019; Klug & Niemand, 2021).

Martinez et al. (2015) have expressed that, when consumers start to concern about the environmental effects of their daily consumption, this is the starting point of the sustainable consumption. In parallel, Meijers et al (2013) have stated that, after the first sustainable action, the individuals tend to continue this action and therefore the sustainable behavior could become continuous. At this point, it becomes clear once again that the crucial element of the sustainable consumer behavior is to raise awareness.

Various studies (Schmidt, 2006; Casper et al., 2014; Trendafilova et al., 2014; Inoue & Kent, 2012; Trail, 2015; Trail, 2016; Trail & McCullough, 2019; Yüce & Katırcı, 2020) indicate that sports or activities or content directly or indirectly related with sports can be used as a means to raise awareness among individuals on sustainable consumer behaviors and make these individuals adopt them. Subrahmanyan and Gould (2012) state that spiritual practices such as Yoga can both inform people on sustainable consumption and guide them towards it. United Nations (2016) has also emphasized that yoga practices are ultimately linked with all the socio-political and environmental goals of sustainable development and understanding of the unique features of Yoga and its central place for the achievement of SDGs. Therefore, assessing the relationship of Yoga-sustainability and sustainable consumer accordingly is important for understanding the link between Yoga and sustainability. In the light of this information, studying the existing sustainable consumer behaviors of yoga practitioners for the relationship between Yoga and sustainable consumer behaviors and having knowledge of the effects of yoga philosophies on sustainable consumption behavior are among the key points that deserve scientific attention and are required to be evaluated, within the scope of sustainable consumer behavior and sustainable marketing. Accordingly, this research aims to examine and compare the sustainable consumption behaviors of yoga practitioners in environmental, economic, and social aspects. In this context, the research questions that guided this study as follows:

 RQ_1 . What is the level of social-environmental-economic sustainable consumer behaviors of yoga practitioners?

 RQ_2 . Are there any statistical differences or relationships between the sustainable consumer behaviors of yoga practitioners depending on demographic variables?

Within this purpose, it could be known how probable it is to convert ordinary consumers into sustainable consumers or to maintain stability in sustainable consumer behaviors by yoga teachings focused on sustainable consumptions and by sustainable marketing. In other words, correction of the possible positive effects thought to have created on the yoga practitioners by the yoga doctrine for responsible and sustainable consumption contained within the yoga philosophies, may enable people, who do not actively practice Yoga, to adopt a healthy and sustainable lifestyle through Yoga. It also reveals that SDG's 3 health factors are among the essential parts of sustainable development (UN, 2015). Accordingly, with the results to be obtained in this study, the statement in the literature suggesting that

individuals can both lead a healthy life as part of well-being and increase their awareness of social, environmental, and economic sustainability can be tested. Moreover, it will also be possible for individuals to have a selective perception of sustainable marketing strategies with the perceptions and their effects that they will have by this means. In addition to these, it will be possible to strengthen the relationships between Yoga and sustainable consumers, bring out the new approaches and encourage sustainable consumption awareness in all aspects by sustainable marketing. It is seen as a significant research gap that the previous studies on sustainable consumer behavior in sports are so limited, and there are no studies carried out on sustainable consumer behaviors and perceptions of yoga practitioners. Accordingly, it is considered significant to scientifically reveal "the sustainable consumer behaviors and experiences of yoga practitioners" as a research gap, which is thought to exist on this subject.

2. LITERATURE REVIEW

2.1. Sustainability, sustainable consumption, and sustainable marketing

Sustainability has been one of the key subjects of the global agenda since it was discussed in general terms in The United Nations (UN) Conference on the Human Environment (also known as the Stockholm Conference) in 1972 (United Nations, 1972). Whereas there have been several definitions so far, the most accepted and frequently used definition of the Sustainability concept is as "Development that meets the needs of the present without compromising the ability of future generations to meet their own need" (WCED, 1987, p. 42). Symbolizing the balance considered to meet the needs of the humanity in both current and future periods (Brown, 1995; Caradonna, 2014; Appleton, 2006), the sustainability concept has taken its place among the significant application policies of many countries across the world (UN Agenda 21, 1992; WCED, 1987, UN, 2002, UN, 2012, Rio+20, 2012) with quite significant agreements and conferences during the historical process (e.g. "Agenda 21", "Our Common Future", "Johannesburg Declaration", "The Future We Want"). It has been emphasized with the all conferences and meetings held during the period that the sustainability concept must be considered within a balance environmentally, socially, and economically, and that it is required to carry out these processes consistently, and the activities for this concept has been monitored periodically (UN, 2002, UN, 2012, Rio+20, 2012).

Studies conducted by various disciplines on sustainability concept, primarily with the existential concerns and anxieties of the humanity, as a reaction to the changes in

ecological structure, policies applied by decision-makers and environmental problems gradually becoming clearer especially from 1990 and onwards suggest that the sustainability concept is also a significant existential effort (Clayton & Radcliffe, 2018; Dovers & Handmer, 1992; Giddings et al., 2002; Holden et al., 2014; Slaper & Hall, 2011; Keiner, 2006).

Addressing generally to the complex connections between the environment and the human activity, the sustainability concept is related to the productive capacity of the environment and all elements comprising the environment (land and soil, water, air, biodiversity, vegetation, and animal welfare) and nurturing of this capacity (Craig, 2019). Nevertheless, it is considered an unavoidable requirement to consume this productive capacity and protect it. Primary actions taken by the societies under the sustainability concept include using energy more responsibly, transportation preferences, protecting the ecology and food resources, preferring and using green products more compared to the conventional products and many such activities (Ayres et al., 2013; Fedrigo & Hontelez, 2010; Kronrod et al., 2012; Miller, 2009; Berry et al., 2015).

One of the most significant subjects of the sustainability is definitely the sustainable consumption. Approaches regarding sustainable consumption also have different points of view, as it is in the sustainability concept. Accordingly, some of the definitions suggest that the sustainable consumption is more responsible in social terms (Leigh et al., 1988; Dolan, 2002). In other words, having the mentality of consuming more efficiently or consuming less, this opinion suggests using the natural resources responsibly and wisely to enhance the life standards (Odabaşı, 2004; Jackson, 2014). Based on the idea of using without consuming, this opinion also emphasizes the requirement to decrease the consumption, increase the awareness of consumption and take necessary actions (Dolan, 2002; Jackson, 2005). Another opinion on sustainable consumption expresses the requirement to consume the products with sustainable properties, which are not harmful to the environment, rather than consuming less (Jackson, 2014; Young et al., 2010). Favoring also the idea that consuming products with sustainable properties will enable producing more sustainable products, this opinion suggests the requirement to encourage sustainable production as well (Jackson, 2014; Tseng et al., 2013; Tseng et al., 2016). In this respect, it is stated that the sustainable consumption concept, which is also directly related to the sustainable marketing discipline, is one of the leading solution recommendations set out to bring the sustainable consumption to the demanded level (Belz & Peattie, 2012; Seyfang,

2007; Danciu, 2013; Kemper & Ballantine, 2019; Spangenberg & Lorek, 2019). However, there have been some critical approaches to the sustainable marketing and consumption concept. Whereas the marketing concept is one of the primary driving powers of consumption, sustainability aims to satisfactorily meet the requirements of today without affecting the life quality of the future generations. This point of view suggests that marketing/consumption has many contrasting characteristics with sustainability in many aspects. In this regard, the most significant criticism against the sustainable consumption is the idea that it is not reasonable to characterize it as sustainable while individuals are encouraged to consume. However, whereas some criticisms suggest that, if sustainable consumption is demanded, it is only possible by reducing the amount of consumption, some studies (Anwar & El-Bassiouny, 2020; Jones et al., 2008; Quoquab & Mohammad, 2019; Katrandijev, 2016; Kemper & Ballantine, 2019; White et al., 2019) state that the relationship between and the importance of marketing and sustainability continuously increase, and some studies (Belz & Peattie, 2012; Van Dam & Apeldoorn, 1996; Fisk, 1973; Fisk, 1974) try to clarify this matter with a broad point of view within responsible consumption. The relationship between sustainability, consumption, consumer, and marketing was clearly discussed by Fisk (1973) in publications A Theory of Responsible Consumption initially and later in Marketing and the Ecological Crisis (Fisk, 1974). The process expressed as ecological imperative is as presented in Figure 1:

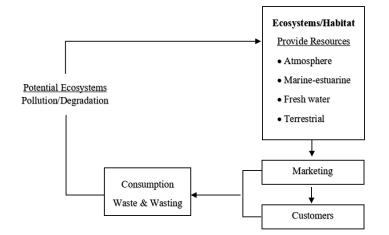


Figure 1. The Ecological Imperative: Marketing's Linkage to Potential Ecosystems Pollution/Degradation (Fisk, 1974)

Fisk (1974) suggests that the ecosystems containing all resources are also the waste storages where waste and wasteful usage are recycled. Marketing is the element that facilitates the function of the process in Figure 1. Marketing function includes many correlational industrial, commercial activities and the activities that trigger the customer activities, which facilitate consumption, receive the resources, produces and distributes the products, cause waste/pollution at the same time and harm the ecosystems. In parallel, an increase in the human population and prosperity level triggers the increase in all activities mentioned to meet the consumption needs, as well. The requirement to put into action the sustainable marketing practices to deal with all these eco-costs has been stated (Fisk, 1974).

Kemper and Ballantine (2019) have suggested that all these marketing strategies and activities can be assessed within the term Sustainable Marketing even though there are different approaches and definitions for sustainable marketing concept (e.g., Green Marketing, Ecological Marketing, Sustainability Marketing) (Kemper & Ballantine, 2019). In this respect, sustainable marketing is, in short, carrying out the marketing activities in compliance with the development principles (Van Dam & Apeldoorn, 1996). In a broader context, it can also be defined as the marketing strategies which are environmentally friendly by considering the benefit of current and future generations/customers, employees, and society, fair in economic terms, and designed based on equality in social terms (Emery, 2012). In this regard, it is stated that the sustainable marketing includes social justice and ethical consumption elements and deals with how to make the consumption greener, more ethical, and sustainable, and how it will comply with the sustainable development (Robbins, 2007). Consequently, in a broad perspective, sustainable marketing can be defined as a marketing strategy that aims to establish sustainable relationships between social environment and natural environment and create value to protect, convey, present, and sustain both the natural and human capital (Belz & Peattie, 2012). Today, marketers need to renew their pricing, distribution, product development, communication, and branding activities within the scope of sustainability concept due to the increase in environmental awareness of individuals and societies and the resulting change in insight (Kotler, 2011). In parallel, the consumers are considered not as the people who only focus on consumption behaviors and have excessive greed, but as the people who would like to live well and healthy (Ottman, 2011; Pike & DesRoches, 2020). Grant (2007) expresses that one of the primary purposes of the sustainable marketing concept is to inspire individuals to adopt a sustainable life and to create a culture that will host sustainable lifestyles. In this regard, it could be suggested that the main purpose of the sustainable marketing activities is not limited to sustainable consumption behaviors,

but it also aims to create sustainable consumer behaviors.

2.2. Sustainable consumer behaviour, sustainability, and yoga

Based on the awareness of individuals of the long-term environmental, social and economic effects of their actions, the sustainable behavior (Epstein & Buhovac, 2014) has taken its part in consumer behaviors with significant increases in environmental awareness. Some of the studies carried out accordingly (Antonides, 2017; Bhamra et al., 2011; Joshi & Rahman, 2015; Neo et al., 2017; Laroche et al. 2001; Gilg et al., 2005; Trudel, 2019; Bullard & Manchanda, 2013; Young et al., 2010) state that the consumers consider not only the benefit they will have but also the environment and the effects on the environment when making their choices during the purchase behaviors. Belz & Peattie (2012) have stated that understanding the sustainable consumer behavior is related to three general approaches, which are rational, psychological and sociological. Consumers adopting the rational approach only focus on the cost/benefit ratio. If the cost of consumption exceeds their benefits, the consumers will not proceed, but if the benefits exceed the cost, this time, the consumers will proceed. According to the rational approach, the more the marketers inform the consumers about the sustainable options, the more the level of information of consumers will increase, and the more the consumers will behave sustainably. The psychological approach focuses on how people think feel, what kind of beliefs and attitudes they have for the products and actions. The psychological approach also focuses on personal beliefs and interests. In other words, individuals must believe in the positive effects of sustainable activities. The sociological approach is based on social norms. This approach suggests that the geographical region where the individuals live, cultural and similar social norms that they have are important for individuals to adopt sustainable consumption behaviors (Belz & Peattie, 2012).

Sustainable consumer behavior can be defined as all of the activities to reduce the adverse environmental effects by minimizing the use of natural resources throughout the life cycle of products, behaviors, or services (White et al., 2019). Whereas the sustainable consumer behaviors focus predominantly on environmental sustainability, it is stated that improving environmental sustainability is possible with both social and economic sustainability concepts with an integrating approach (White et al., 2019). In other words, sustainable consumer behavior covers the consumption behaviors to protect both the physical and social environment. Bonnes and Bonaiuto (2002) have suggested that consumer behaviors have taken a crucial part in all processes since the emergence of the environmental

problems and that consumption, waste, pollution, and selfish behaviors lacking equality are the components of the behaviors that significantly shape the environmental quality. In addition, the requirement of sustainable behaviors that cover a series of environmental, social, and economic conscious and effective actions with an integrating approach to minimize these adverse effects has been emphasized (Chernev & Blair, 2015; Antonides, 2017; Buerke et al., 2017; Ritch et al., 2009; Savitz & Weber, 2013; Fischer et al., 2021). Some studies (Schmidt, 2006; Casper et al., 2014; Trendafilova et al., 2014; Inoue & Kent, 2012; Trail, 2015; Trail, 2016; Trail & McCullough, 2019; Yüce & Katırcı, 2020) suggest that one of the most effective means for the individuals and consumers to become aware of the sustainable consumption behaviors or adapt these behaviors is sports or activities or content that are directly or indirectly related with sports. In parallel, United Nations (UN) (2017) has expressed that sports offer unique opportunities to encourage peace and development goals and inspire a global movement, and emphasized that sports is the most significant means of the sustainable development. "Responsible Consumption and Production" is goal 12 of the 17 goals in total in the report "2030 Sustainable Development Goals" published by the UN. When emphasizing the importance of sustainable production and consumption, the determination to manage the natural resources sustainably, take immediate actions for climate changes to protect the needs of both current and future generations without breaking the balance has been expressed in the most essential manner (United Nations, 2015, s.24). In a special event named Yoga for the Achievement of Sustainable Development Goals (SDGs), held by UN as well in 2016, it was emphasized that the golden practice of Yoga is ultimately linked with all the sociopolitical and environmental goals of the sustainable development and understanding of the unique features of Yoga and its central place for the achievement of SDGs (United Nations, 2016).

Therefore, assessing Yoga-sustainability and sustainable consumer relationship accordingly is important for understanding the link between Yoga and sustainability (Das, 2018). In this context, it is expressed that spiritual practices such as Yoga can both direct the sustainable consumption and inform individuals as these practices establish bonds between the person and his/her daily consumption (Subrahmanyan & Gould, 2012). It has also been expressed that, following the universal behavior rules based on moral, ethical, and behavioral imperatives defined in the eight-fold path related to the human life, which is considered to exist in the essence of Patanjali's Ashtanga Yoga, as well as in all

practices of Yoga, will enable creating a more sustainable society (Das, 2018; Subrahmanyan & Gould, 2012; Bhagwat, 2008; Braunius, 2020). In respect of the 3 pillars of sustainability, as suggested by Bhagwat (2008), Patanjali's Yamas & Niyamas code of conduct guides (Table 1,2) clearly express the relationship of sustainability, sustainable consumption, and Yoga.

Yamas		Code of conduct	
	Social	Environmental	Economic
Ahimsa Non-violence	Non-violence of actions as well as words	Reducing environmental costs of meat consumption	Curbing exploitation of and violence to child labour
Satya Truthfulness	Being honest and truthful with other fellow citizens	Preventing malpractices in environmental impact assessments	Honest pricing of goods and services
Asteya Non-stealing	Not stealing what does not belong to us	Not assuming high CO2 emissions quota; cutting emissions	Fair trading
Brahmacharya Continence	Not looking at sex as recreation, but as act of love and devotion	Preventing population growth; preventing causes of STDs such as HIV-AIDS	Preventing economic effects of population growth such as poverty, inequality
Aparigraha Non- possessiveness	Refraining from 'status anxiety' in the society	Not driving gas guzzlers	Not coveting multiple buy-to-let propertie

Table 1. Patanjali's code of conduct guides Yamas with reference to the three pillars of sustainability

Source: Bhagwat (2008)

Table 2. Patanjali's code of conduct guides Niyamas with reference to the three pillars of sustainability

Niyamas		Code of conduct	
	Social	Environmental	Economic
Shaucha	Purity of thoughts as	Cleanliness of the	Keeping accounts and
Purity	well as actions	Surroundings;	financial transactions
		preventing pollutions	clean
Santosha	Being satisfied with	Creating environment	Being content with small
Contenetment	what we have; not	conducive to	economy rather than
	envying others for what	peacefulness around	running after perpetual
	they have	us	growth
Tapas	Doing our very best	Do our bit for the	Working hard rather than
Austerity		environment	depending on
			state benefits
Swadhyaya	Being aware of our	Being informed about	Being informed about
Self-study	actions on other	environmental effects	economic effects of the
·	fellow citizens	of our actions	choices we make
Ishvvar	Being modest and	Recognising that we	Donating to charities and
Pranidhan	recognising that there is	cannot conquer nature	good causes; recognising
Devotion	a force more powerful	with technology alone;	that there are people who
	than ourselves	we need to act to avert	need help
		Climate Change	-

Source: Bhagwat (2008)

As indicated in Table 1 and Table 2, the relationship between Yoga and sustainability can also be assessed under sustainable consumption depending on the content of the yamas. In addition, as it can be inferred from the conduct guides, the relationship between Yoga and sustainability is not limited to the social aspect but also has environmental and economic aspects that enable the spiritual improvement of individuals.

Lubowiecki-Vikuk et al. (2021a) state that leisure activities aim to unite various social circles in creative and active ways and serve the collective development of social life. From this point forth, it can be stated that the sustainability doctrine in yoga philosophies within the scope of health, which is one of the essential elements of sustainable leisure, will positively affect the achievement of collective sustainability. However, again Lubowiecki-Vikuk et al. (2021b) stated in another research that conscious and responsible consumer behavior requires long-term processes, and these depend on the individual, political, and marketing factors within the scope of sustainability. In this context, it can also be stated that Yoga can also lead to individual conscious and responsible consumer behaviors through its philosophies.

One of the most important conditions for individuals to develop and adapt the sustainable consumption understanding is to create sustainable consumer behaviors. Therefore, it is considered important that the individuals become conscious and act with sustainable consumption behaviors. The crucial role of the sustainable marketing is to inspire acting sustainably through education and create a culture that will enable people to adopt sustainable lifestyles (Grant, 2007). At this point, examining the current circumstances for the relationship between Yoga and sustainable consumer behaviors and knowing the effects of Yoga on sustainable consumption behavior are one of the significant matters that must be assessed within the scope of sustainable consumer behavior and sustainable marketing. Accordingly, this study aims to present, examine and compare the sustainable consumption behaviors of yoga practitioners in environmental, economic, and social aspects.

3. METHOD

3.1 Participants and procedure

Judgement sampling was used in the study. Accordingly, to be included in the study, the main criteria were to practice Yoga regularly at least for one year. Data were collected between December 2020 and April 2021 via an online survey system in a Turkish sample.

One of the researchers is a nationally-internationally certified yoga expert and instructor with a high level of yoga knowledge. In addition to various groups to whom the researcher trains within this context, there are also many online communities and social media networks in which she takes part (e.g., Whatsapp, Telegram, Instagram, Twitter). The online survey link was shared through these channels and individuals, who have been practicing Yoga for at least one year, have been requested to participate in the survey. Accordingly, while 307 yoga practitioners accurately and completely answered the online survey, 191 people filled the survey incorrectly or incompletely and were not included in the study. All participants were informed about the study before participating in, and it was emphasized that participation in the study was entirely voluntary. Consequently, the sample of the study consist of 307 yoga practitioner (n = 307, M_{age} = 31.69 years; SD = 8.14; 89.3% female, 10.7% male; range 18-58). In the present study, data were collected through the "Sustainable Sports Consumer Behavior Scale (SSCBS)" which was developed and validated by Yüce and Katırcı (2020). SSCBS has a 5-point Likert form as being from "strongly disagree" to "strongly agree". Items in SSCBS include the perceptions of the participants about sustainability and their decisions regarding sustainable sports consumption behaviors. It is thought that perceptions of the individuals of sustainability and their preferences for consumption behaviors will affect their perceptions of the marketing decisions. In this context, it has been determined that the only scale in the field literature to evaluate sustainable sports consumer behavior appropriate with the purpose of this study, and it can be used in this study.

3.2 Measures

Demographic information

Participants were asked for demographic information such as their age, gender, and education. Also, descriptive information was obtained from yoga practitioners about their yoga habits (e.g., yoga experiences, practice frequency) and whether they bought sports products in the last six months. In addition, all participants were asked their opinion about whether there was a relationship between Yoga and sustainability.

Sustainable Sports Consumer Behaviour Scale

SSCBS, developed and validated by Yüce and Katırcı (2020), was used to determine sustainable consumer behaviors of yoga practitioners. The scale was developed to determine sustainable consumer behaviors of sports consumers, consist of 8 factors under the 4 main dimensions (Awareness of Sustainable Development, Environmental

Sustainability, Social Sustainability, Economic Sustainability) and totally of 44 items. SSCBS has a 5-point Likert form as being from "strongly disagree" to "strongly agree. As the score received from each sub-dimension of the scale increases, the sustainable consumption behavior for the relevant dimension increases positively. In other words, if the total score received from the sub-dimension is close to the upper limit, it means the relevant, sustainable consumer behavior is at the top level, and if it is close to the lower limit, it means these behaviors are at an insufficient level. Accordingly, "Awareness of Sustainable Development" score ranges from 10 to 50, Environmental Sustainability ranges from 5 to 25, Social Sustainability ranges from 16 to 80, and Economic Sustainability ranges from 13 to 65.

Yüce and Katırcı (2020) stated that this scale could also be used to measure the sustainable consumer behavior of individuals in different sports or activities. Accordingly, before the survey, participants were asked to respond to the questions by thinking of their yoga practice, some sentences were changed for the refer yoga practice. Before using in the present study, for the scale, Confirmatory Factor Analysis (CFA) was applied with the help of Structural Equation Model (SEM) both to determine whether it is suitable to measure for sustainable consumer behavior of yoga practitioner populations also, and to ensure the measurement validity of previously determined factor structure and items in the present study. After validation process the results indicated that the 4 dimension with the 8 factor measurement model fit [($\chi 2 = 2009.437$, df = 888, $\chi 2/df = 2.263$, RMSEA = .063, GFI = .912, AGFI = .885, CFI = .959, NFI = .925, and TLI (NNFI) = .950] the data well (Hair et al., 2014; Kline, 2016). Accordingly, it was determined that the 4 dimensions with the 8-factor measurement model and 44 items structure of scale can also be used to determine the sustainable consumer behavior for yoga practitioners. Besides, it was determined that Cronbach's alphas of all dimensions and factors indicated very good reliability. The dimensions and factors and their reliability coefficients of the scale as seen in Table 3.

Main Dimensions	Factors	Factors (a)	Dimensions (a)
Awareness of Sustainable Development	Perception of Sustainable Development	.824	.869
	Perception of Sustainability in Sports	.721	
Environmental Sustainability	Environmental Conscience in Sport	.881	.881
	Participation in Activities	.721	
Social Sustainability	Word-of-mouth in Sustainability	.911	.883
	Ethical Behaviours	.634	
	Sports Product Consumption	.916	.928
Economic Sustainabilty	Intention to buy	.858	

Table 3. Dimensions and factors of Sustainable Sport Consumer Behaviour Scale

3.3 Data analyses

Firstly, Confirmatory Factor Analysis (CFA) was performed through Structural Equation Model (SEM) to ensure the validity of SSCBS. It was determined that SSCBS could be used to measure sustainable consumer behavior of yoga practitioner sample. Then examined demographic and descriptive information to determine sustainable consumer behavior of yoga practitioners through descriptive analysis. Before comparing groups, the normal distribution was examined with skewness kurtosis. After the determination that the data showed normal distribution, in the comparison of the groups, however, parametric tests, t-test and one-way analysis of variance (ANOVA) were used. Bivariate correlation analyses were also used to examine the relationship of participants' sustainable consumer behaviour with some variables. SPSS and AMOS package software programs were used in the analysis of the data.

4. RESULTS

4.1. Demographics and descriptive statics

As indicated in Table 4, most of the participants are women (89.3%). It has been determined that the majority of the participants are between the ages 25 and 34 (41.4%) and have Bachelor's Degree (79.5%). Yoga habits of the participants point out that the majority of them have yoga experience of 1 to 2 years and practice Yoga every day (39.1%). In addition, the majority of them have stated that they practice Yoga on their own (72.6%), and most of them have also stated that they have purchased a sports product within the last six months. Finally, the great majority of the participants have expressed

that Yoga has a relationship with sustainability.

Demographic an	d Descriptives	Frequency	Ratio
	-	(n)	(%)
	Female	274	89,3
Gender	Male	33	10,7
	Total	307	100
	18-24 ages	66	21,5
	25-34 ages	127	41,4
	35-40 ages	61	19,9
Age	41 and above	53	17,3
	Total	307	100
	Undergraduate	244	79.5
Education	Postgraduate	63	20.5
	Total	307	100
	1 year	94	30,6
	2 years	93	30,3
Yoga Experience	3 years	45	14,7
	4 years	20	6,5
	5 years and more	55	17,9
	Total	307	100
	Everyday	120	39,1
Yoga Practice	Once in a few days	95	30,9
Frequency	Once a week	92	30,0
	Total	307	100
	Myself	223	72,6
Who do you do Yoga	With group	84	27,4
with?	Total	307	100
Did you purchase sports	Yes	244	79,5
product in the last 6	No	63	20,5
months	Total	307	100
Do you think there is a	Yes	281	91,5
relationship between	No	26	8,5
Yoga and sustainability?	Total	307	100

Table 4. Partici	pants' demogr	aphic and	descriptives
	panto aemogi	apine and	accerptives

4.2 Determination level of sustainable consumer behaviour of yoga practitioners

In order to determine the level of sustainable sports consumer behaviors of participants, the scores and means taken from the sustainable consumer behavior scale were examined. Accordingly, the distributions of main dimensions and factors to determine the levels of sustainable consumer behaviors of the yoga practitioners are presented in Table 5 and Table 6.

Main Dimensions	n	Toal	Min-Max	Std.	5 point Likert
		Mean		Dev.	Mean(x̄)
		(x)			
Awareness of Sustainable Dev.	307	38.43	14-50	6.42	3.85
Environmental Sustainability	307	20.88	5-25	3.67	4.17
Social Sustainability	307	63.34	32-80	9.79	4.07
Economic Sustainabilty	307	50.75	13-65	9.78	3.87
Total	307	173.41	64-220	24.38	3.99

Table 5. The distributions of the main dimension to determine the levels of sustainable	
consumer behaviors of the yoga practitioners	

Table 6. Dimensions and factors of Sustainable Sport Consumer Behaviour Scale (n=307)

Main Dimensions	Factors	Toal Mean (x̄)	Min-Max	Std. Dev.	5 point Likert Mean(x̄)
Awareness of Sustainable	Perception of Sustainable Development	22.87	10-30	4.17	3.81
Development	Perception of Sustainability in Sports	15.55	4-20	2.76	3.88
Environmental Sustainability	Environental Conscience in Sport	20.88	5-25	3.67	4.17
	Participation in Activites	12.37	3-15	2.11	4.12
Social Sustainability	Word-of-mouth in Sustainability	33.40	9-45	7.65	3.71
	Ethical Behaviours	17.56	8-20	2.31	4.39
Economic Sustainabilty	Sports Product Consumption	32.00	8-40	6.35	4.00
	Intention to buy	18.75	5-25	4.22	3.75

As seen in Table 5 and Table 6, it was determined that the sustainable consumer behaviour of the yoga practitioners is above average and at a high level in all dimensions. (\bar{x} = 173.41; \bar{x} = 3.99). When the main dimensions are examined, it was determined that the dimension with the highest average score is respectively environmental sustainability, then social sustainability, economic sustainability, and the dimension with the lowest average is awareness of sustainable development. According to the factors, it was determined that the factor with the highest score was Environmental Conscience in Sport and the lowest factor

was Word-of-mouth in Sustainability.

4.3. Comparing groups according to some variables (Variance Analysis)

Before comparing groups to determine which test used to use in the analysis (parametric or non-parametric) the normal distribution was examined with skewness-kurtosis. It was determined that the values of SSCBS dimensions varied between (-1.081 and 1.097). Accordingly, that was found that the data showed a normal distribution (± 2) (George and Mallery, 2019). Due to the normal distribution of the data, decided to use parametrical tests (t-test, ANOVA) in group comparison. The variance analysis (t-test and ANOVA) for the comparisons as follows

Table 7. Comparison of the Sustainable Consumer Behavior of the participants according

Factors	Group	n	mean	sd	df	t	р
Awareness of Sustainable Dev.	Undergraduate	244	3.85	.650	305	.063	.950
	Postgraduate	63	3.84	.598			
Environmental Sustainability	Undergraduate	244	4.14	.731	305	1696	.091
	Postgraduate	63	4.31	.736			
Social Sustainability	Undergraduate	244	4.05	.545	305		
	Postgraduate	63	4.15	.544		1311	.191
Economic Sustainability	Undergraduate	244	3.84	.765	305		
·	Postgraduate	63	4.00	.705		1545	.123

to the education variable (t-test)

*p < .05

As seen in Table 7, no statistically significant difference was found between the sustainable consumption behavior of the participants according to the education variable.

 Table 8. Comparison of the Sustainable Consumer Behavior of the participants according

to the age variable (ANOVA)	to the	age	variable	(ANOVA))
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Dimensions	Experience Years	Ā	SS	F	р	Difference
Awareness of Sustainable	1) 18-24 ages	3,85	,575	2.623	.051	
Development	2) 25-34	3,94	,608	-		-
	3) 35-40 years	3,67	,702	-		
	4) 41 and above	3,81	,680	-		
	1) 18-24 ages	4,28	,706	1.463	.225	
Environmental	2) 25-34	4,14	,759	-		-
Sustainability	3) 35-40 years	4,04	,776	-		
	4) 41 and above	4,26	,644	-		
	1) 18-24 ages	3,99	,483	1.912	.128	
Social Sustainability	2) 25-34	4,05	,587	-		-
	3) 35-40 years	4,07	,494	-		
	4) 41 and above	4,22	,560	-		
	1) 18-24 ages	3,64	,870	2.606	.052	
Economic Sustainability	2) 25-34	3,91	,720	-		-

3) 35-40 years	3,96	,733
4) 41 and above	e 3,95	,667

As seen in Table 8, there was no statistically significant difference between the sustainable consumption behavior of the participants according to the age variable.

Table 9. Comparison of the Sustainable Consumer Behavior of the participants according to the yoga experience (ANOVA)

Dimensions	Experience Years	Ā	S S	F	р	Difference
Awareness of Sustainable	1) 1 year	3,73	,617			
Development	2) 2 years	3,99	,563	2.166	.073	
	3) 3 years	3,80	,717	_		
	4) 4 years	3,78	,695			
	5) 5 or more	3,85	,680			
	1) 1 year	4,00	,770	_		
Environmental	2) 2 years	4,16	,724	2.931	.021*	3,5>1
Sustainability	3) 3 years	4,29	,729			
	4) 4 years	4,24	,709			
	5) 5 or more	4,38	,645	_		
	1) 1 year	3,91	,600	_		
Social Sustainability	2) 2 years	4,09	,490	3.493	.008**	1,2,3,4,5>1
	3) 3 years	4,15	,516			
	4) 4 years	4,18	,478			
	5) 5 or more	4,21	,537	_		
	1) 1 year	3,67	,783			
Economic Sustainability	2) 2 years	3,97	,672	2.661	,033*	2,3,5>1
	3) 3 years	3,99	,799	_		
	4) 4 years	3,86	,750	_		
	5) 5 or more	3,95	,756	_		

* p < 0.05 ** p < 0.01

As seen in Table 9, significant statistical differences have been determined in sustainable consumer behaviors of the participants depending on their yoga experiences, in environmental (F=2.931; p=,021), social (F=3.493; p=,008) and economic (F=2.661; p=,033) dimensions. The results of Scheffe test carried out to determine which subgroups have significant differences with each other indicate that yoga practitioners who practicing for 3 and 5 and more years in environmental dimension have higher environmental sustainable consumption behaviors than those practicing Yoga for 1 years. Likewise, it has been determined that individuals practicing Yoga for 1 year have the lowest sustainable consumption behavior in social sustainability dimension. Finally, it was found that individuals with yoga experience of 2, 3, 5, and more years have statistically and significantly higher sustainable consumer behaviors in economic dimension than the

individuals practicing Yoga for 1 year.

Table 10. The Relationship Between Yoga Experience And Sustainable Consumer Behaviour

 (Correlation Analysis)

Dimension	1	2	3	4	5
1. Yoga Experience	1				
2. Awareness of Sustainable Dev.	,074	1			
3. Environmental Sustainability	,186**	,458**	1		
4. Social Sustainability	,139 [*]	,501**	,385**	1	
5. Economic Sustainability	,126**	,483**	,339**	,786**	1

** p<0.01, *p<0.05

As seen in Table 10, there is a positive correlation between the Environmental, Social, Economic Sustainability, and Yoga experience. Accordingly, as the yoga experience increases, it can also be stated that sustainable consumer behaviors will increase.

5. DISCUSSION

This research aims to determine the level of socially, environmentally, and economically sustainable consumer behaviors within the scope of attitudes of yoga practitioners towards sustainability, and the elements affecting these behaviors and the differences. Besides the fact that sustainability concept directly or indirectly affects many concepts today, it has also become one of the key trends affecting and shaping marketing concept (Quoquab et al., 2020; Belz & Peattie, 2012; Shiel et al., 2020). Studies carried out within the scope of sustainable marketing (Bridges & Wilhelm, 2008; Quoquab et al., 2020; Kim et al., 2019; Burksiene et al., 2018; Belz & Peattie, 2012; Lim, 2016) demonstrate an integrative approach that emphasizes environmental, social and economic aspects when developing the marketing strategies. Based on the opinion of Sustainable Marketing for Sustainable Consumption and Sustainable Development (Sheth & Parvatiyar, 2021; Yüce & Katırcı, 2020), sustainable consumer behaviors must also be assessed and discussed in an integrative way in environmental, social ve economic terms. In other words, sustainable consumer behaviors have crucial importance for sustainable consumption (Quoquab et al., 2019). Accordingly, sports consumer behavior scale that approaches to the consumer behaviors in sports in an environmentally, socially and economically integrative way (Yüce & Katırcı, 2020) has been preferred for this research.

When the results regarding the general attitudes for sustainable consumption behaviors of yoga practitioners were examined, which is one of the objectives of this research, it has

been detected that awareness of yoga practitioners on sustainability and sustainable development as well as their environmental, social and economic sustainable consumption behaviors have a high score over the average (Table 5&6). The most essential elements of sustainable consumption and consumer behaviors are increasing the awareness of and encouraging the individuals (Mckenzie-Mohr, 2011; Gómez-Llanos et al., 2020; Trail, 2015; Trail, 2016; Trail & McCullough, 2019; Rathinamoorthy, 2019). Used often in studies related to consumption and consumer behaviors in sports and preferred to understand the consumer attitudes and how these attitudes change, Psychological Continuum Model (PCM) also suggests that the starting point of the consumer behaviors is awareness (Funk & James, 2001; Trail, 2018; Baker et al., 2020). Similarly, processes related to consumers start when the consumers get exposed to a stimulus and continue so as to include the period after the purchase, under Modern Behavior Models (Howard & Sheth, 1969; Engel et al., 1995; Assael, 1984,; Nicosia, 1966) regarding consumer behaviors.

In the light of this information, it could be expressed that social, environmental, and economic elements within yoga philosophy and teachings enable yoga practitioners to become aware of sustainable consumption or even to increase their existing awareness. For instance, changing the focus from Yamas on Satya and Ahimsa (Table 5) in certain periods of time (1 week - 1 month) helps individuals understand the delicacy and nuances of values in the world and increase or maintain their awareness accordingly. Similarly, focusing on Aparigrapha can help individuals to make healthier decisions about whether purchasing certain products is actually necessary or not (Subrahmanyan & Gould, 2012). Chatzisarantis and Hagger (2007) have expressed that awareness has a facilitating role in bringing intentions into actions and stated that awareness plays a key role in encouraging individuals for self-correction. In this respect, it is expressed that awareness turns the environmentally friendly intentions into more sustainable behaviors, and it serves as, so to say, an antidote to consumerism (Rosenberg, 2004). It could be stated that all these philosophies are related to the awareness of sustainability as well as with social, economic, and environmental sustainable consumption.

The results obtained from the research indicate that the dimension at which yoga practitioners have the highest score within the scope of consumer behaviors is the environmental dimension. The study points out that there are some similarities between SSCBS dimensions used to measure the sustainable consumption behaviors of yoga

practitioners and Yamas and Niyamas of Ashtanga Yoga philosophy. For instance, philosophies within Nivamas to take action for keeping the environment clean and preventing pollution in Shaucha, fulfilling the personal responsibilities for the environment in Tapas, having knowledge on effects of individual actions on the environment in Swadhyaya, and preventing the climate change in Ishwar Pranidhan match with the expressions of environmental sensitivity - environmental sustainability in SSCBS. Higher scores and averages of usage of water, waste, and energy and the environmental sustainability dimension of all these resources, which includes expressions on environmental effects of using these resources, indicate that Ashtanga Yoga philosophies and teachings affirmatively affect the sustainable consumption behaviors and that these philosophies are significant for sustainable consumer behaviors. Brown and Kasser (2005) have expressed that happier people live a more sustainable life and that awareness and intrinsic values are related to higher welfare and more ecological behavior. At this point, it is possible to express that, in addition to the positive effects of Yoga on mental health and well-being (Das, 2020; Büssing et al., 2012; Birdee et al., 2008; Ivtzan, 2014), it also positively affects the individuals regarding sustainable consumption. As suggested by Levett (1998), the Modern Sustainable Development Model states that the environmental sustainability dimension covers social and economic sustainability and is the most comprehensive dimension of sustainable development. Consisting of concentric circles, the model points out that economic sustainability (economy) depends on social sustainability (society), and that these two dimensions require the environment to become continuous (Levett, 1998; Giddings et al., 2002). In short, it has been emphasized that other elements will have no significance if environmental sustainability is not ensured. In this regard, it could be expressed that environmental sustainability also has crucial importance for sustainable consumption elements, as pointed out in the Yoga philosophies. There are also common points in social sustainability, which is the dimension with the highest score and average after environmental sustainability. Accordingly, it could be expressed that the social sustainability concept, which has a content of ethical behavior and elimination of social inequality, is also adopted by yoga practitioners.

One of the significant results of the research is the positive linear relationship detected between yoga experience and sustainable consumer behaviors. Based on this, it was found that as yoga experiences of individuals increase, their sustainable consumption behaviors will also increase accordingly. In this regard, it could be expressed that familiarity of individuals with yoga teachings and philosophies and the time spent with yoga practices help both improving the awareness and spreading it across the society. In this respect, it can be stated that individuals may adopt a sustainable lifestyle by practicing Yoga.

Word-of-mouth (WOM) in sustainability dimension, which is within the scope of social sustainability dimension, suggests that sustainable consumption behaviors of yoga practitioners will also affect the people around them. WOM expresses the effective communication processes through which individuals influence the other individuals in their social environment (e.g., friends, family) with their experience and knowledge (Brown & Reingen, 1987; Anderson, 1998; Buttle, 1998). Accordingly, it could be expressed that moral, ethical, and behavioral fundamentals of yoga philosophies and teachings affect primarily individual awareness and sustainable consumption behaviors morally, and then the environment of yoga practitioners through WOM. Lubowiecki-Vikuk et al. (2021b) stated that one of the most significant factors prominent in determining and maintaining a sustainable lifestyle is building positive interpersonal relations. Some researches (Bhagwat, 2008; Subrahmanyan & Gould, 2012; Das, 2018; Kishida et al. 2018; Allen & Spialek, 2018; Chen et al. 2014; Weisner and Cameron, 2020) also point out that both yoga teachings and WOM positively affect the sustainable consumption behaviors of individuals. In this regard, it becomes clear once again that yoga practitioners are significant means for encouraging individuals to sustainable consumption with both their individual and social influence.

The economic dimension of SSCBS includes processes of intentions of individuals for purchasing or consuming sports-exercise or similar products. Average scores of the sports products consumption dimension with elements such as the fact that individuals prefer sustainable products which harm the environment less, are natural or made of recyclable material and the dimension covering the intention to purchase these products have been determined to be over the average. Studies (Kotler, 2011; Rathinamoorthy, 2019; Shen et al., 2013) have concluded that the consumers with awareness of sustainability tend to purchase products with sustainable properties especially and will prefer these products even if they are more expensive. Kontogianni & Kouthouris (2014) have expressed that the most popular topics within the scope of sustainability among the consumers regarding their intention to purchase are the intention to choose environmentally friendly services, the desire to pay more for environmentally friendly goods or services, loyalty to environmentally friendly services and intention of positive word-of-mouth communication.

While the preferences and behaviors of the consumers have a significant effect on sustainable development, the producers offer more products with sustainable properties to their consumers to contribute to the economic sustainability and increase the resource efficiency (Yüce et al., 2020b). In this respect, it could be expressed that yoga practitioners especially prefer these products with the companies especially offering various designs for yoga products.

6. CONCLUSION

This research has aimed to determine the sustainable consumption behaviors of yoga practitioners. As a result of the research, it was found that yoga practitioners have a high level of sustainable consumption behaviors. Also, it has been determined that the sustainable behaviors of yoga practitioners do not differ based on variables such as education and age but differ based on yoga experience. In this regard, it has been concluded that, as the yoga experience of individuals increases, their tendency to behave as a sustainable consumer also increases.

6.1 Implications

Research results indicate that sustainable consumer behaviors of yoga practitioners are higher than the average. No study has been carried out up to date regarding the sustainable consumer behaviors of yoga practitioners within the scope of sports marketing, marketing communication in sports, and sustainable marketing. In this respect, being the first in many aspects, the results of this research include significant information that should be noted in researches to be carried out in sports marketing, sustainability marketing, and sustainable consumer behavior. Research results indicate that there is a positive relationship between yoga experience and sustainable consumption behaviors. This situation can be explained by the fact that the awareness level gets higher as the experience improves. The preconditions of sustainable consumer behaviors are sustainability and awareness of sustainable consumption. Khalil et al. (2013) express that individuals are willing to integrate and apply the idea and practices of sustainable development in their daily life. Meijers et al. (2013) have stated that, after the first sustainable action, the individuals tend to continue this action, and therefore the sustainable behavior could become continuous. Research results suggest that the level of awareness of Yoga practitioners is high due to yoga philosophies and teachings and integrating these behaviors into their daily lives. At this point, it is concluded that yoga philosophies and teachings are significant means of forming a sustainable consumer behavior. In this regard, integrating communication studies and applications that have similar qualifications with yoga teachings in sustainable marketing and sustainable sport marketing activities is considered significant to spread sustainable consumer behaviors and maintain stability. The great majority of the participants have stated that they have purchased a sports product within the last six months. Bhamra et al. (2011) have concluded in their studies that offering products with sustainable properties to consumers enables the change demanded in the consumer behaviors. In this respect, it is also considered significant to offer products with sustainable properties to the consumers within the scope of sustainable marketing to increase the awareness of individuals. In addition, marketers can implement a marketing strategy by promoting more sustainable products in the products and services to be offered to yoga practitioners, because of the Yoga practitioners have a high level of sustainability awareness and tend to purchase sustainable products. Also, emphasizing sustainability and using sustainable labeling in the marketing activities of tangible and intangible yoga products can also help to choose sustainable quality products.

6.2 Limitations and future research

Although the present study provides important and novel insight concerning the sustainable consumer behavior, has some limitations. The data were collected from Turkish yoga practitioners; therefore, these findings cannot be generalized to all yoga practitioners all over the World. To achieve more generalizable global results, larger and more representative samples from other countries needed. Other limitations of the present study that the data relied on self-report data that may be subject to various common methods biases, including social desirability and memory recall. Hence, caution must be taken in drawing causal or directional conclusions for future studies. The present study's data may also compare other sports in Turkey or cross-cultural study can be made by comparing with different countries. Finally, the effect of sustainable philosophies of Yoga (e.g., eight-fold path) can be examined with experimental studies to be carried out with non-awareness individuals about sustainable consumption.

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