

# **Consumer Product Label Usage in a Post-Pandemic World**

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*Evidence suggests consumers actively seek environmentally-friendly products as public concern about the environment is growing worldwide. This study revisited earlier research of environmental labeling usage published over a decade ago. The current study compared environmental label usage between the original paper and post-pandemic consumer behavior. Survey results from a sample of 317 individuals indicated gender was not a predictor of label usage. The level of label usage (high versus low) was determined to be an effective predictor of environmental concern and behavior, as well as consumer involvement in environmental issues. Additionally, the current research indicated a preference by respondents for Internet news sources and social media rather than traditional news sources.*

*Keywords: consumer behavior, product labeling, environmental behavior, cause marketing*

## **INTRODUCTION**

There is wide agreement that consumer awareness and desire for environmentally-friendly products have grown over the past decade, and it could even be argued that today's consumer has demanded corporations become more sustainable and socially responsible. Notably, the COVID pandemic has been shown to have even further accelerated consumers' desire to purchase eco-friendly products, particularly with millennials (Emmert, 2021). Just as the pandemic has been a worldwide event, so too has this increase in green consumerism. There is evidence that this desire by consumers to search for environmentally-friendly products is a global phenomenon and public concern about the environment is growing worldwide. According to a World Wildlife Fund report, "the popularity of internet searches for sustainable goods around the world has increased by 71% in just five years. Even in the midst of the ongoing COVID-19 pandemic, that number has continued to grow" (Bonini, 2021).

## **PURPOSE OF THIS STUDY**

Due to the increase in consumer demand for healthier products during the pandemic (Accenture, 2020), it would reason that consumers are also more mindful of the products they are buying. The Covid pandemic

is thought to have increased demand for environmentally-friendly and socially-conscious products, predominantly from younger consumers (Accenture, 2020). With the renewed interest in sustainable goods since the pandemic, there is also concern for misuse of labels and deliberate misinformation to attract the conscious consumers. This study focused on identifying label users related to purchasing products. It examined gender differences, environmental concern and practices of label users, and their news media consumption. Also, it looked to identify some similarities between a study on environmental product labeling published over a decade ago (Furlow & Knott, 2009) to post-pandemic use of environmental labeling. That original study captured the characteristics of college students who are most likely to respond to environmental labels on products when making purchase decisions.

In the original study, it was believed that female millennials were more likely to look for environmental packaging labels than men. However, this hypothesis was not supported in the original study. Furlow and Knott (2009) examined the relationship between environmental concern of a consumer and the use of product labeling when making a purchase decision; however, the original study found that there is no relationship between the level of environmental concern and the use of environmental product labeling when consumers make a purchase decision. It also determined that consumers in the 2000s were “highly concerned about climate change and air pollution, currently engage in environmental practices, involved in environmental issues, and are more likely to be informed through traditional media outlets” (Furlow & Knott, 2009). The original research additionally found that involvement with environmental issues was an indicator of high label use. It must be noted however at that time, media usage was not found to be a predictor of environmental label usage. This study revisits these findings and expands on the original research to include consumer interest in cause marketing, and considering a general population broader than millennials.

## LITERATURE REVIEW

Research prior to the new millennium indicated that environmentally conscious consumers tended to be older, female, higher levels of income and education (Roberts, 1996). However, the demographic makeup of “green” consumers has more recently indicated that these individuals come from diverse demographic backgrounds and today’s green consumers cannot be as easily identified. Dietz, Kalof, and Stern (2002) and Hunter, Hatch, and Johnson (2004) found females were more sensitive and concerned about environmental issues than men. However, other studies have found that this is not the case (Shetty et al., 2019). Specifically, with buying organic food, gender does not have an impact (Gundala & Singh, 2021). Barber (2012) found that men were more likely to pay more for environmentally-friendly wine than women and were even more willing to give up the quality of wine whereas women would not. Looking at this phenomenon in a global scenario, Chekima, Wafa, Igau, Chekima and Sondoh (2016) found a significant difference in environmental attitudes and behavior patterns between men and women, with women having more environmental concerns than men in the 405 sample in Malaysia. In 2020, Hasnain, Raza and Qureshi surveyed 434 employees of national and multinational companies in Pakistan. They found that gender serves as a moderator of the relationship between environmental attitude and green buying intention, and a significant interactional effect of environmental attitudes and gender. They suggest that females are more inclined toward green buying intention based on their positive environmental attitudes and positive perception of the ecolabels (Hasnain et al., 2020).

The consumer’s income, education (Kaur et al., 2022), and age influence intentions and actual purchase of organic foods (Gundala & Singh, 20212). Surprisingly, older generations are more inclined to buy products from companies that are “green” and environmentally friendly (Ham et al., 2022). Groups of consumers aged 41-50 years are more likely to buy organic foods than consumers from other groups (Gundala & Singh, 2021). Current research (Stuart, 2019) indicates that one in three consumers prefers eco-friendly products and that a third of consumers are even willing to pay more for greener options. Companies use labels and logos to show that their products are aligned with sustainability, and it can support the consumer’s decision to purchase (De Canio et al., 2021). The research of Jin et al. (2018) explored neurocognitive processes associated with consumers’ attitudes and emotions toward eco-labeled food

which indicated that participants' purchase intention of eco-labeled food is significantly greater than non-labeled one.

There is a common perception that products with environmental-friendly packaging may have a higher price (Frank, 2022). However, price is not a purchase driver for younger consumers when it comes to those products (Frank, 2022). Younger generations significantly have a higher belief that eco-friendly products have a higher quality. This presents that they may be driven by utilitarian considerations, instead of only by a social norm (Ham et al., 2022). However, while consumers may express interest in eco-friendly products, only a portion do buy the greener option. In fact, one survey found that while 65% of survey respondents said they wanted to buy from sustainable brands only about 26% did so (White et al., 2019). Do Paço, Alves, Shiel, and Filho (2013) confirmed the relationship between environmental attitudes and behaviors when it comes to purchasing environmentally-friendly products.

With this evident rise in green consumption, there has obviously been an increase in products touting themselves as being eco-friendly. Indian millennials' buying intentions are significantly impacted by green products, green places, and green promotional strategies (Kaur et al, 2022). According to a recent report published by Allied Market Research, the global green technology and sustainability market size was valued at \$10.32 billion in 2020 and is projected to reach \$74.64 billion by 2030 (Shadaab et al., 2021).

### **AIDA Model**

One explanation for this increase in environmental consumerism follows the AIDA Model (Strong, 1925). This model explains that consumer behavior moves through phases from attention, to interest, to desire, and finally action. The AIDA Model has its roots in the advertising industry and has been used in developing campaigns for products and services alike. The model has also been used to change behaviors and promote positive social change (Alden et al., 2011). As society's overall concern for the environment has moved through this funnel, so has green product demand to the point today where consumers are taking action through their buyer behavior.

#### *Attention*

The first step in the model calls for communication to get the attention of the consumer by creating awareness of the product (or issue) with consumers. Environmental topics have been covered widely by traditional media since the 1990s, but thanks to the rise of social media, nonprofits, and businesses have been able to increase exposure and awareness of environmental issues as well as the brands that tout they are taking steps in the positive direction and focusing on social responsibility and sustainability. One reason why millennials are often referred to as being the target market of eco-brands could be because of their high use of social media.

"Media, specifically, the rise of social media can be seen as a major mover of consumers to make a green decision" (Mariani et al., 2014). Bedard and Tolmie (2018) found that social media and online interpersonal influences have a positive impact on green purchase intentions. Their research was based on Hofstede's cultural dimensions and found that masculine males were less likely to purchase green products and that the effects of individualism were found to not influence behavior.

#### *Interest*

The next step in the AIDA Model is interest. Once a consumer is aware of the issue (or product), cause marketing can take that awareness to the next level by creating interest. When a brand becomes connected to a cause, in this study environmentalism, consumers are more likely to pay attention and develop a positive attitude toward the brand (Patel et al., 2017). Millennials are thought to be more likely to buy a brand that supports a cause and even stop buying from a brand that seems to misbehave (Shetty et al., 2019). In a study by De Canio, Martinelly, and Endrighi, the findings showed that the influence of environmental concerns is relevant to supporting pro-environmental purchase intentions and increasing the trust in sustainable producers' intention path (De Canio et al., 2021). Again, social media has been found to help increase consumer awareness. While it was found that overall millennials had a relatively low awareness of cause marketing, social media users are more likely to be aware of the campaigns (Eastman et al., 2019).

### *Desire*

There is support indicating that consumers want to buy the eco-friendly option, especially when it comes to millennials. In one study, 90 percent of millennials said they would pay more for products that contain environmentally friendly or sustainable ingredients as compared to 61 percent of baby boomers (Gelski, 2019). Younger consumers' motivation to purchase is of a higher level of concern with the welfare of the planet and how it impacts their future lives (Frank, 2022). On the other hand, older consumers are motivated by social pressure (Frank, 2022). And since millennials are thought to be the highest users of social media, the new media's power over consumers may be what pushes consumers to take action. Social influence has been shown to have a positive impact on consumers' buying intention when it comes to eco-friendly products (Haider & Kakakhel, 2017). Social pressure is often the strongest motivator of environmental consumer behavior (Clark et al., 2019).

The desire to be an environmentally conscious consumer appears worldwide. Consumers in the Asia-Pacific region are more eco-friendly than the global average and this trend is also prevalent in the Middle East (Emmert, 2021). Consumers' interest in protecting the environment makes it possible for them to be easily misled by companies engaged in greenwashing (Özsoy, & Avcilar, 2016).

### *Action*

This is where on-product labeling becomes increasingly important. Since consumers are now aware, interested, and actually seeking out eco-friendly products, the importance of labeling cannot be understated. In the buying situation, a product with a label touting environmental claims has a strong chance of beating out the competition. The Green Print Business of Sustainability Index found that nearly two-thirds of Americans are willing to pay more for sustainable products but three-quarters of them do not know how to identify green products. According to the study, 78 percent of people are more likely to purchase a product that is clearly labeled as environmentally friendly (GreenPrint, 2021).

## **METHODOLOGY**

The hypotheses developed for this study were based on the previous study. Some adjustments were made to the original survey to account for changes in technology and society.

***H1: High-label users will be female.***

The previous study indicated that there was a relationship between the variable of gender and label use (Furlow & Knott, 2009). Thus, it was predicted that the results from this study would follow the finding of previous research that women were more likely to use labeling information when making a purchase decision.

***H2: High-label users will be environmentally concerned.***

This hypothesis was not supported in the original study; however, it is anticipated that it will be supported because of the increase in awareness of climate change. The previous study "indicated that there is no relationship between the level of environmental concern and the use of environmental product labeling when making a purchase decision" (Furlow & Knott, 2009).

***H3: High-label users will practice environmental behavior.***

As with the previous study, consumer behavior regarding environmental behavior such as recycling is anticipated to be strongly supported.

***H4: High-label users will be highly involved in environmental issues.***

While the original study confirmed that participation in environmental issues was a predictor of label use, this study expands on that concept to include social issues and cause marketing as a predictor of label usage.

**H5:** *High-label users will be more informed through media.*

This study expands on the previous study in that political interest is considered based on media choices. It is anticipated that users of environmental labeling will be more liberal than conservative in their political views and that social media usage will be high with high-label users.

The initial sample consisted of 426 participants who were recruited through convenience sampling means by reaching out to colleagues, current and previous students, family, and friends through direct contact and social media. Responses were completely voluntary. A data cleaning process was undertaken to exclude any individuals from the final sample if they did not complete the whole survey. This resulted in a final sample of 317 individuals. The final sample had the following demographic characteristics: (a) 65.7% female, (b) 59.4% Hispanic or Latino, 30.8% White, 2.2% Black or African American, 1.9% Asian, and 1.6% other, (c) 31.1% between 45-54 years old, 22.0% between 35-44 years old, 16.4% between 55-64 years old, 14.5% between 25-34 years old, 9.7% over 65, and 4.7% between 18-24 years old, (d) 83.6% had a bachelor’s degree or higher, (e) 80.2% were working either part-time or full-time in various industries (e.g., educational services, health care or social assistance, manufacturing, finance or insurance, and other services).

## RESULTS

To categorize survey respondents as either high-label users or low-label users, we used responses to the following questions: Do you prefer products that are labeled as “recyclable”?, Do you prefer products that are labeled “made from recycled materials”?, Do you prefer products that are labeled “not tested on animals”?, and Do you prefer products that are labeled to support a cause? These questions were stratified to create independent variables used to label respondents as high-label users or low-label users. If the average was less than or equal to a value of 3, the respondents were labeled as a “low user”. If the average was greater than a value of 3, then respondents were then labeled as a “high user”. Of the 317 viable survey respondents, 206 (65 percent) were determined to be high-label users compared to 111 (35 percent) as low-label users (See Table 1).

**TABLE 1**  
**LABEL USER TOTALS**

High-Label User Total	Low-Label User Total
206	111

### Hypothesis Testing

#### *Hypothesis 1: High-Label Users Will Be Female*

The previous study with college students confirmed a relationship between gender and label use (Furlow & Knott, 2009), which is aligned with previous research supporting that females were more likely to read product labels. For the current study, an independent *t*-test between gender and Q1, Q2, Q3, Q4 was conducted to determine if gender was still an influencing factor in determining label use. All four questions were statistically significant as a result of a two-tail *t*-test, supporting Hypothesis 1 (see Table 2). These findings reinforce the original study findings that females are more likely to be high-label users, preferring products that are labeled as “recyclable”, “made from recycled materials”, “not tested on animals”, and products that support a cause.

**TABLE 2  
T-TEST RESULTS BY GENDER**

	Male		Female		P(T<=t) one-tail	Significant	P(T<=t) two-tail	Significant
	M	SD	M	SD				
Q1	3.20	.68	3.43	.62	.002	Yes	.003	Yes
Q2	3.24	.68	3.40	.64	.018	Yes	.035	Yes
Q3	3.22	.84	3.51	.67	.001	Yes	.001	Yes
Q4	3.06	.80	3.24	.66	.015	Yes	.030	Yes

Note. Results of t-tests of males (n=103) and females (n = 209) assuming equal variance.

*Hypothesis 2: High-Label Users Will Be Environmentally Concerned*

The original study indicated that environmental label users would be more environmentally concerned, showing a relationship between the level of environmental concern and the use of environmental product labeling when making a purchase decision (Furlow & Knott, 2009). For this study, survey questions used to determine environmental concern were “How concerned are you about environmental issues?” and “Do you feel that your actions have an impact on the environment?” Based on the regression analysis, label usage was determined to be an effective predictor of environmental concern and supported the hypothesis. Label use predicted how environmentally concerned an individual was ( $R^2= .13$ ,  $F(1, 315) = 44.96$ ,  $p < .001$ ).

*Hypothesis 3: High-Label Users Will Practice Environmental Behavior*

The composite score of the following questions was used to determine environmental behavior: “Are you willing to pay more for products that support causes and/or are environmentally friendly?” and “Are you willing to make sacrifices to protect the environment?” Label use predicted environmental behavior ( $R^2= .10$ ,  $F(1, 315) = 33.71$ ,  $p < .001$ ) and supported the third hypothesis (See Table 3). Additionally, a frequency analysis of the specific behaviors indicated that high-label users were more likely to engage in environmentally friendly behaviors. Respondents were asked, “Do you or your family *regularly* do any of the following: (check all that apply).”

**TABLE 3  
LABEL USER BEHAVIOR**

Behavior	High-Label User (frequency)	High-Label User (%)	Low-Label User (frequency)	Low-Label User (%)
1. Drive car less to conserve gas	76	37%	30	27%
2. Use air conditioner/heater less often	105	51%	41	37%
3. Turn off lights when not in use	200	97%	106	95%
4. Recycle (glass, aluminum, cardboard)	154	75%	74	67%
5. Put garbage in compost	63	31%	19	17%

6. Buy products in reusable containers	133	65%	48	43%
7. Buy products that do not use excessive packaging	95	46%	39	35%
8. Buy products made from recycled material	148	72%	49	44%
9. Avoid using Styrofoam products	107	52%	32	28%
10. None of the above	0	0%	0	0%

Note. High-label users ( $n = 206$ ); low-label users ( $n = 111$ ).

In support of the third hypothesis, the frequency analysis showed that high-label users engage in some environmental behaviors at a higher frequency relative to low-label users (see Table 3). For example, high-label users were more likely to buy products in reusable containers (65%), buy products made from recycled material (72%), and avoid using Styrofoam products (52%) than low-label users. However, environmental behaviors are not limited to high-label users only. Low-label users practice turning the lights off when not in use (95%) and recycle glass, aluminum, and cardboard (67%) at a similar frequency to high-label users.

*Hypothesis 4: High-Label Users Will Be Highly Involved in Environmental Issues*

The previous study found that high-label users are highly involved in environmental issues. For the current study, the respondents were asked three of the original questions: “How concerned are you about environmental issues?”, “Do you feel that your actions have an impact on the environment?” and “Are you willing to make sacrifices to protect the environment?” This hypothesis was also supported by the findings of the survey. Individual label use predicted how environmentally involved they were ( $R^2 = .13$ ,  $F(1, 315) = 48.06$ ,  $p < .001$ ). In trying to determine the level of support for causes, frequency counts were measured to the questions “What types of causes do your support?” and “Do you volunteer or belong to any nonprofit organizations?” The results of the frequency analysis are reported in Table 4 and Table 5.

In support of the fourth hypothesis, the frequency analyses suggested that high-label users supported causes related to “Environment” (73%) at a higher frequency than low-label users (50%). However, both high and low-label users reported similar frequency of volunteering for environmental and animal support organizations.

**TABLE 4  
FREQUENCY OF THE TYPES OF CAUSES PARTICIPANTS SUPPORT**

Supported Causes	High-label User (frequency)	High-label User (%)	Low-label User (frequency)	Low-label User (%)
1. Animal welfare	124	60%	50	45%
2. Environment	150	73%	56	50%
3. Education	138	67%	75	68%
4. Health	126	61%	60	54%
5. Hunger/poverty	127	62%	59	53%
6. Social causes	106	51%	47	42%

7. I do not support causes	9	4%	7	6%
8. Other	1	0%	5	5%

Note. High-label users ( $n = 206$ ); low-label users ( $n = 111$ ).

**TABLE 5**  
**FREQUENCY OF THE TYPE OF NONPROFIT ORGANIZATIONS PARTICIPANTS VOLUNTEER FOR OR BELONG TO**

Organizational Affiliation	High-label User (frequency)	High-label User (%)	Low-label User (frequency)	Low-label User (%)
1. Religious organization	55	27%	28	25%
2. Service organization	27	13%	21	19%
3. Fraternity/sorority	10	5%	9	8%
4. Professional association	50	24%	25	23%
5. Athletic club/team	20	10%	10	9%
6. Social causes	19	9%	12	11%
7. Social justice organization	23	11%	4	4%
8. Environmental organization	126	8%	9	8%
9. Animal support organization	10	5%	9	8%
10. Political organization	22	11%	10	9%
11. Other	0	0%	0	0%

Note. High-label users ( $n = 206$ ); low-label users ( $n = 111$ ).

*Hypothesis 5: High-Label Users Will Be More Informed Through Media*

In an attempt to measure the impact that media has on label usage, respondents were asked about their media preferences. This was a different question from the previous study because it was adapted to address current sources of news. The question “How informed do you feel you are about environmental issues?” indicated that label usage did not predict how informed individuals felt about environmental issues  $R^2 = .01$ ,  $F(1, 315) = 1.77$ ,  $p = .18$ . Frequency counts were also observed in the questions about preferred news sources and media outlet trust (see Table 6 and Table 7).

**TABLE 6**  
**FREQUENCY COUNTS FOR PREFERRED NEWS MEDIA OF RESPONDENTS**

News Source	High-label User (frequency)	High-label User (%)	Low-label User (frequency)	Low-label User (%)
1. Social media (e.g., Facebook, Instagram)	131	67%	63	57%
2. Internet news sources (e.g., online magazines/newspapers)	166	81%	83	75%
3. Local television	100	49%	44	40%
4. National television	86	42%	38	34%
5. Radio/podcast	70	34%	31	28%
6. Word of mouth (e.g., friends, family, colleagues)	57	28%	22	20%
7. None of the above	0	0%	0	0%

Note. High-label users ( $n = 206$ ); low-label users ( $n = 111$ ).

**TABLE 7**  
**FREQUENCY COUNTS OF PREFERRED NEWS SOURCES OF RESPONDENTS**

Trusted News Source	High-label User (frequency)	High-label User (%)	Low-label User (frequency)	Low-label User (%)
1. ABC	77	37%	43	39%
2. CBS	61	30%	38	34%
3. NBC	81	39%	46	41%
4. FOX	27	27%	21	19%
5. CNN	120	58%	61	55%
6. BBC	70	34%	35	32%
7. MSNBC	38	18%	25	23%
8. Wall Street Journal	57	28%	37	33%
9. USA Today	45	22%	23	21%
10. Washington Post	65	32%	36	32%
11. Other	43	21%	25	23%

Note. High-label users ( $n = 206$ ); low-label users ( $n = 111$ ).

## DISCUSSION

The purpose of this study is to revisit original research conducted nearly 15 years ago (Furlow & Knott, 2009) to get a glimpse of consumers who respond to environmental labels on products when making purchase decisions. An overwhelming initial observation of this study as compared to the original survey is that more respondents could be classified as “high-label” users today than in the earlier study. The current study expanded beyond the small sample of college students (i.e., millennials) and included a wider range of demographics with most participants (79.2%) aged 35 years or older. As in the original study, gender was a determining factor of who uses labels when making purchase decisions. These results continue to

support the existing belief that environmental consumers are thought to be mostly female. Unlike the previous study, however, this study supported the second hypothesis that high-label users will be more concerned about the environment and are more likely to engage in environmentally friendly behaviors and issues. This could be a result of an increase in overall consumer awareness and concern for sustainability and the environmental impact of products purchased. The current and original studies supported the hypothesis that involvement in environmental issues predicts high label usage.

The data collection that focused on media usage was expanded for this study because the nature of news media has changed drastically from when this study was originally conducted. The findings indicate that “high-label users” were nearly twice as likely to trust news sources that have been labeled as more liberal (Washington Post, BBC, CNN). FOX News scored low for trustworthiness by both high- and low-label users. News sources were rated the same by both high-label users and low-label users with Internet news sources being rated highest and social media as a news source coming in second followed by local television, national television, and finally, word of mouth as a news source. It is notable that in 15 years, people moved from television and newspapers, which were the strong sources in the original study, to the Internet and social media shown in this study. It can be expected that that tendency will be stronger with the advances in technology.

## **MANAGERIAL IMPLICATIONS**

As in the previous study, the marketing implications from this study indicate that consumers who are already involved or interested in environmental issues would be the most likely candidates to respond to environmental labeling. However, this study uncovered that the overall awareness of environmental labeling has grown across all consumers, whether they are involved in environmental issues or not. The study also supports the previous findings that gender is not a predictor of the usage of environmental labeling. Marketers should take note that both high-label users and low-label users rely on Internet sources and social media for news sources, followed by local news and national news. Word-of-mouth campaigns for environmentally-labeled products may not be as well received as campaigns that focus on social media and traditional news sources and media outlets.

## **CONCLUSIONS**

The results from this study indicate that in general, more consumers today than in the last decade have a genuine desire to purchase products that may limit their impact on the environment. Overall, respondents in the current study were more likely to be “high-label users” of environmental labeling. While gender was not a determining factor of label usage, consumers who are more concerned about the environment and engage in environmentally-friendly behaviors are more likely to use environmental labeling when making a purchase decision. These same environmentally-conscious consumers are more likely to trust news sources that have been labeled as more liberal (Washington Post, BBC, CNN).

## **LIMITATIONS AND FUTURE RESEARCH**

Because this current study was conducted over a decade after the previous study, the method of data collection changed dramatically. The original study was conducted using paper surveys in a university setting to students. The current study was conducted electronically through the dissemination of social media and email communication and had respondents from around the globe. The original study was limited to a convenience sample of millennial university students whereas this study was open to the general public and extended beyond millennials, with a majority of participants (79.2%) aged 35 years or older.

Future research should focus on the actual behavior of consumers and go beyond their purchase intention and claims. By examining the motivation behind the usage of ecolabels, marketers will be able to find ways to reach specific markets and encourage buyer behavior through the AIDA funnel to move them to action (purchase). Additional future research should dig deeper into the ecolabel consumer and attempt

to identify the demographics and psychographics of these consumers to begin to tailor messages that would move nonusers to the point of action.

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