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**Green Behavior of Middle Income Population in Bogota, Colombia: A Study  
in the Locality of Fontibon**

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**Abstract**

There is a growing concern in the world about the adequate use of resources. The importance of this topic was highlighted in a meeting held in Paris in December 2015, where world leaders discussed the issue of global warming. Colombia is not an exception to the matter. In the city of Bogota, there is growing preoccupation about sustainability both in public and private organizations. However, growing concern does not necessarily mean taking actions or adopting behaviors to improve a problematic situation. This article shows the results of a study aimed to determine the behavior and perceptions of middle income people in Bogota regarding the preservation of the environment. Results show the differences in behaviors in terms of demographic characteristics such as gender and age.

**Introduction**

Sustainability and the future of the environment are two important topics in the world. Words such as ozone layer, recycling, deforestation, among others, have become common for citizens all over the world. This situation occurs because there is preoccupation related to the effects humans are causing to the environment, due to consumption patterns that do not take into consideration the impact on the Earth's resources. The trend to care for the environment and sustainable development is not new, it has gained importance in the last decades. Colombia is not an exception to this trend. However, its initiatives in the matter do not go at the same pace as in other countries. In Colombia, some initiatives to create a better environment are in progress. The city of Bogota is promoting the use of bikes and public transportation instead of the automobile as the main way of transportation; groups that express their concern about damages to the environment appear on social media; people talk about the issue. In the specific case of the locality studied for the research explained in this article, it actually has a development plan in which one of its sections contains strategies to fight global warming. However, all these strategies

work only if people adopt them and follow behaviors and consumption patterns that are environment-friendly, making them part of their ways of life.

This is why studying people's behavior regarding their compromise with consumption patterns that are environment-friendly becomes a necessary factor to advance towards a society that cares for sustainable consumption and the responsible use of resources. Therefore, this research aims at finding the ecological behavior of people in Bogota, when they act as buyers and users of products. For the case of this article, its scope is the locality of Fontibon, located at the western side of Bogota. The researchers chose this locality because of its representativeness of the city, having people from all socio-economic levels, having residential, industrial and commercial areas, being home to Colombia's main airport, Colombia's main bus station, and a Free Trade Zone. The authors tested the idea (hypothesis) that when it comes to environment-friendly behavior, middle income males act differently than females.

### **Literature Review**

Increasing population and industrialization are exerting too much pressure on environment, infrastructure and the available natural resources (Khandelwal and Kumar Yadav, 2014). People are adopting new behaviors and businesses are creating friendly-environment products while also adopting new strategies, one of them being green marketing. Green marketing is defined by Polonski (1994, 2) as:

*"...marketing that consists of activities designed and generated to facilitate any exchanges intended to satisfy human needs or wants, such as the satisfactions of these needs and wants occurs, with minimal detrimental impact on the natural environment"*.

Fuller and Gillet (1999), cited by Iyiola (2011) define sustainable marketing as the process of planning, implementation and control of the development, prices, promotion and distribution of products to fulfill three criteria: satisfaction of customer needs, reaching of the organization's objectives, and compatibility of the process with the environment. Both definitions consider this type of marketing as one that takes the environment into consideration, echoing the concern about that issue in the world today. Green marketing acquired an eminent status since early 1990s (Bathia and Jain, 2013). The field of green marketing gains more importance as consumers are more concerned about the environment (Zulfiqar and Shafaat, 2015). According to Mishra and Sharma (2012, 35):

*"Green marketing is related to activities like product modification, fair –trade practices, adopting eco-friendly production process and packaging. In order to get sustainable success marketers, have to adopted green marketing techniques. The companies who are using these green practices in their functioning will achieve the sustainable success as people these days have a positive attitude for green products"*.

Green marketing poses both benefits and difficulties for companies and customers. Gupta and Agarwal (2012) state the following benefits: it saves money in the long-term, it ensures sustained long-term growth and profitability, and it helps companies market their products. Zulfiqar and Shawaat (2015, 117) cite Ottman (1997) who mentions, the following benefits of green marketing: less waste, less use of raw material and energy; companies that innovate in environmental terms enjoy competitive advantage; increased brand loyalty; quality of green products is higher in terms of saving energy, among others; better physical environment and sustainable development.

On the other side, Kinoti (2011) finds these disadvantages: the cost and difficulty to implement green marketing strategies in the short term; environmental benefits are intangible to consumers; some strategies are subject to manipulation; environmental benefits are hard to measure; its success depends on stakeholders working as a team; and finally, the author states that costs saved by recycling are doubtful. The definitions of Mishra and Sharma's include the words *green products*. However, authors like Bhatia and Jain (2013, 2) state that the concept of "green" is still not clear, but there are ten characteristics of products that can be considered green, as follows:

*"1. Energy efficient (both in use and in production). 2. Water efficient (both in use and in production). 3. Low emitting (low on hazardous emissions). 4. Safe and/or healthy products. 5. Recyclable and/or with recycled content 6. Durable (long-lasting). 7. Biodegradable. 8. Renewable. 9. Reused products. 10. Third party certified to public or transport standard (e.g., organic, certified wood) 11. Locally produced."*

The same authors state that green products have shown being resilient to the recession of 2008-2009 and cite a study of Datamonitor showing that during the first six months of 2009 over 500 products categorized as environment-friendly were launched (Bhatia and Jain, 2013).

Companies then must consider such characteristics in order to be more appealing to contemporary customers, who are more conscious about the environment. Nowadays, more consumers demand environmental responsibility, and companies are responding to this demand (Webb, et al, 2008). Companies are informing customers about their green practices and environment-friendly products; growing numbers of consumer durable companies are now marketing their products with Energy Star Label (Bathia and Jain, 2013).

Prospective shows in the future, more and more, consumers will prefer green products. Therefore, they will prefer companies offer such products (Saxena and Khandelwal, 2009). Pascual del Riquelme Martinez (2015) cite the study Cone Communication Social Impact Study of 2013, which states that from the new generations of consumers, 91% trust, 89% are more loyal toward companies that practice environment-friendly actions, 89% are more willing to buy their products and 82% are willing to recommend such companies to other people. This leads to the

concept of green consumer who according to Roman (2015, 6397) is considered a person who can give up a product if it hurts the environment, highly dedicated to achieve a green lifestyle and who

*“...understands the reality concerning the practices of a company and their impact on the environment and does not expect perfection, but rather small steps towards sustainability and becoming greener”.*

Having already green marketing, green consumer, and green products, the concepts of green consumerism and green consumption values arose; Weiner and Doescher (1991) defined Green Consumerism as a form of “pro-social” consumer behavior. Haws (July, 2014, 2) speak about Green Consumption Values “as the tendency to express the value of environmental protection through one's purchases and consumption behaviors.”

Just as the concept of marketing itself, as theory evolves, more research on green marketing is performed, and more companies and consumers adopt green practices, then new concepts might appear and old concepts might change. For any of the previous concepts to work in practice, it is necessary for people to behave accordingly. Just demanding more environment-friendly products is one side of the equation, behaving ecologically must also be taken into consideration. People must then get involved and take care of the environment. Even though it is possible to notice a growing concern with the environment by looking at comments in social networks or news over the Internet, it is necessary to understand if such comments and voicing are transforming into real actions, being them, purchasing of green products and behaving eco-friendly in current day life. In accordance, Durif, et al (2012) express that green consumption is still not common among customers, suggesting that such behavior could be explained by the risks customers perceive in green products, and introduce the concept of green gap, as the difference between pro-environmental attitudes and green purchase behavior. One of the most important causes of the damage to the environment is unsustainable consumption patterns. Therefore, to create sustainable development it is necessary to promote the involvement of all society with the problems of the environment (De la Maza, December 3-4, 2013).

For the specific case of Colombia, a study of Pascual del Riquelme Martinez (2015) offers some interesting conclusions: the country still does not achieve significant developments in terms of environmental responsibility policies, mentioning short-term and individualistic culture, and lack of knowledge that companies have about the potential benefits such policy brings as possible causes for it. The authors also states that the typical Colombian consumer is usually conformist and not very demanding about his/her consumption choices, who places higher importance to immediate short-term factors such as price (Pascual de Riquelme Martinez, 2015). These are factors to take into consideration when trying to introduce and promote environment-friendly products and behaviors.

## **Briefing on the locality of Fontibon**

Fontibon is a name with Native Colombian roots, coming from the word “Huntia” (powerful captain), later called Hontibon, Ontibon, until it finally got its current name; its land area is 3,317 hectares; El Dorado International Airport and the Free Trade Zone of Bogota (known as Zona Franca) are located there (Alcaldia Local de Fontibon, 2018). Fontibon is also home to the Main Interprovincial Bus Station of Bogota and Maloka Museum. Fontibon’s territory includes trade, industrial and residential areas. Fontibon used to be a separated town from Bogota being officially incorporated into the city in 1954 (Alcaldia Mayor de Bogota, 2018).

Citing estimations of populations from DANE-SDP, the Secretaria Distrital de Planeacion de Bogota (July, 2009, 9) projected a population of 380,453 inhabitants for Fontibon in 2015. Fontibon has a Development Plan for the years 2013-2016, part of which is aimed at taking steps to fight against global warming. Some measures provided are:

- the involvement of 700 people each year to processes to preserve water in the locality,
- the involvement of 200 people yearly in processes of pollution as well as visual and sound contamination awareness,
- the involvement of 500 people yearly in recycling and waste separation campaigns,
- the support one social initiative aimed at comprehensive handling and utilization of waste,
- planting 250 trees per year (Alcaldia Mayor de Bogota, 2012).

## **Methodology**

For this research, the researchers concentrated its study on the locality of Fontibon, located on the west side of Bogotá. A number of 100 surveys were applied, 50 of which were finally considered valid by the researchers. Researchers applied a survey composed by 39 questions and affirmations related to consumer’s green behavior. The survey was divided in five sections as follow:

Section 1: Basic demographic characteristics

Section 2: Behaviors at home

Section 3: Behaviors related to product consumption

Section 4: Behavior related to the use of basic resources like water and electricity

Section 5: Behavior related to green thoughts when buying different products.

Researchers performed the field work during October and November 2015, in supermarkets, malls and informal grocery stores located in Fontibon. The main difficulty encountered was the lack of confidence people shown to answer a survey in public places. It is important to notice that informal markets were also chosen because of the importance of the informal economy in Colombia, that by the fourth

quarter of 2015 employed 48.5% of workers (DANE, November 10, 2015), being informal businesses important as consumption places.

Table 1: Demographic characteristics of the sample

Gender	Percentage
Male	46
Female	54
Age group	
Less than 31	18
Between 31 and 44	38
Between 45 and 57	26
Over 57	18
Income	
Lower middle	56
Middle	38
Upper middle	6

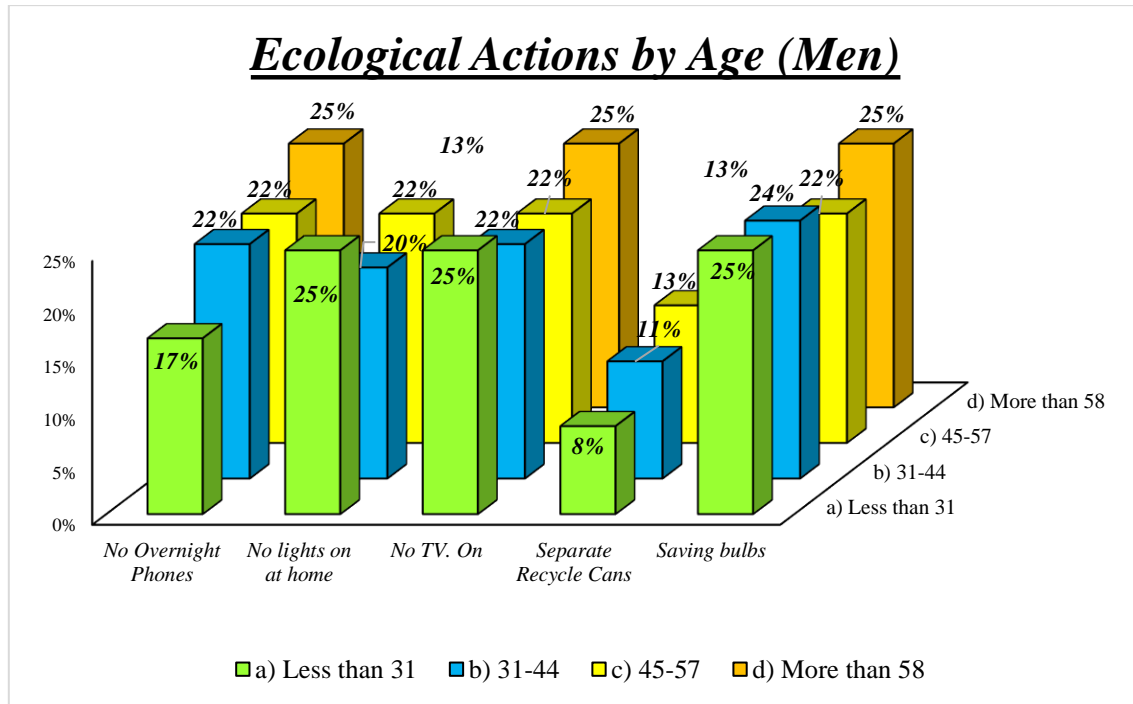
Source: The authors

The table shows that people of the sample have middle incomes, which allows characterizing how this segment of the population behaves when it comes to ecological actions.

## Results

For the purpose of this article, the study is centered on variables of ecological actions, age groups and gender.

Figure 1: Ecological Actions by Age (men)

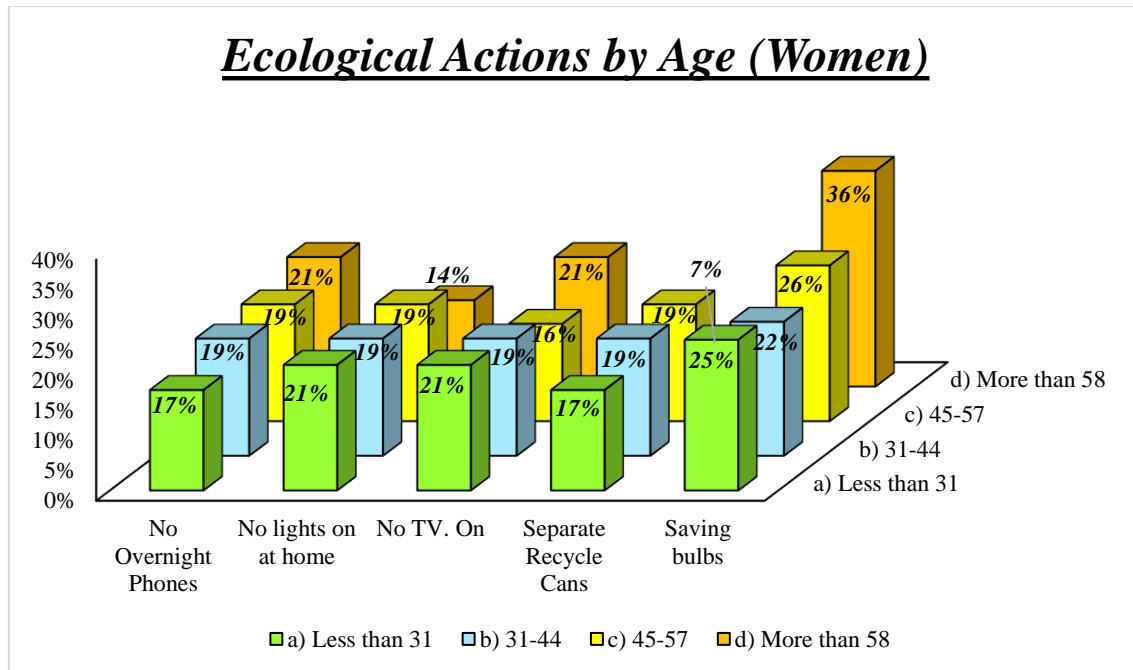


Source: The authors

The most frequent behaviors for men with ages lower than 31 years old are not turning lights on, are not turning the T.V. on and are using saving bulbs. Males between 31 and 44 do not turn lights on, do not turn the T.V. on, and use saving bulbs. It was observed that those with ages lower than 31 perform all ecological activities in similar proportions, except for recycling by using different garbage cans. Males between 45 and 57 years old have similar behaviors as those 31 to 44, and males 58 years old and over do not leave their cell phones charging overnight, do not turn the T.V. on, and use saving bulbs. Overall, regarding age, their least usual behavior is recycling by using different garbage cans, and the most frequent is using saving bulbs.



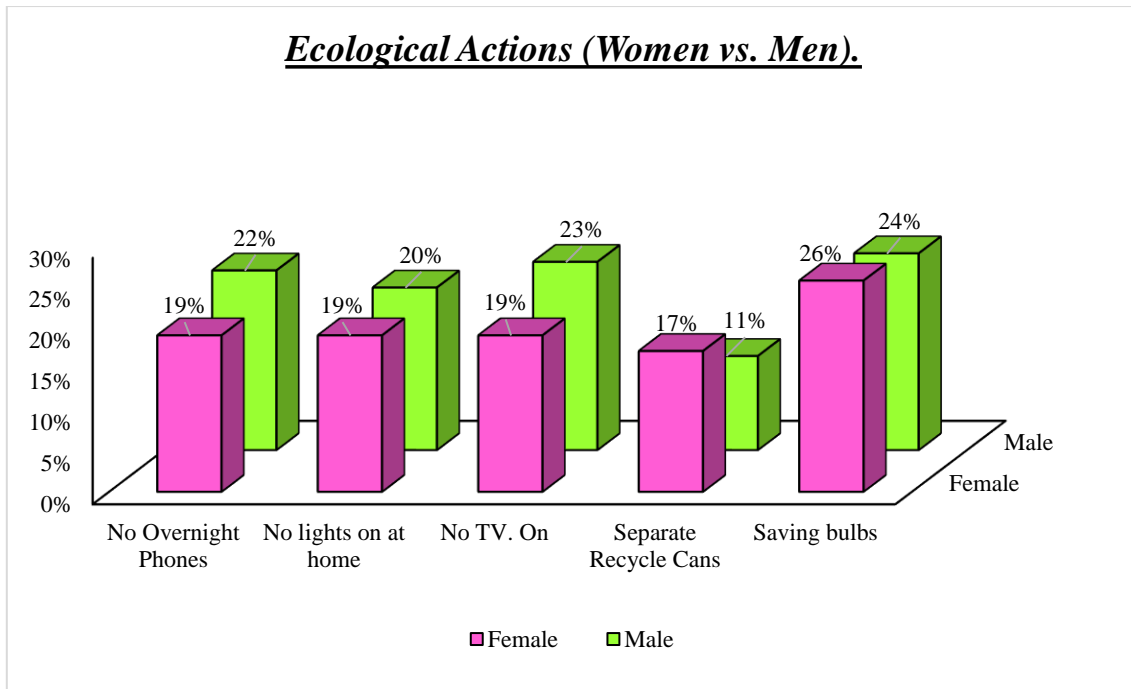
Figure 2: Ecological Actions by Age (women)



Source: The authors

Answers of women by age group were analyzed separately. Women of ages less than 31 years old answered use of saving bulbs as the ecological action they perform the most, while those performed less frequently are recycling using different garbage cans; also, they usually leave their phones charging overnight. Women between 31 to 44 years old perform all ecological actions at about the same rate (19%), except for the use of saving bulbs at a slight higher rate (22%). Women between 45 and 57 years old have a similar behavior as those between 31 to 44 (26% of them using saving bulbs while all other actions being performed by 10% of them). The action that women over 57 years old perform the most is using saving bulbs, while recycling using separate garbage cans and leaving the lights on are those least frequent.

Figure 3: Ecological Actions (women v/s men)



Source: The authors

When comparing the results of men and women, regardless age, it was concluded that women recycle using different garbage cans more than men do. Males do not leave the T.V on at a higher proportion than women do. The use of saving bulbs was the most frequent action performed by both men and women.

Table 2: Independence test variables Age v/s Ecological actions (men)

Chi square	1,176
Degrees of freedom	12
P value	0,897

Source: The authors.

These numbers show there is no independence between ecological actions performed by men and age, thus, there is a relation between men of certain ages and performing certain ecological activities.

Table 3: Independence test variables Age v/s Ecological actions (women)

Chi square	2,292
Degrees of freedom	12
P value	0,999

Source: The authors

These numbers show there is no independence between ecological actions performed by women and age; therefore, there is a relation between women of certain ages and performing certain ecological activities.

Table 4: Independence test variables Gender v/s Ecological actions

Chi square	1,755
Degrees of freedom	4
P value	0,781

Source: The authors

These numbers show there is no independence between gender and ecological actions, meaning, there is relation between the gender of the person and the ecological actions performed.

## Conclusions

There is a long way to achieve a general ecological behavior for people of middle income in the locality of Fontibon. The most frequent ecological action they perform is using saving bulbs, but only 24% of male and 26% of female actually use them. For both men and women, people over 57 years old are those that in percentage make more use of saving bulbs. Recycling, as one of an important ecological actions today, is performed by less than 20% of the population. What these numbers indicate is that more effort needs to be placed in order to increase the number of people who perform ecological actions. Overall, men tend to perform behaviors related to the adequate use of lights, T.V. or cell phones more than women, while women tend to perform behavior related to recycling and use of saving bulbs more than men. Being more vocal about the environment and showing concern about it must go together with behaving ecologically, in order to be successful in achieving a better environment. The growing demand for green products must be accompanied by environment-friendly behaviors at home (and all other places). Authorities must devote more efforts to educate people about the benefits of having environment-friendly behaviors and the adequate use of resources. Up to now, efforts committed have not being enough to achieve an adequate level of compromise with the environment. Further research is necessary to investigate about motivations for people to behave in more environment-friendly manners and better ways to involve communities from Bogota in the search for more sustainable consumption practices.

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