

Factors influencing green purchase behavior of millennials in India

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Abstract

Purpose – Building on the theory of planned behavior (TPB), the purpose of this paper is to understand the green buying behavior of educated millennials in India. The study also attempts to extend the TPB by including two additional variables, environmental concern (EC) and willingness to pay premium, in the framework.

Design/methodology/approach – Data were collected from 202 students from various departments of an institute of higher education in India. The proposed model was tested with the help of structural equation modeling using bootstrapping procedures in SPSS AMOS 24.

Findings – Except for the direct association between subjective norm (SN) and purchase intention (PI), the study provided support for the TPB framework. EC was found to exert an indirect influence on green PI through its effect on attitude, SN and perceived behavioral control. Willingness to pay premium moderated the relationship of PI with green buying behavior. PIs were found to successfully translate into purchase behavior (PB).

Practical implications – This research by promoting an understanding on the factors affecting the green buying behavior of educated millennials in India will assist green marketers to tap the tremendous potential inherent in this market segment by formulating customized market plans and strategies.

Originality/value – The study extends the existing literature by validating and extending the TPB framework in a unique cultural context and advancing the understanding of underlying psychological mechanisms and boundary conditions of the relationship between PIs and PBs.

Keywords Theory of planned behaviour, Green purchase intention, Environmental concern, Willingness to pay premium, Green buying behaviour

Paper type Research paper

Introduction

Green consumption is becoming an increasing trend as educated masses are getting more and more conscious of their responsibility toward preserving natural environment. Individuals are adopting environmental friendly behaviors such as use of eco-friendly products to minimize their carbon footprints. Engaging in green consumptions provides dual benefit of better health and opportunity to contribute to environmental sustainability (Leonidou *et al.*, 2013). Sensing an opportunity here, multinational manufacturing companies are focusing on green marketing and making consistent efforts to come out with green products to satisfy the changing needs of customers. Green products refer to eco-friendly or sustainable products that do not harm the environment or deplete natural resources and can be recycled or conserved (Kim *et al.*, 2013; Shamdasani *et al.*, 1993).

Western societies realized the need to protect natural environment early in 1960s and 1970s. Therefore, most of the research on consumer green behavior has focused on developed western countries. Green consumerism is catching up slowly in the developing nations due to increasing environmental damage caused by rapid industrialization, resulting in numerous health problems. Since social, cultural and economic factors of a society set the ground for green consumerism by shaping the way consumers think and use green products, it is important to study consumer intentions and behaviors toward green products in developing economies. In this direction, the present research attempts to study the green purchase intentions (PIs) and purchase behaviors (PBs) of young educated consumers in India. This study from Indian context holds special significance due to several



reasons: first, India is a fastest growing major economy with a growth rate of 7.6 percent in 2015-2016, and second largest population base resulting in rapid industrialization and hence, environment degradation; second, India is one of the most polluted countries with around 30 Indian cities figuring in the top 100 most polluted global cities across the world, as per May 2016 data published by World Health Organization (WHO, 2016); third, pollution kills 1.2 million people in India every year and India faces 3 percent GDP loss every year due to pollution (*Times of India*, 2017); and fourth, although Indian consumers have been reported to be more conscious of their environmental impact than consumers from Brazil, Russia, Germany, Canada, Australia and America (Greendex, 2012), very limited research has focused on examining their intent and behavior toward green products and services.

Building on the theory of planned behavior (TPB) (Ajzen, 1991), this research aims to understand the green buying behavior of educated youth in India. Millennials have been identified to be different from the wider population in terms of their high environmental consciousness (Sheahan, 2005), stronger preference for “green” (Smith, 2010) and willingness to buy eco-friendly products (Rogers, 2013). Millennials are better educated, and better connected to information and the world (Morgan Stanley, 2017). Therefore, India with world’s largest number of millennials (400 million), who constitute more than one-third of the working population (Morgan Stanley, 2017) becomes a hot market to understand for the green marketers. In this research, we aim to test the validity of TPB framework in Indian context by examining the predictive ability of three assumed predictors of PI, i.e. attitude toward buying green products, subjective norms (SNs) and perceived behavioral control (PBC) in the TPB model. Also, the study attempts to extend the TPB model by including two additional variables, environmental concern (EC) and willingness to pay premium, in the model.

This study contributes to the literature in several ways. First, it makes an attempt to test the validity of TPB framework in a culture and sample different from that investigated in past. Second, the study aims to extend the TPB by adding additional variables such as EC and willingness to pay premium as additional variables in the framework. Third, the study strives to unfold the complex dynamics of the relationship among predictor and outcome variables by identifying social-psychological processes explaining the nature of relationships. Fourth, in departure from prior studies, the present research for the first time endeavors to examine the boundary conditions of the relationship between PI and green buying behavior, by proposing and testing willingness to pay premium as a moderator. Finally, this study by furthering the knowledge on the predictors of green buying behavior of educated millennials in India will assist green marketers in formulating customized market plans and strategies and provide them with an opportunity to tap the tremendous potential inherent in this market segment.

Theoretical framework and hypotheses development

TPB explains behavioral intentions in terms of attitude toward the behavior, SNs and PBC. It further posits that these intentions together with PBC predict behavior. Ajzen (1991) stated that relative importance of the above three factors in explaining intentions and behaviors of an individual vary across behaviors and situations. He further asserts that in some cases only one variable may have a significant impact on intention while in others a combination of two or all the three variables is needed to explain individuals’ intentions and behaviors. Some studies provided support for the TPB model in predicting green product PIs and PB (Chan and Lau, 2002; Liobikienė *et al.*, 2016; Yadav and Pathak, 2017) while others reported only partial support for the model (Chou *et al.*, 2012; Kim *et al.*, 2013).

The following section describes each of the aforementioned variables.

Attitude (ATT)

Attitude refers to an individual’s favorable or unfavorable appraisal of performance of concerned behavior (Ajzen, 1991). Attitude toward green PB has been reported to

relate positively to green PI in studies from different countries across a wide range of green products such as organic food products (Zhou *et al.*, 2013), green hotels (Han and Yoon, 2015), beverages (Birgelen *et al.*, 2009) and tourism (Barber *et al.*, 2010). In Indian context, a few studies have provided empirical evidence in support of positive association between attitude toward green products and green buying behaviors. For example, Khare (2015) found positive relation between past green attitude and green buying behavior in a study among consumers from metropolitan cities in India. Manaktola and Jauhari (2007) reported that attitude toward green practices in the lodging industry influences consumer's choice to stay in hotels adopting green practices. Prakash and Pathak (2017) reported positive association between attitude toward eco-friendly packing and intention to purchase products with such packaging. Similarly, Paul *et al.* (2016) and Yadav and Pathak (2017) demonstrated positive linkage between attitude toward green products and green PIs. On the contrary, Ramayah *et al.* (2010) failed to find any significant association between attitude toward environmental consequences and green PI.

SNs

SN is a social factor which refers to perceived social pressure toward performance or non-performance of a particular behavior (Ajzen, 1991). Positive perception of significant others like friends, family, peers and relatives toward green products has been reported in prior studies to have a significant influence on green PI of an individual (Dean *et al.*, 2012; Teng *et al.*, 2014). In Indian context, Yadav and Pathak (2017) found that SN significantly affects the PI toward green products in general. On the other hand, Khare (2015) did not find support for the relationship between social environmental norms and green buying behavior. Similarly, Paul *et al.* (2016) also failed to find any significant association between SNs and green PI.

PBC

PBC refers to "the perception of ease or difficulty of performing a particular behavior" (Ajzen, 1991, p. 183). TPB emphasizes upon the importance of PBC in predicting intentions and behaviors when the concerned behavior is beyond volitional control of an individual. Past research has identified PBC as one of the strongest predictors of human intentions and behaviors across breadth of green products and services such as organic food (Thøgersen, 2007) and green hotels (Teng *et al.*, 2014). In Indian context, Yadav and Pathak (2017) and Paul *et al.* (2016) demonstrated the significance of PBC in determining consumers' PIs and behaviors toward green products.

PI and PB

Intention refers to an individual's readiness to perform a given behavior (Yadav and Pathak, 2017). It captures the motivations to perform a behavior such as the willingness to perform and the intensity of effort an individual is ready to exert. According to TPB, when the behavior is voluntary in nature, its performance is the result of intentions. In the context of green products, Yadav and Pathak (2017) found support for the positive association between behavioral intentions and green buying behavior.

Based on the theoretical framework of TPB and the above arguments, we hypothesize the following:

H1. Attitude relates positively to green PI.

H2. SN relates positively to green PI.

H3. PBC relates positively to green PI.

H4. PBC relates positively to green PB.

H5. Green PI relates positively to green PB.

Drawing from the available research on green consumer behavior in Indian context, the present study includes two additional variables in the model: EC and willingness to pay premium.

EC

EC refers to people's awareness of the environmental issues and their willingness and support to resolve them (Hu *et al.*, 2010). Chen and Tung (2014) identified EC as an important variable which influences PI through its effect on attitude, SN and PBC. Hartmann and Apaolaza-Ibáñez (2012) reported that EC affects PI directly as well as indirectly through the development of positive attitude toward green energy. They showed that environmentally concerned individuals view energy conservation more favorably and hence, develop favorable attitude toward green energy. In Indian context, Paul *et al.* (2016) established significant direct and indirect effect of EC on green PIs through the mediation of TPB predictor variables. Prakash and Pathak (2017) also demonstrated significant impact of EC on PI toward eco-friendly packaged products. Environmentally concerned individuals may also influence other individuals' green PI through the exertion of social pressure as family, relatives, peers and friends, which in turn may enhance the sense of control by reducing the perceptions of obstacles in terms of resources, opportunity and time (Paul *et al.*, 2016). Thus, EC can be expected to influence green PI through attitude, SN and PBC. Based on the argument that EC is a component of attitude, Paul *et al.* (2016) and Prakash and Pathak (2017) demonstrated a direct relationship between EC and PI.

Therefore, we hypothesize the following:

H6. EC relates positively to attitude.

H7. EC relates positively to SN.

H8. EC relates positively to PBC.

H9. EC relates positively to green PI.

Willingness to pay premium (WP)

Green products are generally expensive than the conventional products due to the high cost incurred in the production process (Ling, 2013). Consequently, price has been identified as an important obstacle to green consumption (Gleim *et al.*, 2013; Nasir and Karakaya, 2014). Especially for young consumers limited by their purchasing power, price plays an important role in making purchase decisions. Some studies from West indicate that environmentally concerned individuals are price insensitive and price does not have any significant influence on purchase of green products (Grankvist and Biel, 2001; Cronin *et al.*, 2011). On the other hand, Choi and Parsa (2006) in a study among state restaurant association in USA reported hesitant nature of consumers when it comes to paying extra price for green products and services. In the Indian context also, mixed findings have been reported with respect to willingness to pay premium for green products. A number of studies in past have unveiled the price sensitive nature of Indian consumers. For example, Manaktola and Jauhari (2007) reported that consumers with high EC prefer to choose hotels adopting green practices, but were unwilling to pay premium price for it. While, Yadav and Pathak (2017) and Prakash and Pathak (2017) found that consumers were willing to pay premium for eco-friendly products. These contradictory findings make it imperative to

examine the influence of willingness to pay on green PIs and PB. The past studies have chiefly investigated direct alliance between willingness to pay premium and PI toward green products. In departure from the prior work, this research proposes to examine willingness to pay premium as a moderator of the relationship between PI and green buying behavior. Based on the above discussion, we anticipate that the linkage between PI and PB will be stronger for the consumers willing to pay extra price for green products than others.

Hence, we propose the following hypothesis:

H10. Willingness to pay premium moderates the relation between green PI and green PB.

Figure 1 presents the hypothesized research model.

Research methodology

Participants and procedure

Judgment sampling was used by the authors in choosing “students” as a representative of millennial consumer population in India. The sample consisted of students from various departments of an institute of higher education in India. Data were collected through an online questionnaire survey which offered equal chance to all the students to be a part of the study. The questionnaire was sent to the students using institute group e-mail id for students in the month of March 2017. Two weeks later, a reminder e-mail was sent as a follow up. A total of 209 responses were received from the student population of around 1,100, resulting in a response rate of 19 percent. In total, 202 responses were found suitable for further analysis after discarding incomplete responses and extreme outliers. Thus, the effective survey response rate was 18.4 percent. Majority of the respondents were males (89 percent) with female constituting only 11 percent of the sample. With regard to age, 69 percent of the respondents belonged to 15-25 years age group, 26 percent were in the age bracket of 26-30, and the rest were above 30 years. As to education, 44 percent of the respondents were pursuing BTech, 21 percent were enrolled in masters (science and technology) program while 35 percent were doing PhD.

Measures

EC was measured using a five-item scale adopted from Kilbourne and Pickett (2008), as used by Paul *et al.* (2016). Attitude toward green products was assessed with three-items taken from Paul *et al.* (2016). Four-items adopted from Chan and Lau (2002) were used to measure SN. Seven-items scale taken from Paul *et al.* (2016) was used to assess PBC. Again, PI was measured using five-item scale from Paul *et al.* (2016). Three-items adopted from Jang *et al.* (2011)

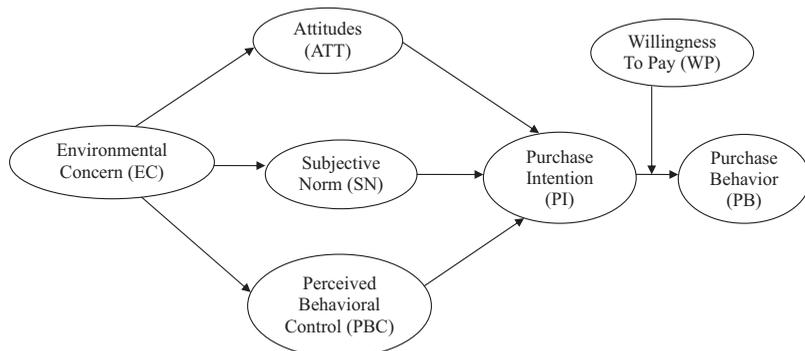


Figure 1.
Hypothesized
research model

and Kang *et al.* (2012) were used to measure willingness to pay premium. Finally, PB was measured using three-items adopted from Wan *et al.* (2012). Responses on all the scale items were recorded on a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The scale items and Cronbach's α value of each study instrument is presented in Table III.

Control variables

Respondents were asked to share some personal information as well, such as gender, age and education. Gender was coded as 0 (female) and 1 (male), age as 1 (15-20 years), 2 (21-25 years), 3 (26-30 years) and 4 (above 30 years), and education as 1 (BTech), 2 (MTech/MSc) and 3 (PhD). However, we statistically controlled for the above demographic variables to avoid confounding relationships.

Data analysis

SPSS AMOS 24 was used for data analysis. Iacobucci (2010) recommended a sample size of 150 for convergent and proper solution for three or more indicators per factor discarding various rules of thumb for sample size. Therefore, the study met the requirement of sample size for applying structural equation modeling (SEM). First, confirmatory factor analysis (CFA) was used to estimate the convergent and discriminant validity of the study constructs. Second, fitness of the proposed model was assessed using SEM with the help of standard indicators.

Results

Mean, standard deviation and inter-correlations among the study variables are presented in Table I. As reflected in the mean scores, respondents were found to show high concern for the environment and a strong positive attitude toward purchase of green products and services. PI for the green products was also high. However it did not translate completely into PB, as can be noticed through the average mean score for PB. All the study variables were found to show significant correlation with each other, providing elementary support for the study propositions.

Measurement model

The fit of seven-factor model was examined using CFA. The seven-factor model did not fit the data well (see Table II). The factor loading for items EC3, PBC5, PBC6, and PBC7 was found to be below 0.50. Therefore, these items were removed from further analysis. CFA was run again after removing the aforementioned items. The modified model showed good fit to the data and all the factor loadings were found to be significant at 0.001, which shows convergent validity (Anderson and Gerbing, 1988). Additionally, all the study constructs were found to show strong reliability with the Cronbach's α values greater than

S.No.	Variables	Mean	SD	1	2	3	4	5	6	7
1	EC	4.3688	0.62104	1						
2	ATT	4.2310	0.77373	0.649**	1					
3	SN	3.6621	0.88169	0.395**	0.477**	1				
4	PBC	3.9567	0.79780	0.578**	0.675**	0.749**	1			
5	WP	3.8135	0.87524	0.502**	0.632**	0.616**	0.541**	1		
6	PI	4.0683	0.75567	0.647**	0.795**	0.666**	0.677**	0.801**	1	
7	PB	3.2657	1.03041	0.232**	0.388**	0.589**	0.300**	0.554**	0.537**	1

Note: **Correlation is significant at 0.01 level (two-tailed)

Table I.
Mean, standard deviation and inter-correlations among study variables

0.70 (Table III). The one factor model with a single latent factor demonstrated poor fit to the data, as can be seen from Table II). The convergent validity was further established as the composite reliability values (CR) were greater than the average variance extracted (AVE) values (Table III) (Hair *et al.*, 2010).

Additionally, maximum shared variance MSV and average shared variance (ASV) values were found to be lower than the respective AVE values (Table III), which indicates discriminant validity (Hair *et al.*, 2010). Hence, convergent and discriminant validity of the constructs in the hypothesized model was confirmed.

Further, the VIF values were found to range between 0.645 and 0.785 (below 10), eliminating the concerns of multicollinearity.

Structural model: model fit and hypotheses testing

After ensuring the validity and reliability of study variables, the proposed theoretical model was tested using SEM. All the study measures were modeled as latent constructs with respective subscale means as indicators of the latent factor. The analysis revealed that the proposed framework showed good fit to the data. All the CFI, TLI and IFI values were above 0.93 (Bagozzi and Yi, 1988) and RMSEA value was below 0.08 (Browne and Cudeck, 1993), as shown in Table IV. The proposed model explained 93.8 and 43.1 percent of the variance in PI and PB, respectively. The structural model is presented in Figure 2.

The standardized path coefficients depicting the direct effects are presented in Table V. As can be seen, EC was found to significantly influence attitude toward green buying behavior, SN and PBC. The direct effect of both EC and SN on PI was insignificant. However, the regression path from SN to attitude and PBC was found to be significant. In line with the expectations, the influence of PBC on both PI and PB was significant. Also, PI was found to predict PB significantly at 95% confidence level.

In addition to the above, we hypothesized moderation effect of willingness to pay on the relationship between PI and PB. To test moderation, predictor variable, moderator and interaction term (PI × WP), calculated after standardizing both the predictor and moderator variables, were regressed on the outcome variable. The β coefficient for the interaction term was found to be significant ($r = 0.13, p < 0.10$) at 90% confidence level and the moderation model explained 27.1 percent of the variance in PB, as tested in AMOS 24. For better understanding of the moderating role of willingness to pay premium, interaction effects are presented graphically in Figure 3. As can be seen, the relationship of PI with PB was stronger for the individuals with high willingness to pay premium for green products than for those with moderate or low willingness.

Again, to test the indirect effects, SEM bootstrapping procedures were used. In total, 5,000 bootstrap samples were requested and the significance of the indirect effects was examined using bias corrected 95% confidence intervals, as presented in Table VI. The analysis revealed significant indirect effect of EC on perceived behavior control, PI and PB. Also, the indirect effect of SN on PI and PB was significant. In contrast, the indirect effect of attitude and PBC on PB was insignificant.

The results of hypotheses testing are summarized in Table VII.

Model	χ^2	χ^2/df	GFI	CFI	IFI	TLI	RMSEA
Seven-factor model	920.9	2.404	0.758	0.885	0.886	0.869	0.084
Seven-factor model (modified)	525.56	1.918	0.83	0.941	0.941	0.929	0.068
One-factor model	1,348.49	4.52	0.608	0.752	0.753	0.729	0.132

Table II.
Confirmatory factor analysis

Construct	Indicators	AVE	MSV	ASV	CR/ α	Factor loadings
Environmental concern	I am very concerned about the environment	0.69	0.60	0.41	0.83/0.77	0.813**
	I would be willing to reduce my consumption to help protect the environment					0.862**
	Major social changes are necessary to protect the natural environment					0.801**
	Anti-pollution laws should be enforced more strongly					0.839**
Attitude	I like the idea of purchasing green	0.76	0.60	0.44	0.93/0.90	0.835**
	Purchasing green is a good idea					0.900**
	I have a favorable attitude toward purchasing green version of a product					0.873**
Subjective norms	Most people who are important to me think I should purchase green products when going for purchasing	0.64	0.44	0.32	0.87/0.88	0.803**
	Most people who are important to me would want me to purchase green products when going for purchasing					0.864**
	People whose opinions I value would prefer that I purchase green products					0.806**
	My friend's positive opinion influences me to purchase green product					0.720**
Perceived behavioral control	I believe I have the ability to purchase green products	0.67	0.64	0.51	0.9/0.89	0.815**
	If it were entirely up to me, I am confident that I will purchase green products					0.808**
	I see myself as capable of purchasing green products in future					0.856**
	I have resources, time and willingness to purchase green products					0.799**
Willingness to pay	I would pay more for a green product that is making efforts to be environmentally sustainable	0.72	0.64	0.44	0.89/0.89	0.852**
	I would be willing to pay this extra percentage on the green products to support the organization's/ product efforts to be environmentally sustainable					0.881**
	I feel proud to have environmental friendly products in my house though they are more costly than conventional products					0.822**
	I will consider buying products because they are less polluting in coming times					0.838**
Purchase intention	I will consider switching to environmental friendly brands for ecological reasons	0.70	0.64	0.51	0.94/0.92	0.813**
	I plan to spend more on environmental friendly product rather than conventional product					0.834**
	I expect to purchase product in the future because of its positive environmental contribution					0.871**
	I definitely want to purchase green products in near future					0.836**
	I have been purchasing green products on regular basis					0.825**
Purchase behavior	I have green purchasing behavior for my daily needs products	0.79	0.44	0.28	0.90/0.91	0.923**
	I have green purchasing behavior over the past six months					0.911**

Notes: AVE, average variance extracted; CR, composite reliability; MSV, maximum shared variance; ASV, average shared variance. ** $p < 0.001$

Table III. Reliability and validity indicators

Discussion and theoretical implications

The present research was an attempt to examine the applicability of TPB in predicting green PIs and PBs of young educated consumers in a developing economy. The study supports and extends the findings of limited number of studies (Yadav and Pathak, 2017; Khare, 2015; Prakash and Yadav, 2017) conducted on examination of the PIs and PBs of

Table IV.
SEM model fit indices

Model fit indices	Structural model
χ^2	442.26
χ^2/df	2.038
GFI	0.838
CFI	0.938
IFI	0.939
TLI	0.928
RMSEA	0.072
R^2 (PI)	0.938
R^2 (PB)	0.431

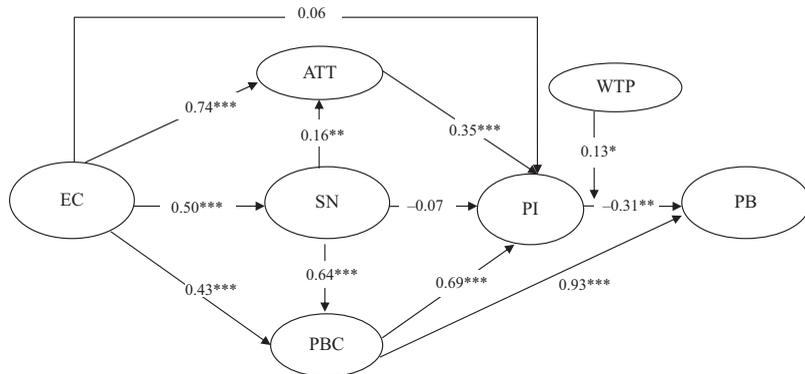


Figure 2.
Structural model

Notes: * $p < 0.10$; ** $p < 0.05$; *** $p < 0.01$

Table V.
Path relationships

Paths	β coefficient	t -value	p -value	Relationship
EC-ATT	0.74***	6.944	0.001	Supported
EC-SN	0.50***	5.251	0.001	Supported
EC-PBC	0.43***	6.01	0.001	Supported
EC-PI	0.06	0.498	0.618	Not supported
SN-ATT	0.16**	2.282	0.022	Supported
SN-PBC	0.64**	8.874	0.001	Supported
SN-PI	-0.07	-0.597	0.551	Not supported
PBC-PI	0.69***	3.993	0.001	Supported
PBC-PB	0.93***	4.13	0.001	Supported
PI-PB	0.31**	2.091	0.035	Supported
PI \times WP-PB	0.13*	1.864	0.062	Supported
WP-PB	0.202**	2.083	0.037	Supported

Notes: *, **, ***The coefficient is significant at 0.10, 0.05 and 0.001 levels, respectively

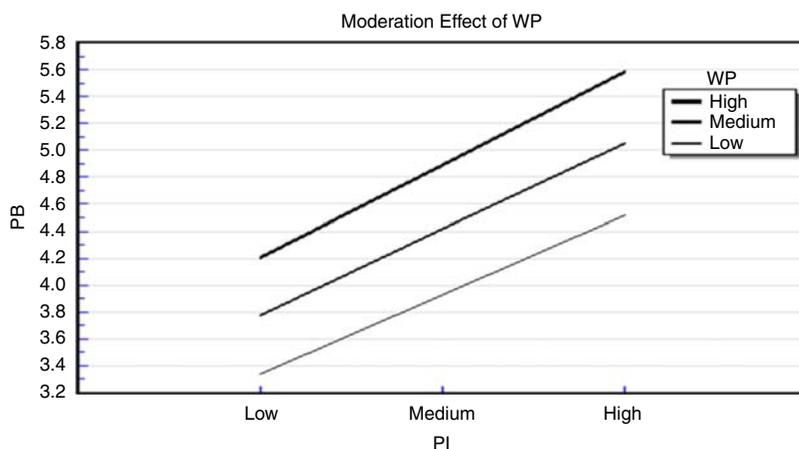


Figure 3. Moderation effect of willingness to pay

Paths	Indirect effect	Bootstrap BC 95% CI	
		Lower	Upper
EN-PBC	0.322	0.235	0.435
EN-ATT	0.083	-0.013	0.187
EN-PI	0.775	0.527	1.215
EC-PB	0.442	0.301	0.564
SN-PI	0.503	0.219	1.062
SN-PB	0.464	0.279	0.699
PBC-PB	-0.218	-2.22	0.141
ATT-PB	-0.11	-0.381	0.087

Table VI. Indirect effects

Hypotheses	Results
H1: attitude relates positively to green purchase intention	Supported
H2: subjective norm relates positively to green purchase intention	Not supported
H3: perceived behavioral control relates positively to green purchase intention	Supported
H4: perceived behavioral control relates positively to green purchase behavior	Supported
H5: green purchase intention relates positively to green purchase behavior	Supported
H6: environmental concern relates positively to attitude	Supported
H7: environmental concern relates positively to subjective norm	Supported
H8: environmental concern relates positively to perceived behavioral control	Supported
H9: environmental concern relates positively to green purchase intention	Not supported
H10: willingness to pay premium moderates the relation between green purchase intention and green purchase behavior	Supported

Table VII. Results of hypotheses testing

Indian consumers toward green products using framework of TPB. The study largely provides support for the TPB, with the exception of direct association between SN and PI. This suggests that social entities such as family and friends are of little value in directly shaping the sampled consumers' green PI. This finding corroborates the results of prior studies where SN had no influence on consumers' PI (Paul *et al.*, 2016; Tarkiainen and Sundqvist, 2005; Khare, 2015). At the same time, it contradicts the studies where SN was reported to significantly impact the PI of Indian consumers (Yadav and Pathak, 2017).

However, social norms were found to exert significant indirect influence on PIs and PBs, through its effect on attitude and perceptions of behavioral control. This study also supports that green PI leads to green PB. In addition, by examining the indirect effects, this research enlightens the socio-psychological processes through which EC, attitudes, SNs and PBC influence green buying behavior via their influence on PI. In doing so, the study uncovers the underlying dynamics of the relationship among aforementioned variables. Thus, the study findings largely attest to the validity of TPB in explaining green buying behavior of educated millennials in India.

Further, the study provides extension to the above theory by establishing the utility of additional constructs in predicting intentions and behaviors. This research extends the TPB by adding EC and willingness to pay in the model. EC was found to significantly influence all the predictor variables (i.e. attitude, SN, and PBC) in the original TPB model. Though the direct effect of EC on PI was insignificant, it was found to influence PI indirectly via its effect on attitude, SNs and PBC. This finding supports the work of Paul *et al.* (2016) on Indian consumers where TPB predictor variables were found to mediate the relationship between EC and green PI. By analyzing the indirect effects, the study unfurls the psychological mechanisms explaining the linkage between EC and PI of young Indian millennials. Further, willingness to pay additional price for the green products was found to exercise significant influence on the strength of the relation between PI and PB. The aforementioned relationship was found to be stronger for the consumers with greater willingness to pay than for the others. This was in correspondence with the price sensitivity of Indian consumers when it comes to paying extra for green products without any value addition to the functional benefits. This finding may apply exclusively to this sample due to limited purchasing power of the students who constituted the sample for the current study. Thus, the study expands the available knowledge on green consumer behavior by illuminating the boundary conditions of the relationship between PIs and PBs. It provides important information to the marketers on the conditions which may attenuate or strengthen the link between intentions and behaviors. Further, unlike past research which was mainly restricted to the investigation of PIs, the study goes one step ahead to explore the linkage of intentions with actual buying behavior and establishes intention as a precursor to behavior.

Practical implications

The study also carries significant implications for the organizational managers responsible for the marketing of green products in India. The findings will enrich marketers' understanding of young consumers' intent to buy green products. Since PI was found to be a significant predictor of PB, it is important for the marketers to make efforts directed at improving the perceptions of all the predictor variables as identified in the proposed model. In addition to focusing on the predictors of PIs established by well-developed socio-psychological model of planned behavior, the marketers may benefit by directing their attention toward other variables like EC and willingness to pay. Market segmentation based on EC which was found to exercise significant influence on all the three predictors of PI in the planned behavior framework could help the marketers target their marketing efforts toward right set of people, who will be most likely to respond positively by exhibiting strong green PI and PB. Of the three TPB predictors, only attitude and PBC were found to exercise direct impact on PI. Therefore, effort should be made to influence and change the attitudes of consumers toward green products by creating a favorable image of the same through enhanced promotions demonstrating the utility of green products. Further, enhancing the perceptions of ease with which the green products can be acquired may help marketers expand their market for green products, as PBC was found to be the strongest predictor of PI and PB. Making eco-friendly products easily

available to consumers with minimum efforts should be the target of green marketers. In this direction, marketers can think of broadening the green choices and improving the accessibility of green products through enhanced R&D and opening alternative channels of distribution, respectively, (Paul *et al.*, 2016). This will reduce the perceived difficulty of acquiring green products and enhance consumers' perceptions of control. Although SN had no direct influence on PI, it is important for the policy makers to positively shape the perceptions of society toward usefulness of green products in reducing carbon footprints. Campaigns and advertisements demonstrating the deteriorating condition of environment and contribution of individuals in uplifting the quality of environments may help increase environmental consciousness and concern, which in turn may induce these consumers toward green consumption. In long term, this may benefit by making green consumption a socially accepted norm and behavior, influencing individuals' attitude, intentions and behavior toward green products. Organizations may engage in the above activities as part of their corporate social responsibility which may help them reap the dual benefit of improved external prestige and increased revenue from sales of green products. However, the achievement of desired objectives requires integrating "green" with the corporate strategy which will also contribute to environmental competitiveness of the organizations. Further, willingness to pay premium is an additional variable marketers need to focus upon to transform PI to PB. Although the sampled consumers were limited by their purchasing power, efforts should be directed toward reinforcing the perceived benefits derived from green products, which in turn may enhance the willingness to pay additional price for the green products.

To conclude, the study by improving the understanding on the factors influencing green product PI and PB among educated youths in India will aid the policy makers design policies and programs to encourage the adoption of green PBs, which subsequently will help achieve environmental sustainability. Given the importance of environmental sustainability for a developing country like India which figures among the 30 most polluted countries of the world, this research by advancing the understanding on the factors predicting environment friendly attitudes and behaviors among consumers will help reduce environmental impact through smart purchasing.

Limitations and directions for future research

The study has some limitations which open the avenues for future research. First, as individuals themselves are the best source to provide information on their attitudes and intentions, we used self-reports to collect information on the study variables. This may make the results susceptible to the influence of common method bias. However, it was not of much concern as one-factor model showed extremely poor fit to the data (Podsakoff *et al.*, 2003). Second, the use of judgment sampling to select the sample which focused on educated youths from a reputed institute of higher education in India restricts the degree to which the results can be generalized for consumer community in India. Future research may use sample of consumers chosen randomly from general population to improve the generalizability of obtained results. Third, data were collected using cross-sectional research design which limits our ability to draw inferences on causality. To confirm cause and effect relationships, future researchers are recommended to replicate this study using longitudinal and experimental research designs. Fourth, though we statistically controlled the influence of various demographic factors to avoid confounding relationships, they can have significant influence on proposed relations in the model. Future researchers might consider exploring the role of these demographic variables as moderators to gain deeper insights on the nature of relationships. Finally, future research may extend the proposed model by including other important variables like perceived value, personal norms, green values, etc. which were beyond the scope of the present study.

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