

Do consumers care about companies' efforts in greening supply chains? Analyzing the role of protected values and the halo effect in product evaluation



Juan Pablo Loaiza-Ramírez^{a,*}, Carlos Eduardo Moreno-Mantilla^b, Torsten Reimer^a

^a Communication and Cognition Lab, Brian Lamb School of Communication, Purdue University, 100 North University Street, West Lafayette, IN 47907, United States

^b Universidad Nacional de Colombia, Sede Bogotá, Departamento de Ingeniería de Sistemas e Industrial, Facultad de Ingeniería, Carrera 30 No. 45A-03, Oficina 453-104, Bogotá, D.C., Colombia

ARTICLE INFO

Keywords:

Green supply chain
Consumer behavior
Willingness to pay
Environmental sustainability
Protected values
Halo effect

ABSTRACT

Widespread efforts are being made to mitigate environmental degradation driven by human activities. From a supply chain management perspective, companies aim at improving their environmental and organizational performance along their supply chain simultaneously. Since consumers are the sources of manufacturing companies' profitability, companies are interested in understanding the extent to which consumers care about their green practices. However, while some consumers would have a higher willingness to pay a premium (WPP) or purchase intention (PI) for environmentally differentiated products, others would not. Moreover, there is scant evidence regarding the integrated effects of intra- and inter-organizational green supply chain practices on green consumerism. Therefore, this study adopts two psychological approaches (i.e., protected values and halo effect) to describe this relationship based on two models that encompass mediation and moderation effects. Data were collected from 351 Colombian university students through a behavioral experiment with three product-based conditions, and the hypotheses were tested using two-instance repeated-measures linear regressions and non-parametric tests. The results indicate that perceived product performance mediates the effect of green supply chain practices on consumers' WPP and PI (halo effect). Additionally, consumers' moral orientation toward the environment (protected values) moderates the effects of green supply chain practices on consumers' WPP, PI and perceived product performance. The study found that people who hold protected values evaluate products better not just for its green attributes, but because of their increased perception of the products' performance. The contributions are centered on the role of psychological approaches in green supply chain studies to understand consumers' preferences.

1. Introduction

The scientific community has warned about a pathway of damage to nature and human society resulting from environmental degradation (Ripple et al., 2017). To avoid this scenario, excess production and waste should be avoided (Hoorweg et al., 2013). A pivotal contribution toward these goals can be made from businesses' efforts to design green products (Maniatis, 2016) that reduce their environmental footprint (Hoekstra and Wiedmann, 2014). These initiatives have been studied from a supply chain management perspective, which aims to improve global sustainability (Pagell and Shevchenko, 2014).

Specifically, companies that respond to the environmental pressures of their stakeholders integrate those concerns into their supply chains (Dubey et al., 2017; Laari et al., 2016; Zhu et al., 2007) through the deployment of green supply chain practices (Green et al., 2012; Vachon and Klassen, 2006). The concept or approach of integrating sustainable environmental processes into the supply chain is called Green Supply Chain Management (GSCM) (Srivastava, 2007; Thennal Venkatesa Narayanan et al., 2021). Companies base their sustainable performance on these practices (Roy et al., 2018), while satisfying consumers' needs and earning profits concurrently.

Abbreviations: GSCM, Green Supply Chain Management; WPP, Willingness to Pay a Premium; PI, Purchase Intention; PPP, Perceived Product Performance; PEF, Perceived Environmental Friendliness.

* Corresponding author.

E-mail addresses: jloaizar@purdue.edu (J.P. Loaiza-Ramírez), cmorenom@unal.edu.co (C.E. Moreno-Mantilla), treimer@purdue.edu (T. Reimer).

<https://doi.org/10.1016/j.clscn.2021.100027>

Received 8 July 2021; Revised 10 November 2021; Accepted 31 December 2021

2772-3909/© 2022 The Authors. Published by Elsevier Ltd.

This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

An ongoing concern of firms is understanding consumers' decisions when purchasing products manufactured and distributed through green supply chains (Groening, 2019). Companies are interested in understanding consumers' cognitive processes when perceiving those practices, and how those practices can influence consumers' purchasing choices (e.g., Kim et al., 2014; Kulshreshtha et al., 2019; Lee and Lim, 2020; Smith, 2012).

The study of the effect of companies' green supply chain practices on consumers' willingness to pay a premium (WPP) —or consumers' purchase intention (PI)— can be framed within the paradigm of environmental product differentiation (Reinhardt, 1998). In this paradigm, the extra costs of enhancing companies' environmental performance are charged to consumers in a product's premium price.

However, consumers are not always willing to pay more for "green" or environmental product attributes (Usrey et al., 2020). Although consumers supposedly favor green products, they do not always materialize their preferences (Alsmadi, 2007), or even prefer less sustainable alternatives when evaluating products' characteristics associated with power and durability (Luchs et al., 2010). Indeed, some consumers do not care about the environment (Barbarossa and De Pelsmacker, 2016), so they would neither pay more for nor buy greener products.

Hence, it is relevant to evaluate empirically whether consumers perceive companies' green supply chain efforts and correspondingly reward these efforts, and what cognitive mechanisms could describe consumers' WPP and PI. Behavioral research might offer valuable perspectives for understanding consumers' preferences toward products that incorporate green practices along the supply chain (Sarkis, 2018). Indeed, as Allen et al. (2021) pointed out, individual theories play an important role in the challenges posed by the sustainability of the supply chains and its implications at other levels of society, such as policy implementation and governmental decisions. Therefore, this study set out to contribute to this aim by considering two psychological approaches that help to understand how consumers make decisions to buy green products: The concepts of the halo effect (Nisbett and Wilson, 1977) and protected values (Baron and Spranca, 1997).

Research on the halo effect suggests that companies' products are perceived differently by consumers when other attributes of the same products are considered (e.g., quality, performance). For example, Sörqvist et al. (2015b) found evidence of an "eco-label effect," which was expressed when consumers judged "organic" products as if they had better taste or were healthier. In the same vein, Sörqvist et al. (2013) found that "eco-friendly" coffee was rated to have better taste and consumers were more willing to pay for it. Aiming to extend these findings, this study proposes that some consumers would experience a halo effect while assessing the performance of products that reflect practices of green supply chains. In other words, those consumers would have a greater perceived performance of the products manufactured through green supply chains compared to traditional products, and thus consumers' willingness to pay a premium and their purchase intentions would be higher for those greener products.

Consumers who perceive more performance, have higher purchase intentions and are willing to pay more for those green products are consumers who probably deeply care about the environment. These consumers are expected to have a moral orientation toward the environment, or in other words, have protected values toward the environment (Baron, 2017). These protected values are values that consumers will not trade off for any other type of value, especially economic ones (Tanner and Medin, 2004). Consumers with protected values toward the environment would not fall into trade-offs because of the moral discomfort and awkwardness it could bring to them (Stikvoort et al., 2016). Then, as previous studies suggested, consumers with high environmental values would prefer environmentally friendlier products (Bailey et al., 2016; Haws et al., 2014), or even would judge these same products to have greater performance (Chernev and Blair, 2021; Möller and Herm, 2021).

One of the main contributions of this study is rooted in the use of both psychological approaches—protected values and the halo effect — to explain consumers' purchase intentions and willingness to pay a premium for products manufactured under green supply chain practices. Both approaches have been barely studied at the same time in other contexts (e.g., Dillon et al., 2012; Sheehan and Lee, 2014), and even less in the domain of sustainability (Dahlinger and Wortmann, 2016).

Another main contribution of the study comes from the fact that few studies in the context of the GSCM literature have focused on green consumerism in emerging economies (e.g., Jayaram and Avittathur, 2015; Narula and Desore, 2016), even though companies' tendency to adopt sustainable practices is increasing in developing countries (de Oliveira et al., 2018; Rajeev et al., 2017). In addition, while few studies have tackled responsible consumption in Colombia (e.g., Díaz et al., 2020; Villa Castaño et al., 2016), none addresses responsible consumption from a GSCM perspective. Therefore, this research increases the body of GSCM studies in emerging economies such as the Colombian one.

Considering these contributions, this research sought to explore if consumers would be willing to pay more or have high purchase intentions for products that embody companies' green supply chain practices, perceiving green products better than traditional products in terms of performance. Moreover, it is expected that those differences on consumers' perceived product performance (PPP), willingness to pay a premium (WPP) and purchase intention (PI) are stronger for those consumers who hold protected values, i.e., consumers with a moral orientation toward the environment.

In other words, this study was designed to test the mediation effects of consumers' perceived product performance (PPP) in the relationship between companies' GSCM practices —relative to companies' traditional practices— and consumers' WPP/PI. This mediation represents the halo effect. Secondly, this study also tests if consumers' moral orientation toward the environment moderates the effect of companies' GSCM on consumers' WPP, PI and PPP. This moderation represents the protected values.

2. Consumers' evaluation of green supply chain practices

The emergence of Green Supply Chain Management (GSCM) has been mainly driven by the degradation of the environment (Srivastava, 2007), increased pollution (Persico and Johnson, 2021), and waste generation (Lebreton and Andradý, 2019). For that reason, and considering the environmental impacts of supply chains worldwide (e.g., Meng et al., 2015), scholars and practitioners target supply chains to improve global sustainability (Bakshi, 2019, p. 58; O'Rourke, 2014).

Heeding this call, companies reduce their environmental impacts by displaying intra-organizational practices (Sajjad, 2019). Even more, some firms go further and deploy those practices plus other additional inter-organizational practices in tandem (Zhu et al., 2020), anticipating stakeholders pressure (Trapp and Sarkis, 2016) and greening their supply chains (Sarkis et al., 2015).

Literature on GSCM practices suggests that companies' practices are divided into intra-organizational practices (i.e., within the company) (De Sousa Jabbour, 2015; Lee and Lim, 2020; Trujillo-Gallego et al., 2021) and inter-organizational practices (i.e., along the supply chain) (Zhang et al. 2018b; Zhu et al., 2010; Zhu et al., 2008). Indeed, internal practices are deployed before external practices (Green et al., 2012; Zhu et al., 2013). In other words, internal GSCM practices facilitate the adoption of external GSCM practices (Ahmed et al., 2020; Laari et al., 2016).

As businesses incorporate both types of GSCM practices into their supply chains, the question of how these practices are perceived and can influence consumers' purchasing decisions arises (see Sarkis,

2018). For example, a company invests part of its budget in the design of a product to reduce its environmental impacts (i.e., intra-organizational practice) or in environmental audits of the company's suppliers (i.e., inter-organizational practice). In this case, it would be useful for the company to know how consumers are perceiving those efforts and if they would buy or would be willing to pay more for intra-, inter-, or both intra- and inter-organizational practices.

Kim et al. (2014) and Kim and Lee (2018) suggested that both types of practices influence consumers' willingness to pay a premium (WPP). However, Lee and Lim (2020) reported high consumers' purchase intentions for just intra-organizational practices, contrasting the results of Kulshreshtha et al. (2019), who found evidence of consumers' preferences for inter-organizational practices. Aiming to disentangle these findings, the first set of hypotheses comprises:

- H_{1a}: Companies' GSCM practices positively influence consumers' WPP.
- H_{1b}: Companies' GSCM practices positively influence consumers' PI.

3. Halo effect in consumers' perceived product performance

Companies that deploy GSCM practices would expect consumers' perception of their products to be different compared to traditional products because of a possible halo effect. The halo effect is the generalization of global evaluations of an object or entity to other unrelated attributes of the same object/entity (Nisbett and Wilson, 1977). For instance, in the personal perception domain (Hotter, 2018), so-called good-looking people seem more intelligent in certain scenarios. In the food domain, food products are perceived as more nutritious or healthier if the product's package depicts ethical claims (Schuldt et al., 2012). Similarly, food is perceived environmentally friendlier when it is thought to be healthier and produced organically/locally (Lazzarini et al., 2016), or when it is perceived more "natural" (Amos et al., 2021). Besides, people perceive higher comfort in indoor environments that have "environmentally friendly" lightning (Sörqvist et al., 2015a).

In a business-setting scenario, reports of companies' quality internal control may influence customers' and employees' perceptions of the companies' financial performance (Akisik and Gal, 2017). In green markets, consumers intend to garner social status by consuming conspicuous green products, demonstrating environmental *bona fides* (good faith) through their purchases (Sexton and Sexton, 2014). Additionally, some studies suggest an increase in consumers' willingness to view product advertisements of companies involved in Corporate Social Responsibility (CSR) environmental activities (Dong et al., 2017).

This study aims to extend this literature on the halo effect by exploring if companies' GSCM practices influence consumers' perceived product performance (PPP). As PPP is described as the subjective evaluation of superior performance of the product compared to other products (Grewal et al., 1998; Mugge and Schoormans, 2012; Song and Thieme, 2009), consumers may infer that products manufactured through GSCM practices have better quality than traditional products. In fact, previous studies suggest that firms' prosocial or pro-environmental behaviors could produce a halo effect on consumers by increasing their perceived product performance (Chernev and Blair, 2021; Möller and Herm, 2021; Walker et al., 2020). As a result, consumers would be willing to pay a premium—or have higher purchase intentions—for those specific products, which means that consumers' PPP would mediate the effect of companies' GSCM practices on consumers' WPP/PI. In fact, the halo effect is expressed in this mediation and informs the second set of hypotheses:

- H_{2a}: Consumers' PPP mediates the effects of companies' GSCM on consumers' WPP.

- H_{2b}: Consumers' PPP mediates the effects of companies' GSCM on consumers' PI.

4. Protected values: Consumers' morality toward the environment

The psychological approach of protected values (Baron and Spranca, 1997) could provide valuable insights into green consumerism (Maniatis, 2016). Values are often associated with sustainable decision-making (Bangsa and Schlegelmilch, 2020; Haws et al., 2014). Indeed, environmental values have been described as the first step toward green consumerism (Groening et al., 2018), preceding other factors in consumers' purchasing processes (Groening, 2019).

Research on protected values suggests that certain consumers avoid buying products when manufactured in an unethical way, even if those products promise to provide the highest expected value or return in a choice set according to traditional utility models. Traditional models on decision making in economics (von Neumann and Morgenstern, 2007) suggest that consumers should maximize their utility by buying products that equal or outmatch their expected value (Schechtman, 1976). However, the expected-utility model typically does not describe well how consumers form their decisions in everyday life (see Bangsa and Schlegelmilch, 2020; Gigerenzer et al., 1999; Hoffrage and Reimer, 2004).

For example, consumers do not buy inexpensive seafood when they realize that it has been produced through slave labor (Marschke et al., 2020), because it is seen as an unethical practice. Arguably, in this case, the "slave labor free" feature of the product is a characteristic that people are not willing to trade-off, even if the product offers other benefits such as a low price (Baron and Leshner, 2000).

Research on protected values suggests that they cannot be expressed in monetary dimensions and dominate a variety of consumers' decisions. McGraw et al. (2016) found that people are not willing to trade-off a purchase when it is a symbol of love (e.g., weddings, funerals), even when other options in the market could be less expensive. Similarly, Visschers and Siegrist (2014) reported the importance of protected values as a predictor of the acceptance of different energy technologies.

Other studies report a combination of the importance of protected values and economic incentives. Gibson et al. (2013) measured people's protected values toward truthfulness, by letting companies' CEOs decide if they would lie without any kind of punishment, or if they would tell the truth and suffer the costs associated with their sincerity. The authors found a mix of decisions, or heterogeneity of people's preferences for truthfulness, which means that people balance the economic compensations with the costs of telling the truth.

In the sustainable domain, this study adds to this literature on protected values by testing the hypothesis that consumers with a moral orientation toward the environment are willing to pay more and have higher purchase intentions for products manufactured through GSCM practices. Consumers with protected values toward the environment are not willing to make economic trade-offs (Visschers and Siegrist, 2014). Those consumers are expected to protect the environment (Rottman et al., 2015) due to a sense of moral obligation (Chekima et al., 2016). Then, companies' GSCM practices may pay off as consumers with protected values could be willing to pay more and have higher purchase intentions for companies' products, following the idea of "going green pays" (Raiborn et al., 2013). Consequently, the third set of hypotheses are:

- H_{3a}: Consumers' moral orientation toward the environment positively moderates the influence of GSCM practices on consumers' WPP.
- H_{3b}: Consumers' moral orientation toward the environment positively moderates the influence of GSCM practices on consumers' PI.

If consumers would make sustainable decisions based on their protected values, they would likely be influenced by the halo effect. To the knowledge of the authors, both psychological approaches have not been used in the literature about sustainability and green consumerism before as complementary mechanisms that explain consumers' choices of products manufactured through GSCM practices.

Previous studies such as [Chernev and Blair \(2021\)](#) and [Möller and Herm \(2021\)](#) have documented the interaction between consumers' moral orientation toward the environment and their positive perceptions of companies' product performance. Similarly, [Haws et al. \(2014\)](#) and [Walker et al. \(2020\)](#) have also reported the importance of consumers' green consumption values when evaluating environmentally friendly products, which in turn impacts people's perceived enjoyableness ([Tezer and Bodur, 2020](#)).

Building on this literature, it is expected that consumers who hold protected values toward the environment are willing to pay a premium—and have higher purchase intentions—for products manufactured through some GSCM practices, but not for traditional products. This preference for GSCM manufactured products is smaller for consumers who do not hold protected values. Those consumers with protected values toward the environment would also expect that the performance of those specific products made through green supply chains is higher (e.g., [Chernev and Blair, 2021](#); [Möller and Herm, 2021](#); [Walker et al., 2020](#)) compared to traditional products. Considering this rationale, the final hypothesis described in [Fig. 1](#) and [Fig. 2](#) is:

- H₄: Consumers' moral orientation toward the environment positively moderates the influence of GSCM practices on consumers' PPP.

Protected values and the halo effect have not been considered simultaneously in GSCM research. These types of individual and behavioral approaches could offer new perspectives to explore consumers' choices of companies' products manufactured through green supply chains ([Sarkis, 2018](#)), bounding the existing limitations between upper levels of society and individualistic behavior ([Allen et al., 2021](#)). Thus, this study explores an innovative approach by deploying GSCM and psychological perspectives to understand consumers' preferences toward environmentally differentiated products.

5. Methodology

This study used a scenario-based behavioral experiment ([Davis-Sramek et al., 2018](#)) with a within-subject design. Previous studies highlight the importance of experiments in supply chain studies (e.g., [Eckerd, 2016](#)), because they are useful to test and build theory

([Tokar, 2010](#)) and can provide insights into supply chain management ([Knemeyer and Naylor, 2011](#)). Additionally, experiments' random assignment offers control and manipulation over the variables involved, increasing internal validity ([Davis-Sramek et al., 2018](#)).

5.1. Conditions: Survey of GSCM practices

In order to validate both intra- and inter-organizational practices in the Colombian context and include them in the experiment as conditions, items of four GSCM dimensions were taken from [Quiroga-Calderón et al. \(2018\)](#). The mentioned study validated the dimensions of internal environmental management, eco-design, green supply (including green purchasing and collaboration with suppliers), and collaboration with customers in Colombian companies, considering a sample of Colombian Small- and Medium-sized Enterprises (SMEs) from the Colombian Exporting SMEs Directory 2017.

Exporting SMEs were considered valuable in terms of representing the local context for two main reasons. Firstly, SMEs and micro companies (i.e., < 10 employees) represented 67% of the total employment, contributed to 28% of the GDP and accounted for 94% of all companies in Colombia in 2016 ([Moscoso-Durán and Mancha-Navarro, 2018](#)). Secondly, exporting companies are more prone to GSCM deployment ([Geng et al., 2017](#)), due to the necessity of adjusting to different governmental legislations.

With these same data, a cluster analysis classified these companies depending on the frequency of adoption of GSCM practices. This classification was supported with ANOVA and Tukey post hoc tests. Moreover, a discriminant analysis supported the classification of companies and informed the description of the GSCM dimensions that were finally included in the experimental conditions.

Thus, these procedures configured three conditions that gradually increased the deployment of GSCM practices in the Colombian context with the data collected. The base condition was the “non-green” product because it depicted the implementation of no GSCM practices. The second condition was the “partially” green product, which represented the implementation of intra-organizational GSCM practices (namely, eco-design in this study). Finally, the third condition, or the “totally” green product, represented the deployment of both intra- and inter-organizational GSCM practices (i.e., green purchasing and collaboration with suppliers). In this way, the experimental conditions represented the type of practices that previous works suggested as complementary stages of GSCM deployment ([Green et al., 2012](#); [Zhang et al. 2018b](#); [Zhu et al., 2013](#)). Despite the labels used in this study, it is important to clarify that there are no “totally” or “partially” green products ([Zink and Geyer, 2016](#)).

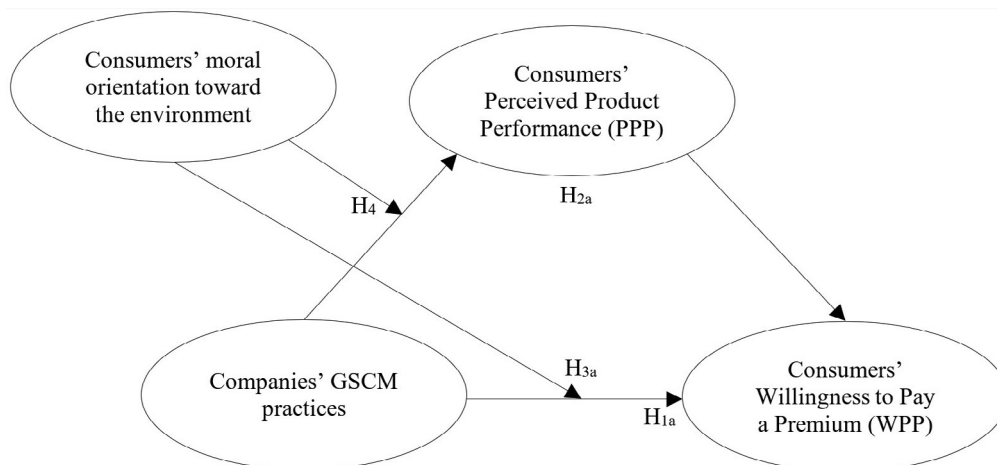


Fig. 1. Proposed model with consumers' willingness to pay a premium (WPP) as the dependent variable.

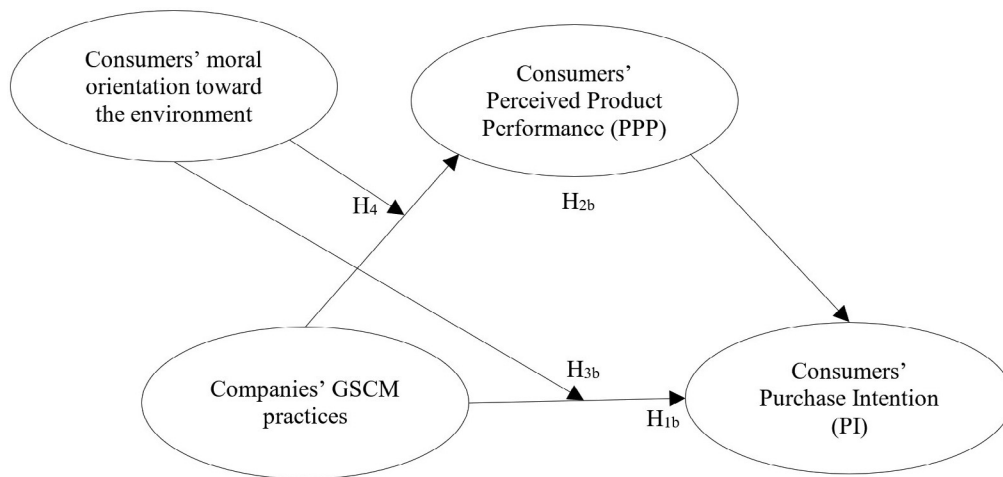


Fig. 2. Proposed model with consumers' purchase intention (PI) as the dependent variable.

5.2. Experiment

After an introduction, the three conditions were presented to the participants. In every product exposure, four sets of two statements were randomly posed. Two sets of items measured consumers' willingness to pay a premium (WPP) and purchase intention (PI), the third one measured consumers' perceived product performance (PPP), and the last one measured consumers' perceived environmental friendliness (PEF) of the product as a manipulation check. These items were measured with Likert scales.

Afterward, a paired comparison task was administered (e.g., Kämmer et al., 2014; Reimer and Katsikopoulos, 2004; Russell and Reimer, 2020). This task presented two out of the three conditions at once, posing four questions related to consumers' WPP, PI, PPP and PEF. Participants had to choose one out of two conditions in every question, and all combinations among the three products were randomly and evenly presented.

Next, a ranking task was administered. This task followed the exact same procedures of the paired comparison task, but all conditions were presented simultaneously. Then, consumers' moral orientation toward the environment was measured with two sub-scales, which were adapted from Gibson et al. (2013) and validated by Tanner et al. (2009). Finally, some demographic questions were collected. See Appendix: *Experimental Instrument* for details of the experiment.

5.3. Pre-test

Before sending the experiment to the actual sample, a pre-test was performed. This pre-test had the intention of assuring the conditions' reality and assessing possible effects of logos in the conditions' images. The population used in this pre-test was composed of 170 undergraduate students from nine mandatory courses and one free-choice course of the Industrial Engineering program at Universidad Nacional de Colombia in Bogotá.

The pre-test was performed in two stages. In the first stage, 54 participants reported their feedback regarding the variants of the products in terms of their associated GSCM practices. This procedure assured that the environmental differentiation of the products was sufficiently clear for the participants. In fact, they reported that the three products were differentiated by the degree of green supply chain practices deployed. Participants stated that the non-green product was clearly different from the partially green product, and this one was in turn different from the totally green product.

In the second stage, two logos were progressively added to the conditions. This means that condition one (the non-green product: no

GSCM practices) had no logo, condition two (the partially green product: intra-organizational GSCM practices) had one logo, and condition three (the totally green product: intra- and inter-organizational GSCM practices) had two logos.

The effects of the logos in the products' images were evaluated by sending the instrument without logos to 38 out of 82 participants and comparing both groups (i.e., logo and non-logo groups). Besides, possible effects of the conditions' positions on the paired comparison and the ranking tasks were assessed. Through t-tests and chi-square tests, the pre-test revealed neither effects of the images' logos on the conditions, nor effects of the conditions' positions on the paired comparison and the ranking tasks.

Consequently, the logos were held for the participants to clearly distinguish the products' images. Additionally, one item of the protected values scales was excluded, as suggested by the reliability analysis of Cronbach's alpha (Taber, 2018). Therefore, all instruments were validated before collecting data.

5.4. Sample

This study recruited university students as research participants (for a discussion about students as appropriate participants in supply chain studies, see Thomas, 2011). The final sample comprised 351 participants (18.84%, from a total of 1,863 students enrolled during the first semester of 2020) from the Department of Systems and Industrial Engineering of the School of Engineering, at Universidad Nacional de Colombia in Bogotá.

This non-probability homogeneous convenience sample produces estimates with clearer generalizability because of its narrowness (Jager et al., 2017). As this study is oriented toward building theory, students could represent a population of interest due to their apparent homogeneity (Peterson and Merunka, 2014), considering also that student samples are often used in studies regarding green consumerism to enhance comparability (e.g., Khare and Varshneya, 2017; Schmidt, 2020; Yadav and Pathak, 2016).

Similarly, studies with young consumers have increased since they are considered the future of society (Zhang et al. 2018a). In fact, young consumers play an influential role in sustainable consumption (Uddin and Khan, 2016; Ziesemer et al., 2021), because they are concerned about the environment (Prakash and Pathak, 2017), especially in emerging markets (e.g., Nguyen et al., 2018). In fact, Colombian undergraduate students care about the balance between nature and humans (Díaz et al., 2020), focus on spending just the necessary and consider the environmental impacts when buying products (Villa Castaño et al., 2016).

6. Data analysis

Initially, 13 responses were excluded following the Mahalanobis (D^2) distance procedure for multivariate detection of outliers (Hair et al., 2014). Afterward, the two items of each set of sentences were averaged to obtain one measure of willingness to pay a premium (WPP), purchase intention (PI), perceived product performance (PPP) and perceived environmental friendliness (PEF). The basic statistics (i.e., mean, standard deviations and frequencies) of the data can be seen in Table 1, Table 2 and Table 3.

Next, the protected values sub-scales –originally validated by Tanner et al. (2009) and adapted from Gibson et al. (2013)– were validated for the study’s context through a Confirmatory Factor Analysis (CFA). After excluding two items, the model fit indices ($\chi^2 = 11.36$, $df = 9$, p -value = 0.33, Normed $\chi^2 = 1.26$, RMSEA = 0.02, CFI = 0.99, NFI = 0.99, GFI = 0.99), Cronbach’s alpha ($\alpha = 0.76$, Average Variance Extracted (AVE) = 0.42 and Composite Reliability (CR) = 0.80 suggested a good model fit (Fornell and Larcker, 1981; Hair et al., 2014).

The manipulation of the conditions was assessed through a repeated-measures ANOVA with Greenhouse-Geisser correction applied to the items of PEF. The analysis revealed statistically significant differences among the three conditions, $F(1.81, 616.45) = 614.43$, $p < 0.01$, $\eta^2_G = 0.64$. A post hoc test with a Bonferroni correction determined that the totally green product ($M = 5.49$, $SD = 1.17$) was statistically significantly different from the partially green product ($M = 4.15$, $SD = 1.39$, $p < 0.01$), which in turn was statistically significantly different from the non-green product ($M = 2.08$, $SD = 1.51$, $p < 0.01$). Consequently, the data indicated that the conditions were manipulated successfully.

Subsequently, three main procedures were followed. Firstly, mediation effects were evaluated with the path-analytic framework formalized in the SPSS macro MEMORE (Montoya and Hayes, 2017). This analysis considered the two mediation models in Fig. 1 and Fig. 2 in a two-condition within-participant design. All possible combinations among the non-green, partially and totally green products were considered to calculate direct, indirect and total effects for each model. This analysis included bootstrap confidence intervals for the indirect effects, using 10,000 bootstrap samples.

Secondly, the macro MEMORE was also used for estimating inferences on the interactions between the repeated-measures factor (i.e., conditions) and the between-subject moderator (i.e., protected values) using linear regressions (Montoya, 2019). The protected values moderator was operationalized through an index, which was created averaging the remaining items of both sub-scales as suggested in Gibson et al. (2013). This analysis described the moderation effects in Fig. 1 and Fig. 2.

The effects considered all the possible combinations of the conditions, including PPP as a dependent variable. Accordingly, the effects of the conditions on the dependent variables (i.e., WPP, PI and PPP) at different values of the moderator were determined. Likewise, the effects of the moderator on every dependent variable at the three conditions were calculated.

Thirdly, the paired comparison and the ranking data were analyzed using non-parametric tests. Friedman and Wilcoxon Signed-Rank tests

Table 1 Means (M) and standard deviations (SD) of the conditions.

Product	Willingness to Pay a Premium		Perceived Environmental Friendliness		Perceived Product Performance		Purchase Intention	
	M	SD	M	SD	M	SD	M	SD
Totally Green	4.86	1.30	5.49	1.17	4.74	1.02	5.15	1.26
Partially Green	3.86	1.25	4.15	1.39	4.30	1.02	4.04	1.40
Non-Green	2.26	1.31	2.07	1.50	3.75	1.23	2.43	1.41

Table 2 Means (M) and standard deviations (SD) of the protected values sub-scales.

Sub-scale	Item	M	SD
Indirect Measures	Morality	5.47	1.41
	Praiseworthiness	6.16	1.18
	Outrightness	5.44	1.59
	Acceptability	5.68	1.36
Direct Measures	Sacrifice	5.14	1.78
	Flexibility	4.94	1.69
Index		5.47	1.02

were performed to determine the differences of the respondents’ frequencies when choosing one condition over the others in terms of the dependent variables. Finally, after median-splitting the protected values index, Mann-Whitney U tests were performed to see if there were differences across protected values in terms of the dependent variables.

7. Results

The results of the mediation analysis reveal an incremental additive effect. Partially green products (i.e., intra-organizational GSCM practices) increase consumers’ willingness to pay (WPP) and purchase intention (PI) compared with non-green products (i.e., no GSCM practices). Similarly, totally green products (i.e., intra- and inter-organizational GSCM practices) have an additional influence on consumers’ WPP and PI compared with partially green products. These results support the first set of hypotheses (H_{1a} and H_{1b}) and can be seen in columns c' of Table 4. The R^2 of these regressions varies from 0.18 to 0.30, and all regressions are statistically significant ($p < 0.01$).

As expected, the effects of companies’ GSCM on consumers’ WPP and PI are mediated through consumers’ perceived product performance (PPP). These results support the second set of hypotheses (H_{2a} and H_{2b}) and can be evidenced by the indices of mediations, columns ab in Table 4, which represent the indirect effects. These indirect effects are higher in the comparison between the totally and the non-green product than in the other two comparisons.

The results of the moderation analysis can be observed in Fig. 3, Fig. 4 and Fig. 5, which support the third set of hypotheses and the fourth hypothesis (H_{3a} , H_{3b} and H_4) respectively. These moderations are statistically significant ($p < 0.05$) after some points known as the transition points of significance represented in the figures as triangles (for a discussion about these transition points, see Montoya, 2019). The R^2 of these regressions varies from 0.03 to 0.13.

The relationships between the moderator and the dependent variables are also considered. For instance, two consumers, one-unit different from each other in the protected values index, are evaluating a totally green product and state their preferences in terms of WPP. The individual with higher protected values is expected to evaluate the product 0.40 units above the other consumer, $t(336) = 5.99$, $p < 0.01$.

However, if both consumers are evaluating a partially green product, there is no statistically significant difference between them ($p > 0.05$). Furthermore, if they are evaluating a non-green product, the individual with higher protected values is expected to evaluate the product 0.30 units below the other consumer, $t(336) = -4.37$,

Table 3
Frequencies of the paired comparison and ranking tasks data.

Product Comparison	Willingness to Pay a Premium		Perceived Environmental Friendliness		Perceived Product Performance		Purchase Intention	
	Frequency	%	Frequency	%	Frequency	%	Frequency	%
Totally vs. Non-Green	315	93.20	321	94.97	268	79.29	317	93.79
Partially vs. Non-Green	23	6.80	17	5.03	70	20.71	21	6.21
Totally vs. Partially Green	310	91.72	316	93.49	263	77.81	308	91.12
Partially vs. Partially Green	28	8.23	22	6.51	75	22.19	30	8.88
Totally vs. Non-Green	301	89.05	312	92.31	265	78.40	299	88.46
Partially vs. Non-Green	37	10.96	26	7.69	73	21.60	39	11.54
Totally vs. Partially Green	289	85.50	299	88.46	232	68.64	277	81.95
Partially vs. Partially Green	35	10.36	25	7.40	45	13.31	47	13.91
Totally vs. Non-Green	14	4.14	14	4.14	61	18.05	14	4.14

Table 4
Mediation analysis with the macro MEMORE: Direct (c') effects and indices of mediation (ab).

Product Comparison (Mediator: Perceived Product Performance)	Willingness to Pay a Premium		Purchase Intention	
	c'	ab	c'	ab
Totally vs. Non-Green	1.89	0.72	1.98	0.74
Partially vs. Non-Green	1.30	0.30	1.24	0.37
Totally vs. Partially Green	0.71	0.29	0.80	0.31

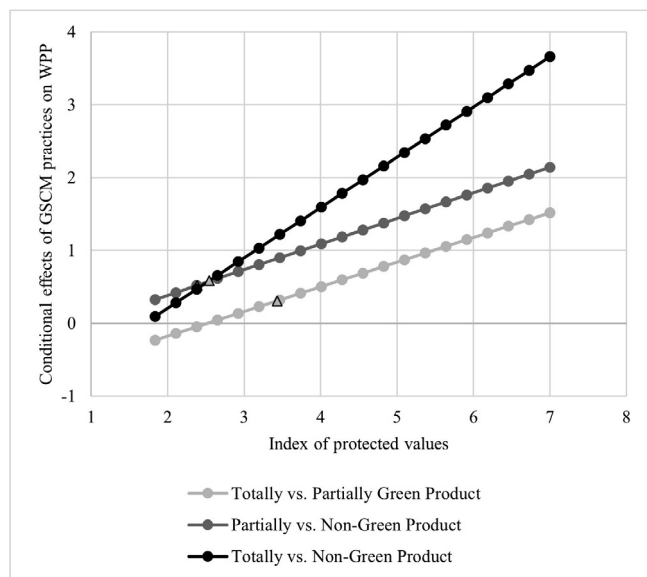


Fig. 3. Conditional effects of GSCM practices on willingness to pay a premium (WPP) as a linear function of protected values.

$p < 0.01$. This pattern is found across all dependent variables (WPP, PI and PPP). The R^2 of these regressions varies from 0.01 to 0.10.

Finally, the Friedman tests and Wilcoxon signed-rank post hoc tests with Bonferroni corrections applied reveal that respondents had a clear inclination to choose the greener option among the three described products in terms of WPP, PI and PPP, as shown in Table 3. Likewise, Mann-Whitney U tests reveal statistically significant differences ($p < 0.05$) between the groups of high and low protected values in 10 out of the 12 comparisons (i.e., WPP, PI and PPP in the three paired comparisons and the ranking tasks). In other words, the group of high protected values chose the greener product more often than the group of low protected values.

8. Discussion and implications

This study analyzes green consumerism from a psychological perspective (Groening et al., 2018), considering GSCM practices (see

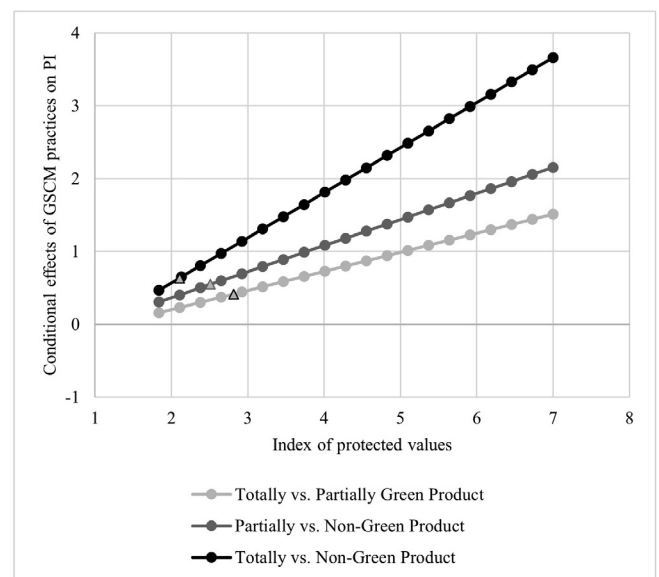


Fig. 4. Conditional effects of GSCM practices on purchase intention (PI) as a linear function of protected values.

Thennal Venkatesa Narayanan et al., 2021). Other works have highlighted the importance of understanding different psychological mechanisms and theories through which consumers appraise companies' sustainable practices and products (e.g., Meiting and Hua, 2021). Indeed, understanding consumers' evaluation of companies' practices displayed along their supply chains is relevant for academics and practitioners nowadays (Sarkis, 2018), by informing upper levels of society (e.g., regulatory policy) from individual and behavioral perspectives (Allen et al., 2021).

8.1. Main contributions

This study has drawn from two psychological approaches that have been associated with green consumerism (Groening et al., 2018): Protected values (Baron and Spranca, 1997) and the halo effect (Nisbett and Wilson, 1977). These approaches were used to explain consumers'

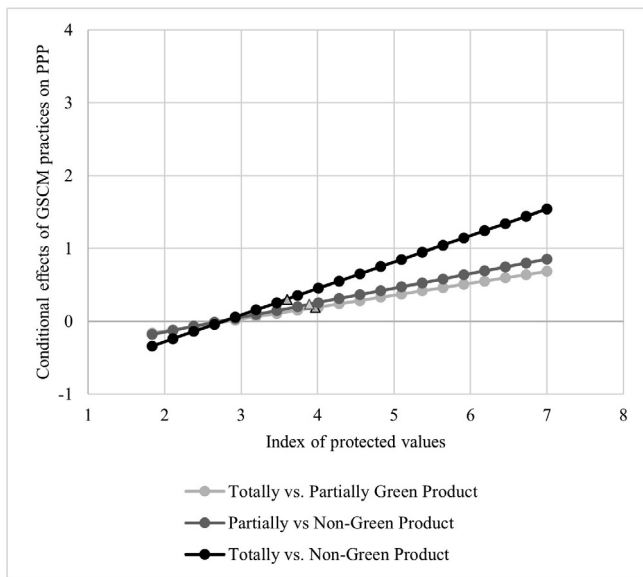


Fig. 5. Conditional effects of GSCM practices on perceived product performance (PPP) as a linear function of protected values.

willingness to pay a premium (WPP) and consumers' purchasing intention (PI). These two perspectives are useful to understand how values are linked to green purchasing processes (Groening, 2019; Haws et al., 2014; Zhu and Sarkis, 2016), and the effects of firms' prosocial behavior on consumers' perception of products' performance (Chernev and Blair, 2021; Möller and Herm, 2021; Walker et al., 2020).

This work aims to understand the situations in which consumers prefer companies that are immersed in green supply chains (Sarkis, 2018). Thus, this study contributes to research since few studies use GSCM as one of the organizational theories to understand companies' differentiation efforts and its associated consumers' response (e.g., Kim et al., 2014; Kulshreshtha et al., 2019; Lee and Lim, 2020; Smith, 2012). Similarly, as it may be worthwhile for companies to communicate their green practices, this study also looks into companies' efforts to make their practices visible to consumers (Bakshi, 2019, p. 107; O'Rourke, 2014).

Besides, this research expands the existing literature of GSCM in Colombia. Although few studies have addressed green consumer behavior in that country (e.g., Díaz et al., 2020; Muñetón-Santa et al., 2017; Villa Castaño et al., 2016), none undertakes the mainstream of supply chain studies, and specifically a GSCM perspective. In this way, this study increases the literature on green consumerism in the context of an emerging economy (e.g., Jayaram and Avittathur, 2015; Narula and Desore, 2016; Saleem et al., 2018).

8.2. Implications for theory

The first set of hypotheses (H_{1a} and H_{1b}), supported by the results, accounted for the main effect of GSCM practices on consumers' WPP and PI as reported by Lee and Lim (2020), who found evidence of a positive effect of internal GSCM practices on consumers' purchasing behavior. Similarly, Kulshreshtha et al. (2019) stated consumers' preferences for external GSCM practices (i.e., green distribution). Likewise, Kim et al. (2014) indicated that both internal and external GSCM practices have an impact on consumers' WPP. This overall effect was supported by the mediation analyses performed with the SPSS macro MEMORE (Montoya and Hayes, 2017).

Furthermore, this study found evidence of an additive effect of the implementation scope of GSCM practices on WPP and PI (Green et al., 2012), from non-green, to partially green, and finally to totally green products. In fact, if companies are already displaying internal efforts,

as discussed in Lee and Lim (2020), and make additional work to deploy more externally-oriented GSCM practices, consumers' WPP and PI are expected to increase (see Zhu et al., 2008 for a discussion of external GSCM practices).

The second set of hypotheses (H_{2a} and H_{2b}) accounted for the indirect effects of GSCM practices on consumers' WPP and consumers' PI through consumers' perceived product performance (PPP). As Chernev and Blair (2021, 2015) and Möller and Herm (2021) discussed, a halo effect takes place when consumers evaluate the performance of products that are manufactured through some companies' sustainable practices, or also when the product uses energy that comes from renewable sources (Walker et al., 2020). In the present study, the halo effect of increased performance is finally reflected in positive evaluations of the companies' GSCM practices in terms of WPP and PI. These mediation effects are also supported by the mediation analyses performed with the SPSS macro MEMORE (Montoya and Hayes, 2017).

The indirect effects were statistically significant for all the regressions performed, but with different particularities. In the situations where totally green products were absent, the indirect effects were lower. This implies that the halo effect was stronger in situations where the greenest alternative was depicted. Then, it would be more beneficial for companies to advertise a totally green product in comparison with other partially green or non-green alternatives.

The third set of hypotheses and the fourth hypothesis (H_{3a} , H_{3b} and H_4) accounted for the moderation effects of protected values on the relationship between companies' GSCM practices and consumers' WPP, PI and PPP, respectively. These effects are supported by the moderation analyses performed with the SPSS macro MEMORE as well (Montoya, 2019). In all regression analyses, the conditional effects of GSCM practices on every dependent variable (WPP, PI, PPP) increase as protected values go higher.

This finding is supported by Chernev and Blair (2021), Walker et al. (2020) and Möller and Herm (2021), who called this positive linear relationship between environmental values/concerns and product performance the "sustainability assess" effect. Although previous studies suggest that this interaction was difficult to replicate (e.g., Kim and Schuldt, 2018; Sörqvist et al., 2015b), this study found evidence to support the complementarity of consumers' moral orientation toward the environment, i.e., protected values (Baron and Spranca, 1997), and consumers' perceived product performance, expressed in the halo effect (Nisbett and Wilson, 1977), a combination previously overlooked in the sustainable domain to the best of the authors' knowledge.

The final interaction to consider is the effect of the moderator on the dependent variables at different conditions. If one consumer has higher protected values than another (one-unit difference), they are willing to pay more, have higher purchase intentions, and have higher perceived performance for the totally green product. For the partially green product, there are no differences in WPP, PPP and PI between both individuals.

Interestingly, for the non-green product, individuals with low protected values are willing to pay more, have higher purchase intentions, and perceive the product as having better performance. Similar effects were previously acknowledged by Chernev and Blair (2021), Möller and Herm (2021) and Walker et al. (2020), who actually stated that the "environmental" credentials of a product could be counter-productive for those people with anti-environmentalist attitudes.

8.3. Implications for practice and cleaner production policy makers

The findings that supported the first set of hypotheses imply that consumers are in fact willing to pay more (Kim et al., 2014), or have higher purchase intentions (Kim and Lee, 2018), for those products differentiated through the deployment of internally oriented GSCM practices. This could have implications for companies that are not

deploying any type of GSCM practice. Indeed, if those companies start to make some efforts “inside four walls” (i.e., internal practices), consumers would be willing to pay more and would have a higher purchase intention toward the companies’ products (Lee and Lim, 2020). This would be the first stage on the companies’ journey of going greener throughout the whole supply chain (Green et al., 2012).

However, companies can go further and boost consumers’ positive evaluations of the companies’ products by extending the environmental efforts to the supply chain (Vachon and Klassen, 2006), deploying some more advanced practices (Zhu et al., 2010; Zhu et al., 2008). All these efforts could enhance companies’ environmental and economic performance (Ahmed et al., 2020; Laari et al., 2016; Zhu et al., 2007), and at the same time improve global sustainability (Bakshi, 2019, p. 104; Pagell and Shevchenko, 2014).

In fact, some consumers prefer externally-oriented GSCM practices over internally-oriented GSCM practices regarding WPP and PI (Kim et al., 2014; Kulshreshtha et al., 2019). Therefore, firms that are oriented toward sustainable development could be motivated to implement advanced GSCM practices, expecting a retribution from such consumers in terms of WPP and PI.

According to previous studies that back the second set of hypotheses, companies’ sustainable practices—and its associated environmental friendly products—could impact consumers’ evaluations of the companies’ products or services in terms of comfort (Sörqvist et al., 2015a), healthiness (Schuldt et al., 2012), convenience (Bacig and Young, 2019), post-consumption enjoyableness (Tezer and Bodur, 2020) or perceived quality (Bae, 2021).

According to the results of this study, consumers will tend to perceive products with better performance in the case that these products are manufactured in a more sustainable way (e.g., Chernev and Blair, 2021, 2015; Möller and Herm, 2021). Thus, companies could expect greater halo effects when the advertised product embeds both intra- and inter-organizational green supply chain practices (which we have labeled for the purposes of this study as “totally green”), in comparison to other non-green or partially green alternatives. In other words, if companies are deploying some green supply chain practices and incorporate that information in their products, companies could anticipate consumers’ response, assuming that their products will be perceived as having better performance.

The results associated with the third set of hypotheses and the fourth hypothesis show the complementarity of both psychological approaches, which supports the overall models depicted in Fig. 1 and Fig. 2. Similarly to previous research (e.g., Groening et al., 2018; Rausch and Kopplin, 2021; Schmidt, 2020), both models aimed to describe green consumerism. Adding to that literature, this study found that people with high protected values are willing to pay a premium and have higher purchase intentions compared to people with low protected values. Moreover, consumers with high protected values are not likely to pay more for products (or have high purchase intentions) just because they are manufactured under GSCM practices, but also because those consumers perceive green products as better in terms of performance.

These results suggest that values precede other factors of green consumerism (Bangsa and Schlegelmilch, 2020; Groening et al., 2018), influencing consumers’ purchasing processes (Groening, 2019; Haws et al., 2014). These results also encourage companies and society in general to modify consumers’ values and foster more sustainable purchasing decisions (Hüttel et al., 2018). Thus, this study highlights the importance of consumers’ moral orientation toward the environment as a moderator in product evaluation. The moderation effects found in this study echo those reported in previous studies (e.g., Chernev and Blair, 2021; Möller and Herm, 2021; Walker et al., 2020), contrasting the results of Kim and Schuldt (2018), who found no evidence of that relationship.

The last findings of this study refer to relationships between protected values and consumers’ willingness to pay a premium and purchase intentions, considering the different variants of the products presented (i.e., totally, partially and non-green products). These last results can have serious implications on the way companies understand their markets, because of the trade-offs that consumers could potentially face (for a discussion about trade-offs of products’ sustainability attributes, see Bangsa and Schlegelmilch, 2020).

For example, if a company advertises a totally green product to a segment of the population that cares none or little about the environment, the effects of companies’ GSCM practices on consumers’ WPP, PI and PPP will be small or non-existent. Likewise, if a company advertises a non-green product to a segment of the population that does care more about the environment, consumers’ WPP, PI and PPP will be negatively impacted.

In both situations, companies’ communicational efforts would not have the expected impact on consumers’ WPP, PI and PPP, either because the green market segment would not pay more for a non-green product, or because the non-green market segment would not pay more for a green product. Consequently, the lack of monetary retributions in the case of the green market could lead to a misunderstanding of the effectiveness of the GSCM contributions to a company, creating a barrier for GSCM adoption (for a discussion about GSCM barriers, see Tumpa et al., 2019). Therefore, communicating the adequate product to the respective population segment is a determining factor for generating the desired impact of the GSCM practices on consumers’ sustainable choices, as discussed by Saleem et al. (2018).

8.4. Limitations of the research

One limitation of this research refers to the expressed preferences of participants. As participants were not asked to give real money for the products, their revealed preferences could defer from their expressed preferences. If participants could actually pay for the products, the issue of expressed preferences could be overcome and actual behavior could be measured, as suggested by Bangsa and Schlegelmilch (2020).

Another limitation of the study is the product used. The products depicted in the conditions were toothpastes. This kind of product was selected because it is purchased with regularity and familiarity by the general population (Saini and Sahay, 2014). Furthermore, toothpastes are goods frequently appraised, rapidly replaced, and are not targets of extreme brand switching (McGuinness et al., 1995). However, future research could replicate this study with other types of products to see if the results still hold.

Finally, another limitation refers to the specific GSCM practices considered in the product variants. For this study, certain intra- and inter-organizational practices were derived from an analysis of Small- and Medium-sized Enterprises (SMEs) companies in the Colombian context. Future research should analyze the development of local companies in terms of GSCM practices before deciding which specific practices should be included in the conditions of any experiment.

9. Conclusions

The motivation of this research is grounded on the role of psychological research to understand consumers’ motivations (Bangsa and Schlegelmilch, 2020; Kerber et al., 2021; Maniatis, 2016), specifically in the selection of products manufactured by companies engaged in green supply chains (Sarkis, 2018). Along the same lines, this study also considers the importance of making companies’ sustainable efforts visible (O’Rourke, 2014), using communication tools to improve global sustainability (Bakshi, 2019, p. 104).

Considering this necessity, the study was designed to test if consumers' perceived product performance (PPP) mediates the effects of companies' GSCM practices on consumers' willingness to pay a premium (WPP) and consumers' purchase intention (PI). These mediation effects represent one of the two psychological approaches considered, the halo effect (Nisbett and Wilson, 1977), which was supported by the study. Furthermore, this study tests if consumers' moral orientation toward the environment moderates the effect of companies' GSCM practices on consumers' WPP, PI and PPP. These moderation effects represent the second psychological approach, the protected values (Baron and Spranca, 1997), which were supported by the study as well.

Future research can explore other psychological theories to explain green consumerism in order to enrich the findings presented here. Similarly, researchers can investigate the phenomena described in this study in other contexts, such as developed economies, to critically assess the robustness of the results. Finally, this research aims to contribute to the gap of studies that link behavioral theories to upper levels of society (e.g., organizational processes, regulatory policy) (Allen et al., 2021), expecting that future works complement the insights proposed here.

Funding

Preparation of this article was supported by a grant from the National Science Foundation to the third author (NSF1737591).

CRediT authorship contribution statement

Juan Pablo Loaiza-Ramírez: Conceptualization, Methodology, Validation, Formal analysis, Investigation, Resources, Data curation, Writing – original draft, Writing – review & editing, Visualization. **Carlos Eduardo Moreno-Mantilla:** Conceptualization, Methodology, Validation, Formal analysis, Investigation, Resources, Writing – review & editing, Visualization, Supervision. **Torsten Reimer:** Conceptualization, Methodology, Validation, Formal analysis, Investigation, Resources, Writing – review & editing, Visualization, Supervision.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Appendix. Experimental instrument

Conditions

Non-Green Product	Partially Green Product	Totally Green Product
 <p>VISIVA Crema dental / Toothpaste Contenido Neto / Net Wt: 113 g. - 4 oz</p>	 <p>NEVINO Crema dental / Toothpaste Contenido Neto / Net Wt: 113 g. - 4 oz</p>	 <p>KITERA Crema dental / Toothpaste Contenido Neto / Net Wt: 113 g. - 4 oz</p>

Likert measures

Construct	Item	Source	Operationalization
Willingness to pay a premium	Buying this product seems a good idea to me even if it costs more than other brands. I would still buy this product even if other brands reduced their prices.	Wei et al. (2018)	Strongly disagree (1) – Strongly agree (7)
Perceived environmental friendliness	This is an environmentally friendly product. This product is not harmful to the environment.	Mohd Noor et al. (2016); Venhoeven et al. (2016)	
Perceived product performance	This is a product of high quality. This product cleans and protects the teeth effectively.	Grewal et al. (1998); Leroi-Werelds et al. (2017); Mugge and Schoormans (2012)	
Purchase intention	How likely is that you would buy this product? Given the information shown, how likely is it that you would purchase this product if you needed a new toothpaste?	Wei et al. (2018)	Very unlikely (1) – Very likely (7)

Paired comparison and ranking tasks

Construct	Question	Source
Willingness to pay a premium	Which product would you buy, even if it costs more?	Wei et al. (2018)
Perceived environmental friendliness	Which product is environmentally friendlier?	Venhoeven et al. (2016)
Perceived product performance	Which product would clean and protect your teeth more effectively?	Leroi-Werelds et al. (2017)
Purchase intention	Which product would you consider purchasing?	Wei et al. (2018)

Protected values sub-scale

Feature	Item	Operationalization
<i>Indirect sub-scale:</i> Due to the fact that the companies' production depends on the use of environmental goods and services, companies have an incentive to affect the environment. What is your opinion about companies using manufacturing process that have a negative impact on the environment? Please choose the appropriate category as follows:		
Morality	Not Applicable	Very immoral (1) – Very moral (7)
Praiseworthiness	Not Applicable	Not at all praiseworthy (1) – Very praiseworthy (7)
Outrightness	Not Applicable	Not at all outrageous (1) – Very outrageous (7)
Acceptability	Not Applicable	Not at all acceptable (1) – Very acceptable (7)
<i>Direct sub-scale:</i> Companies can affect the environment to achieve their goals. Some people view such actions as a violation of the intrinsic rights of the environment; other people regard it as the right that companies have to accomplish their objectives. What do you think of the value of the environment in such situation? The environment is something...		
Sacrifice	... that one should not sacrifice, no matter what the (material or other) benefits.	Strongly disagree (1) – Strongly agree (7)
Cost-Benefit Analysis	... for which I think it is right to compare the economic benefits and costs of different policies or initiatives to choose the best alternative.	
Monetary Terms	... that cannot be measured in monetary terms.	
Flexibility	... about which I can be flexible if the situation demands it.	

References

- Ahmed, W., Ashraf, M.S., Khan, S.A., Kusi-Sarpong, S., Arhin, F.K., Kusi-Sarpong, H., Najmi, A., 2020. Analyzing the impact of environmental collaboration among supply chain stakeholders on a firm's sustainable performance. *Oper. Manag. Res.* 13 (1-2), 4–21. <https://doi.org/10.1007/s12063-020-00152-1>.
- Akisik, O., Gal, G., 2017. The impact of corporate social responsibility and internal controls on stakeholders' view of the firm and financial performance. *Sustain. Accounting Manag. Policy J.* 8 (3), 246–280. <https://doi.org/10.1108/SAMPJ-06-2015-0044>.
- Allen, S.D., Zhu, Q., Sarkis, J., 2021. Expanding conceptual boundaries of the sustainable supply chain management and circular economy nexus. *Clean. Logist. Supply Chain* 2, 100011. <https://doi.org/10.1016/j.clscn.2021.100011>.
- Alsmadi, S., 2007. Green marketing and the concern over the environment: Measuring environmental consciousness of Jordanian consumers. *J. Promot. Manag.* 13 (3-4), 339–361. <https://doi.org/10.1080/10496490802306905>.
- Amos, C., King, J., King, S., 2021. The health halo of morality- and purity-signifying brand names. *J. Bus. Ethics* 176 (8), 1262–1276.
- Bacig, M., Young, C.A., 2019. The halo effect created for restaurants that source food locally. *J. Foodserv. Bus. Res.* 22 (3), 209–238. <https://doi.org/10.1080/15378020.2019.1592654>.
- Bae, S., 2021. Holding an entity mind-set deters consumption of recycled content products: The role of perceived product quality. *Int. Rev. Public Nonprofit Mark.* 18 (4), 553–571. <https://doi.org/10.1007/s12208-021-00285-4>.
- Bailey, A.A., Mishra, A., Tiarniyu, M.F., 2016. GREEN consumption values and Indian consumers' response to marketing communications. *J. Consum. Mark.* 33 (7), 562–573. <https://doi.org/10.1108/JCM-12-2015-1632>.
- Bakshi, B.R., 2019. Sustainable engineering. Principles and practice., Cambridge University Press, Cambridge, UK. <https://doi.org/10.1017/9781108333726>.
- Bangsa, A.B., Schlegelmilch, B.B., 2020. Linking sustainable product attributes and consumer decision-making: Insights from a systematic review. *J. Clean. Prod.* 245, 118902. <https://doi.org/10.1016/j.jclepro.2019.118902>.
- Barbarossa, C., De Pelsmacker, P., 2016. Positive and negative antecedents of purchasing eco-friendly products: A comparison between green and non-green consumers. *J. Bus. Ethics* 134, 229–247. <https://doi.org/10.1007/s10551-014-2425-z>.
- Baron, J., 2017. Protected values and other types of values. *Anal. und Krit.* 39, 85–99. <https://doi.org/10.1515/auk-2017-0005>.
- Baron, J., Leshner, S., 2000. How serious are expressions of protected values?. *J. Exp. Psychol. Appl.* 6, 183–194. <https://doi.org/10.1037/1076-898X.6.3.183>.
- Baron, J., Spranca, M., 1997. Protected values. *Organ. Behav. Hum. Decis. Process.* 70 (1), 1–16. <https://doi.org/10.1006/obhd.1997.2690>.
- Kerber, J.C., de Souza, E.D., Bouzon, M., Cruz, R.M., Govindan, K., 2021. Consumer behaviour aspects towards remanufactured electronic products in an emerging economy: Effects on demand and related risks. *Resour. Conserv. Recycl.* 170, 105572. <https://doi.org/10.1016/j.resconrec.2021.105572>.
- Chekima, B., Syed Khalid Wafa, S.A.W., Igau, O.A., Chekima, S., Sondoh, S.L., 2016. Examining green consumerism motivational drivers: does premium price and demographics matter to green purchasing?. *J. Clean. Prod.* 112, 3436–3450. <https://doi.org/10.1016/j.jclepro.2015.09.102>.
- Chernev, A., Blair, S., 2021. When sustainability is not a liability: The halo effect of marketplace morality. *J. Consum. Psychol.* 31 (3), 551–569. <https://doi.org/10.1002/jcpy.1195>.
- Chernev, A., Blair, S., 2015. Doing well by doing good: The benevolent halo of corporate social responsibility. *J. Consum. Res.* 41 (6), 1412–1425. <https://doi.org/10.1086/680089>.
- Dahlinger, A., Wortmann, F., 2016. Fostering pro-environmental behavior with green consumer is: The effects of is-induced construal and general is usage motivations, in: 24th European Conference on Information Systems, ECIS 2016..
- Davis-Sramek, B., Thomas, R.W., Fugate, B.S., 2018. Integrating behavioral decision theory and sustainable supply chain management: prioritizing economic, environmental, and social dimensions in carrier selection. *J. Bus. Logist.* 39 (2), 87–100. <https://doi.org/10.1111/jbl.12181>.
- de Oliveira, U.R., Espindola, L.S., da Silva, I.R., da Silva, I.N., Rocha, H.M., 2018. A systematic literature review on green supply chain management: research implications and future perspectives. *J. Clean. Prod.* 187, 537–561. <https://doi.org/10.1016/j.jclepro.2018.03.083>.
- De Sousa Jabbour, A.B.L., 2015. Understanding the genesis of green supply chain management: Lessons from leading Brazilian companies. *J. Clean. Prod.* 87, 385–390. <https://doi.org/10.1016/j.jclepro.2014.09.034>.
- Díaz, M.F., Charry, A., Sellitti, S., Ruzzante, M., Enciso, K., Burkart, S., 2020. Psychological factors influencing pro-environmental behavior in developing countries: Evidence from Colombian and Nicaraguan students. *Front. Psychol.* 11, 580730. <https://doi.org/10.3389/fpsyg.2020.580730>.
- Dillon, R.L., Lester, G., John, R.S., Tinsley, C.H., 2012. Differentiating conflicts in beliefs versus value tradeoffs in the cosmetic intelligence policy debate. *Risk Anal.* 32, 713–728. <https://doi.org/10.1111/j.1539-6924.2011.01747.x>.
- Dong, D., Chang, H.-C., Wang, T., 2017. The CSR green halo effect on the corporate-public communication: An experimental study. *Asian J. Commun.* 27 (2), 213–230. <https://doi.org/10.1080/01292986.2016.1257034>.
- Dubey, R., Gunasekaran, A., Papadopoulos, T., 2017. Green supply chain management: theoretical framework and further research directions. *Benchmarking* 24 (1), 184–218. <https://doi.org/10.1108/BJL-01-2016-0011>.
- Eckerd, S., 2016. Experiments in purchasing and supply management research. *J. Purch. Supply Manag.* 22 (4), 258–261. <https://doi.org/10.1016/j.pursup.2016.08.002>.
- Fornell, C., Larcker, D.F., 1981. Evaluating structural equation models with unobservable variables and measurement error. *J. Mark. Res.* 18 (1), 39–50. <https://doi.org/10.1177/002224378101800104>.
- Geng, R., Mansouri, S.A., Aktas, E., 2017. The relationship between green supply chain management and performance: A meta-analysis of empirical evidences in Asian emerging economies. *Int. J. Prod. Econ.* 183, 245–258. <https://doi.org/10.1016/j.ijpe.2016.10.008>.
- Gibson, R., Tanner, C., Wagner, A.F., 2013. Preferences for truthfulness: Heterogeneity among and within individuals. *Am. Econ. Rev.* 103 (1), 532–548. <https://doi.org/10.1257/aer.103.1.532>.
- Gigerenzer, G., Todd, P.M., The ABC Research Group, 1999. *Simple heuristics that make us smart*. Oxford University Press, New York, NY, USA.
- Green, K.W., Zelbst, P.J., Meacham, J., Bhaduria, V.S., 2012. Green supply chain management practices: Impact on performance. *Supply Chain Manag.* 17 (3), 290–305. <https://doi.org/10.1108/13598541211227126>.
- Grewal, D., Monroe, K.B., Krishnan, R., 1998. The effects of price-comparison advertising on buyers' perceptions of acquisition value, transaction value, and behavioral intentions. *J. Mark.* 62 (2), 46. <https://doi.org/10.2307/1252160>.
- Groening, C., 2019. Consumers' role in the green supply chain. In: Sarkis, J. (Ed.), *Handbook on the Sustainable Supply Chain*. Edward Elgar Publishing, pp. 171–184. <https://doi.org/10.4337/9781786434272.00015>.
- Groening, C., Sarkis, J., Zhu, Q., 2018. Green marketing consumer-level theory review: A compendium of applied theories and further research directions. *J. Clean. Prod.* 172, 1848–1866. <https://doi.org/10.1016/j.jclepro.2017.12.002>.
- Hair, J.F., Black, W.C., Babin, B.J., Anderson, R.E., 2014. *Multivariate data analysis*. Pearson.
- Haws, K.L., Winterich, K.P., Naylor, R.W., 2014. Seeing the world through GREEN-tinted glasses: Green consumption values and responses to environmentally friendly products. *J. Consum. Psychol.* 24 (3), 336–354. <https://doi.org/10.1016/j.jcps.2013.11.002>.
- Hoekstra, A.Y., Wiedmann, T.O., 2014. Humanity's unsustainable environmental footprint. *Science* 344 (6188), 1114–1117.
- Hoffrage, U., Reimer, T., 2004. Models of bounded rationality: The approach of fast and frugal heuristics. *Manag. Rev.* 15 (4), 437–459. <https://doi.org/10.5771/0935-9915-2004-4-437>.
- Hoorweg, D., Bhada-Tata, P., Kennedy, C., 2013. Waste production must peak this century. *Nature* 502, 615–617. <https://doi.org/10.1038/502615a>.
- Hotter, J.C., 2018. *Breaking the muscular mold: The application of homophily, credibility, and physical attractiveness within attitude and perceived behavioral control towards weight lifting*. Virginia Polytechnic Institute and State University.
- Hüttel, A., Ziesemer, F., Peyer, M., Balderjahn, I., 2018. To purchase or not? Why consumers make economically (non-)sustainable consumption choices. *J. Clean. Prod.* 174, 827–836. <https://doi.org/10.1016/j.jclepro.2017.11.019>.
- Jager, J., Putnick, D.L., Bornstein, M.H., 2017. More than just convenient: The scientific merits of homogeneous convenience samples. *Monogr. Soc. Res. Child Dev.* 82, 13–30. <https://doi.org/10.1111/mono.12296>.
- Jayaram, J., Avittathur, B., 2015. Green supply chains: A perspective from an emerging economy. *Int. J. Prod. Econ.* 164, 234–244. <https://doi.org/10.1016/j.ijpe.2014.12.003>.
- Saini, K.G., Sahay, A., 2014. Comparing retail formats in an emerging market: Influence of credit and low price guarantee on purchase intention. *J. Indian Bus. Res.* 6, 48–69. <https://doi.org/10.1108/JIBR-03-2013-0026>.
- Kämmer, J.E., Gaissmaier, W., Reimer, T., Schermuly, C.C., 2014. The adaptive use of recognition in group decision making. *Cogn. Sci.* 38 (5), 911–942. <https://doi.org/10.1111/cogs.12110>.
- Khare, A., Varshneya, G., 2017. Antecedents to organic cotton clothing purchase behaviour: Study on Indian youth. *J. Fashion Mark. Manag. An Int. J.* 21 (1), 51–69. <https://doi.org/10.1108/JFMM-03-2014-0021>.
- Kim, B., Park, K., Swink, M., 2014. Consumers' preferences for facets of green supply chain management. *Int. J. Serv. Oper. Manag.* 18, 74–98. <https://doi.org/10.1504/IJSOM.2014.060451>.
- Kim, B., Schultdt, J.P., 2018. Judging the environmental impact of green consumption: Evidence of quantity insensitivity. *J. Environ. Psychol.* 60, 122–127. <https://doi.org/10.1016/j.jenvp.2018.10.005>.
- Kim, H., Lee, C., 2018. The effects of customer perception and participation in sustainable supply chain management: A smartphone industry study. *Sustainability* 10, 2271. <https://doi.org/10.3390/su10072271>.
- Knemeyer, A.M., Naylor, R.W., 2011. Using behavioral experiments to expand our horizons and deepen our understanding of logistics and supply chain decision making. *J. Bus. Logist.* 32, 296–302. <https://doi.org/10.1111/j.0000-0000.2011.01025.x>.
- Kulshreshtha, K., Bajpai, N., Tripathi, V., Sharma, G., 2019. Consumer preference for eco-friendly appliances in trade-off: A conjoint analysis approach. *Int. J. Prod. Dev.* 23, 212–243. <https://doi.org/10.1504/ijpd.2019.099237>.
- Laari, S., Töyli, J., Solakivi, T., Ojala, L., 2016. Firm performance and customer-driven green supply chain management. *J. Clean. Prod.* 112, 1960–1970. <https://doi.org/10.1016/j.jclepro.2015.06.150>.
- Lazzarini, G.A., Zimmermann, J., Visschers, V.H.M., Siegrist, M., 2016. Does environmental friendliness equal healthiness? Swiss consumers' perception of protein products. *Appetite* 105, 663–673. <https://doi.org/10.1016/j.appet.2016.06.038>.
- Lebreton, L., Andradý, A., 2019. Future scenarios of global plastic waste generation and disposal. *Palgrave Commun.* 5, 1–11. <https://doi.org/10.1057/s41599-018-0212-7>.
- Lee, C., Lim, S.-Y., 2020. Impact of environmental concern on image of internal GSCM practices and consumer purchasing behavior. *J. Asian Financ. Econ. Bus.* 7 (6), 241–254.

- Leroi-Werelds, S., Streukens, S., Van Vaerenbergh, Y., Grönroos, C., 2017. Does communicating the customer's resource integrating role improve or diminish value proposition effectiveness?. *J. Serv. Manag.* 28 (4), 618–639. <https://doi.org/10.1108/JOSM-11-2015-0366>.
- Luchs, M.G., Naylor, R.W., Irwin, J.R., Raghunathan, R., 2010. The sustainability liability: Potential negative effects of ethicality on product preference. *J. Mark.* 74 (5), 18–31. <https://doi.org/10.1509/jmkg.74.5.18>.
- Maniatis, P., 2016. Investigating factors influencing consumer decision-making while choosing green products. *J. Clean. Prod.* 132, 215–228. <https://doi.org/10.1016/j.jclepro.2015.02.067>.
- Marschke, M., Andrachuk, M., Vandergeest, P., McGovern, C., 2020. Assessing the role of information and communication technologies in responding to 'slavery scandals'. *Marit. Stud.* 19 (4), 419–428. <https://doi.org/10.1007/s40152-020-00201-2>.
- McGraw, A.P., Davis, D.F., Scott, S.E., Tetlock, P.E., 2016. The price of not putting a price on love. *Judgm. Decis. Mak.* 11, 40–47.
- McGuinness, D., Brennan, M., Gendall, P., 1995. The effect of product sampling and couponing on purchase behaviour: some empirical evidence. *Int. J. Advert.* 14 (3), 219–230. <https://doi.org/10.1080/02650487.1995.11104613>.
- Meiting, L., Hua, W., 2021. Angular or rounded? The effect of the shape of green brand logos on consumer perception. *J. Clean. Prod.* 279, 123801. <https://doi.org/10.1016/j.jclepro.2020.123801>.
- Meng, J., Liu, J., Xu, Y., Tao, S., 2015. Tracing Primary PM2.5 emissions via Chinese supply chains. *Environ. Res. Lett.* 10 (5), 054005. <https://doi.org/10.1088/1748-9326/10/5/054005>.
- Mohd Noor, M.N., Masuod, M.S., Abu Said, A.-M., Kamaruzaman, I.F., Mustafa, M.A., 2016. Understanding consumers and green product purchase decision in Malaysia: A structural equation modeling – partial least square (SEM-PLS) approach. *Asian Soc. Sci.* 12, 51–64. <https://doi.org/10.5539/ass.v12n9p51>.
- Möller, J., Herm, S., 2021. Perceptions of green user entrepreneurs' performance—Is sustainability an asset or a liability for innovators?. *Sustainability* 13, 3580. <https://doi.org/10.3390/su13063580>.
- Montoya, A.K., 2019. Moderation analysis in two-instance repeated measures designs: Probing methods and multiple moderator models. *Behav. Res. Methods* 51 (1), 61–82. <https://doi.org/10.3758/s13428-018-1088-6>.
- Montoya, A.K., Hayes, A.F., 2017. Two-condition within-participant statistical mediation analysis: A path-analytic framework. *Psychol. Methods* 22, 6–27. <https://doi.org/10.1037/met0000086>.
- Moscoco-Durán, F.F., Mancha-Navarro, T., 2018. The economics sustainability in medium and small companies in Colombia (SMEs), in: *Handbook of Research on Intrapreneurship and Organizational Sustainability in SMEs*. pp. 342–367. <https://doi.org/10.4018/978-1-5225-3543-0.ch016>.
- Mugge, R., Schoormans, J.P.L., 2012. Newer is better! The influence of a novel appearance on the perceived performance quality of products. *J. Eng. Des.* 23 (6), 469–484. <https://doi.org/10.1080/09544828.2011.618802>.
- Muñetón-Santa, G., Vanegas-López, J.G., Valencia-Cárdenas, M., Restrepo-Morales, J.A., 2017. Gaps between habit and attitude in the consumption of PET-packaged beverages in Medellín-Colombia. *Prod. + Limpia* 12, 97–103. <https://doi.org/10.22507/pml.v12n1a10>.
- Narula, S.A., Desore, A., 2016. Framing green consumer behaviour research: Opportunities and challenges. *Soc. Responsib. J.* 12, 1–22. <https://doi.org/10.1108/SRJ-08-2014-0112>.
- Nguyen, T.N., Lobo, A., Nguyen, B.K., 2018. Young consumers' green purchase behaviour in an emerging market. *J. Strateg. Mark.* 26 (7), 583–600. <https://doi.org/10.1080/0965254X.2017.1318946>.
- Nisbett, R.E., Wilson, T.D., 1977. The halo effect: Evidence for unconscious alteration of judgments. *J. Pers. Soc. Psychol.* 35 (4), 250–256. <https://doi.org/10.1037/0022-3514.35.4.250>.
- O'Rourke, D., 2014. The science of sustainable supply chains. *Science* 344 (6188), 1124–1127.
- Pagell, M., Shevchenko, A., 2014. Why research in sustainable supply chain management should have no future. *J. Supply Chain Manag.* 50 (1), 44–55. <https://doi.org/10.1111/jscm.12037>.
- Persico, C.L., Johnson, K.R., 2021. The effects of increased pollution on COVID-19 cases and deaths. *J. Environ. Econ. Manag.* 107, 102431. <https://doi.org/10.1016/j.jeem.2021.102431>.
- Peterson, R.A., Merunka, D.R., 2014. Convenience samples of college students and research reproducibility. *J. Bus. Res.* 67 (5), 1035–1041. <https://doi.org/10.1016/j.jbusres.2013.08.010>.
- Prakash, G., Pathak, P., 2017. Intention to buy eco-friendly packaged products among young consumers of India: A study on developing nation. *J. Clean. Prod.* 141, 385–393. <https://doi.org/10.1016/j.jclepro.2016.09.116>.
- Quiroga-Calderón, L.M., Mejía-Salazar, I.S., Moreno-Mantilla, C.E., Loiza-Ramírez, J.P., 2018. Integration with secondary stakeholders and its relationship with sustainable supply chain practices in Colombian SMES. *Eur. J. Sustain. Dev.* 7, 131–145. <https://doi.org/10.14207/ejsd.2018.v7n4p131>.
- Raiborn, C., Payne, D., Joyner, B., 2013. Environmentally friendly business strategies: BP – a case of rhetoric or reality?. *J. Bus. Manag.* 19, 67–89.
- Rajeev, A., Pati, R.K., Padhi, S.S., Govindan, K., 2017. Evolution of sustainability in supply chain management: A literature review. *J. Clean. Prod.* 162, 299–314. <https://doi.org/10.1016/j.jclepro.2017.05.026>.
- Rausch, T.M., Kopplin, C.S., 2021. Bridge the gap: Consumers' purchase intention and behavior regarding sustainable clothing. *J. Clean. Prod.* 278, 123882. <https://doi.org/10.1016/j.jclepro.2020.123882>.
- Reimer, T., Katsikopoulos, K., 2004. The use of recognition in group decision-making. *Cogn. Sci.* 28 (6), 1009–1029. <https://doi.org/10.1016/j.cogsci.2004.06.004>.
- Reinhardt, F.L., 1998. Environmental product differentiation: Implications for corporate strategy. *Calif. Manage. Rev.* 40 (4), 43–73. <https://doi.org/10.2307/41165964>.
- Ripple, W.J., Wolf, C., Newsome, T.M., Galetti, M., Alamgir, M., Crist, E., Mahmoud, M. I., Laurance, W.F., 2017. World scientists' warning to humanity: A second notice. *Bioscience* 67, 1026–1028. <https://doi.org/10.1093/biosci/bix125>.
- Rottman, J., Kelemen, D., Young, L., 2015. Hindering harm and preserving purity: How can moral psychology save the planet?. *Philos Compass* 10 (2), 134–144. <https://doi.org/10.1111/phc3.12195>.
- Roy, V., Schoenherr, T., Charan, P., 2018. The thematic landscape of literature in sustainable supply chain management (SSCM). *Int. J. Oper. Prod. Manag.* 38 (4), 1091–1124. <https://doi.org/10.1108/IJOPM-05-2017-0260>.
- Russell, T., Reimer, T., 2020. Attribute degree centrality and attribute tie strength as criteria of argument quality. *Commun. Monogr.* 87 (3), 336–358. <https://doi.org/10.1080/03637751.2020.1724312>.
- Sajjad, A., 2019. Greening the supply chain: A framework for best practices, in: Eweje, G., Bathurst, R.J. (Eds.), *Clean, Green and Responsible? CSR, Sustainability, Ethics & Governance, CSR, Sustainability, Ethics & Governance*. Springer Nature Switzerland, pp. 191–209. https://doi.org/10.1007/978-3-030-21436-4_11.
- Salem, M.A., Eagle, L., Low, D., 2018. Market segmentation based on eco-socially conscious consumers' behavioral intentions: Evidence from an emerging economy. *J. Clean. Prod.* 193, 14–27. <https://doi.org/10.1016/j.jclepro.2018.05.067>.
- Sarkis, J., 2018. Sustainable and green supply chains: Advancement through resources, conservation and recycling. *Resour. Conserv. Recycl.* 134, A1–A3. <https://doi.org/10.1016/j.resconrec.2017.12.022>.
- Sarkis, J., Vazquez-Brust, D., de Bruijn, T., Fischer, K., Franco-García, M.L., Kamoliripichaiorn, S., Kua, H.W., Lehmann, M., Kuppasamy, I., 2015. Helping to build a sustainable future through the greening of industry and its networks: Knowledge sharing and action promotion. *J. Clean. Prod.* 98, 8–16. <https://doi.org/10.1016/j.jclepro.2014.10.094>.
- Schechtman, J., 1976. An income fluctuation problem. *J. Econ. Theory* 12 (2), 218–241. [https://doi.org/10.1016/0022-0531\(76\)90075-2](https://doi.org/10.1016/0022-0531(76)90075-2).
- Schmidt, K., 2020. Behavioral effects of guideline-provision on climate-friendly food choices – A psychological perspective. *J. Clean. Prod.* 277, 123284. <https://doi.org/10.1016/j.jclepro.2020.123284>.
- Schuldt, J.P., Muller, D., Schwarz, N., 2012. The “fair trade” effect: Health halos from social ethics claims. *Soc. Psychol. Personal. Sci.* 3 (5), 581–589. <https://doi.org/10.1177/1948550611431643>.
- Sexton, S.E., Sexton, A.L., 2014. Conspicuous conservation: The prius halo and willingness to pay for environmental bona fides. *J. Environ. Econ. Manag.* 67 (3), 303–317. <https://doi.org/10.1016/j.jeem.2013.11.004>.
- Sheehan, K.B., Lee, J., 2014. What's cruel about cruelty free: An exploration of consumers, moral heuristics, and public policy. *J. Anim. Ethics* 4, 1–15.
- Smith, A.D., 2012. Green supply chain management and consumer sensitivity to greener and leaner options in the automotive industry. *Int. J. Logist. Syst. Manag.* 12, 1–31. <https://doi.org/10.1504/IJLSM.2012.047056>.
- Song, M., Thieme, J., 2009. The role of suppliers in market intelligence gathering for radical and incremental innovation. *J. Prod. Innov. Manag.* 26, 43–57. <https://doi.org/10.1111/j.1540-5885.2009.00333.x>.
- Sörqvist, P., Haga, A., Holmgren, M., Hansla, A., 2015a. An eco-label effect in the built environment: Performance and comfort effects of labeling a light source environmentally friendly. *J. Environ. Psychol.* 42, 123–127. <https://doi.org/10.1016/j.jenvp.2015.03.004>.
- Sörqvist, P., Haga, A., Langeborg, L., Holmgren, M., Wallinder, M., Nöstl, A., Seager, P. B., Marsh, J.E., 2015b. The green halo: mechanisms and limits of the eco-label effect. *Food Qual. Prefer.* 43, 1–9. <https://doi.org/10.1016/j.foodqual.2015.02.001>.
- Sörqvist, P., Hedblom, D., Holmgren, M., Haga, A., Langeborg, L., Nöstl, A., Kågström, J., Bruce, A., 2013. Who needs cream and sugar when there is eco-labeling? Taste and willingness to pay for “eco-friendly” coffee. *PLoS ONE* 8 (12), e80719. <https://doi.org/10.1371/journal.pone.0080719>.
- Srivastava, S.K., 2007. Green supply-chain management: A state-of-the-art literature review. *Int. J. Manag. Rev.* 9 (1), 53–80. <https://doi.org/10.1111/j.1468-2370.2007.00202.x>.
- Stikvoort, B., Lindahl, T., Daw, T.M., 2016. Thou shalt not sell nature: How taboo trade-offs can make us act pro-environmentally, to clear our conscience. *Ecol. Econ.* 129, 252–259. <https://doi.org/10.1016/j.ecolecon.2016.05.012>.
- Taber, K.S., 2018. The use of cronbach's alpha when developing and reporting research instruments in science education. *Res. Sci. Educ.* 48 (6), 1273–1296. <https://doi.org/10.1007/s11165-016-9602-2>.
- Tanner, C., Medin, D.L., 2004. Protected values: no omission bias and no framing effects. *Psychon. Bull. Rev.* 11 (1), 185–191. <https://doi.org/10.3758/BF03206481>.
- Tanner, C., Ryf, B., Hanselmann, M., 2009. Sacred value measure (SVM): Construction and validation of an instrument to assess sacred values. *Diagnostica* 55, 174–183. <https://doi.org/10.1026/0012-1924.55.3.174>.
- Tezer, A., Bodur, H.O., 2020. The greenconsumption effect: How using green products improves consumption experience. *J. Consum. Res.* 47, 25–39. <https://doi.org/10.1093/jcr/ucz045>.
- Thennal VenkateshNarayanan, P., Thirunavukkarasu, R., Sunder, M., 2021. Indispensable link between green supply chain practices, performance and learning: an ISM approach. *J. Clean. Prod.* 279, <https://doi.org/10.1016/j.jclepro.2020.123387>.
- Thomas, R.W., 2011. When student samples make sense in logistics research. *J. Bus. Logist.* 32, 287–290. <https://doi.org/10.1111/j.2158-1592.2011.01023.x>.
- Tokar, T., 2010. Behavioural research in logistics and supply chain management. *Int. J. Logist. Manag.* 21 (1), 89–103. <https://doi.org/10.1108/09574091011042197>.

- Trapp, A.C., Sarkis, J., 2016. Identifying robust portfolios of suppliers: A sustainability selection and development perspective. *J. Clean. Prod.* 112, 2088–2100. <https://doi.org/10.1016/j.jclepro.2014.09.062>.
- Trujillo-Gallego, M., Sarache, W., Sellitto, M.A., 2021. Identification of practices that facilitate manufacturing companies' environmental collaboration and their influence on sustainable production. *Sustain. Prod. Consum.* 27, 1372–1391. <https://doi.org/10.1016/j.spc.2021.03.009>.
- Tumpa, T.J., Ali, S.M., Rahman, M.H., Paul, S.K., Chowdhury, P., Rehman Khan, S.A., 2019. Barriers to green supply chain management: An emerging economy context. *J. Clean. Prod.* 236, 117617. <https://doi.org/10.1016/j.jclepro.2019.117617>.
- Uddin, S.M.F., Khan, M.N., 2016. Green purchasing behaviour of young Indian consumers: An exploratory study. *Glob. Bus. Rev.* 17 (6), 1469–1479. <https://doi.org/10.1177/0972150916660440>.
- Usrey, B., Palihawadana, D., Saridakis, C., Theotokis, A., 2020. How downplaying product greenness affects performance evaluations: Examining the effects of implicit and explicit green signals in advertising. *J. Advert.* 49 (2), 125–140. <https://doi.org/10.1080/00913367.2020.1712274>.
- Vachon, S., Klassen, R.D., 2006. Extending green practices across the supply chain. *Int. J. Oper. Prod. Manag.* 26 (7), 795–821. <https://doi.org/10.1108/01443570610672248>.
- Venhoeven, L.A., Bolderdijk, J.W., Steg, L., 2016. Why acting environmentally-friendly feels good: exploring the role of self-image. *Front. Psychol.* 7, 1990–1991. <https://doi.org/10.3389/fpsyg.2016.01846>.
- Villa Castaño, L.E., Perdomo-Ortiz, J., Dueñas Ocampo, S., Durán León, W.F., 2016. Socially responsible consumption: an application in Colombia. *Bus. Ethics A Eur. Rev.* 25 (4), 460–481. <https://doi.org/10.1111/beer.12128>.
- Visschers, V.H.M., Siegrist, M., 2014. Find the differences and the similarities: Relating perceived benefits, perceived costs and protected values to acceptance of five energy technologies. *J. Environ. Psychol.* 40, 117–130. <https://doi.org/10.1016/j.jenvp.2014.05.007>.
- von Neumann, J., Morgenstern, O., 2007. *Theory of Games and Economic Behavior*. Princeton University Press, Princeton, New Jersey.
- Walker, I., Thomas, G.O., Natarajan, S., Holt, N., 2020. Judgments of a product's quality and perceptions of user experience can be mediated by brief messaging that matches the person's pre-existing attitudes. *Front. Psychol.* 11, 1–8. <https://doi.org/10.3389/fpsyg.2020.01261>.
- Wei, W., Kim, G., Miao, L., Behnke, C., Almanza, B., 2018. Consumer inferences of corporate social responsibility (CSR) claims on packaged foods. *J. Bus. Res.* 83, 186–201. <https://doi.org/10.1016/j.jbusres.2017.10.046>.
- Yadav, R., Pathak, G.S., 2016. Young consumers' intention towards buying green products in a developing nation: Extending the theory of planned behavior. *J. Clean. Prod.* 135, 732–739. <https://doi.org/10.1016/j.jclepro.2016.06.120>.
- Zhang, L., Chen, L., Wu, Z., Zhang, S., Song, H., 2018a. Investigating young consumers' purchasing intention of green housing in China. *Sustainability* 10, 1044. <https://doi.org/10.3390/su10041044>.
- Zhang, M., Tse, Y.K., Doherty, B., Li, S., Akhtar, P., 2018b. Sustainable supply chain management: Confirmation of a higher-order model. *Resour. Conserv. Recycl.* 128, 206–221. <https://doi.org/10.1016/j.resconrec.2016.06.015>.
- Zhu, Q., Geng, Y., Fujita, T., Hashimoto, S., 2010. Green supply chain management in leading manufacturers. *Manag. Res. Rev.* 33 (4), 380–392. <https://doi.org/10.1108/01409171011030471>.
- Zhu, Q., Sarkis, J., 2016. Green marketing and consumerism as social change in China: Analyzing the literature. *Int. J. Prod. Econ.* 181, 289–302. <https://doi.org/10.1016/j.ijpe.2016.06.006>.
- Zhu, Q., Sarkis, J., Lai, K.-H., 2013. Institutional-based antecedents and performance outcomes of internal and external green supply chain management practices. *J. Purch. Supply Manag.* 19 (2), 106–117. <https://doi.org/10.1016/j.pursup.2012.12.001>.
- Zhu, Q., Sarkis, J., Lai, K.-H., 2008. Green supply chain management implications for "closing the loop". *Transp. Res. Part E Logist. Transp. Rev.* 44 (1), 1–18. <https://doi.org/10.1016/j.tre.2006.06.003>.
- Zhu, Q., Sarkis, J., Lai, K.-H., 2007. Green supply chain management: pressures, practices and performance within the Chinese automobile industry. *J. Clean. Prod.* 15 (11–12), 1041–1052. <https://doi.org/10.1016/j.jclepro.2006.05.021>.
- Zhu, Q., Shah, P., Sarkis, J., 2020. A paler shade of green: implications of green product deletion on supply chains. *Int. J. Prod. Res.* 58 (15), 4567–4588. <https://doi.org/10.1080/00207543.2020.1781279>.
- Ziesemer, F., Hüttel, A., Balderjahn, I., 2021. Young people as drivers or inhibitors of the sustainability movement: The case of anti-consumption. *J. Consum. Policy* 44 (3), 427–453. <https://doi.org/10.1007/s10603-021-09489-x>.
- Zink, T., Geyer, R., 2016. There is no such thing as a green product. *Stanford Soc. Innov. Rev.* 14, 26–31. <https://doi.org/10.48558/G401-WQ16>.