

Understanding the Modern Organic Consumer in Santa Cruz, CA

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Organic produce sales have been increasing an average of 20% every year since the implementation of the USDA organic certification standard in 1990. Due to the continual increase in sales of organic produce, this study sets out to identify who the modern consumer is, but more importantly what are the motives behind the purchase. The most common motivation for purchasing organics is health, however motivation varies by demographic. Secondly, this study explored potential correlations between the proportion of organic foods purchased with income and annual salary. It was concluded that there is very little correlation between the proportion of organic foods purchased and education as well as annual salary.

Introduction

In 2005, sales of organic foods represented only 2.48% of all food sales made in the United States (Organic Trade Association 2005). Although sales of organic foods are relatively small, it is the fastest growing sector of the food economy. In fact organic food sales have been increasing an average of twenty percent every year since the implementation of the USDA organic seal in 1990 (OTA). Currently the organic industry is a multi-billion dollar business, reaching \$13.83 billion in sales in 2005 alone. This is a great leap compared to its \$1 billion in sales in 1990 (OTA 2005).

As mentioned earlier the USDA organic seal was established in 1990. Prior to the implementation of the seal, there was no universal definition as to what being “organic” entailed, making it impossible for any type of government regulations on “organic” farming practices. Government regulations regarding organic foods began with the implementation of the Organic Foods Act of 1990. It is in this act that the term organic was finally given a national definition. The term organic was defined as a product that is created without the use of synthetic fertilizers, most conventional pesticides, bioengineering or ionization radiation. In regards to organic animal foods, animals must not be treated with antibiotics, growth hormones and must be fed certified organic feed.

With the creation of the USDA organic label and implementation of government regulated standards, came an increase in consumer confidence towards organic foods, which is apparent by the constant growth in organic food sales (Stochlic 2005). In addition to consumer confidence, growing awareness regarding health and the environment have also lead consumers to choose organic produce over conventional (Schifferstein & Oude Ophuis, 1998). Increased organic food sales could also be attributed to the numerous food scares that have occurred over the past few years (Miles & Frewer 2001). An international survey found that nineteen of the thirty-four countries surveyed felt that today’s food is less safe now than it was ten years ago (Ipsos-Reid 2000). In fact consumers are more concerned about pesticide residue in their food than they are about genetically modified foods or even mad cow disease (Tucker M. et al. 2006).

The establishment of the organic label in 1990 did create consumer confidence in organic foods, which was necessary considering the great perceived risk associated with conventional produce, but this consumer confidence does not necessarily translate to consumer awareness of the organic standard and what benefits consuming organic foods may have. A lack of knowledge

exists among consumers regarding what organic truly entails. In a recent study 45.9% of surveyed consumers believed that organic foods were more nutritious and 64.8% believed they were healthier (Stochlic 2005). These are interesting results considering the National Organic Program (NOP), the program responsible for organic regulations and standards, does not advocate both of these assumptions and more importantly these assumptions are not fully supported by scientific research. When it comes to comparing organic and conventional farming, fertilization treatment is the most fundamental difference between organic and conventional methods (Saba and Messina 2003).

Health concerns have been proven to be the main reason for purchasing organic produce (Schifferstein & Oude Ophuis, 1998). This is not hard to believe considering that consumers have become increasingly concerned with the consumption of conventional foods, mainly due to the perceived risks associated with pesticide residue (Le Chowich, 1992). Consumers have become increasingly concerned with pesticide residue because they are perceived to cause negative health effects, especially when consumed over a long period of time (Hammit, 1990). Concerns regarding pesticide residues are an understandable concern considering that pesticide residues can be common. A study measuring pesticide residues found in produce was conducted seven years ago in Denmark. The study tested 4404 samples, samples which consisted of both organic and conventional fruits and vegetables. The study concluded that sixty-six percent of the total samples including organic produce, in fact did have pesticide residues, one of which included DDT. Even though pesticide residues were found in sixty-six percent of the samples, only four percent of the samples exceeded European Union standards (M. E Poulsen & J.H Anderson, 2003). However, continual consumption of produce contaminated with pesticide residue can be detrimental to human health in the long run, even if residue levels are below standards (Bhanti & Taneja, 2007). However, this does not mean that they will be detrimental to human health, but potentially could.

Organic foods are often perceived to be more nutritious than conventional (Saba & Messina 2002). This is interesting considering the scientific community cannot fully support this assumption. In fact the American Dietetics Association (2006) does not find the evidence conclusive enough for a position. In a recent study that measured the nutritional value of organic and conventional broccoli by their vitamin C levels, concluded that organic broccoli was more nutritious, however not by a statistically significant amount (Shahla M. et al. 2008). In fact there

was a much higher difference in nutrition found between seasons than between organic and conventional. Other studies have found a greater difference in nutrition among organic and conventional leafy vegetables. Organic leafy vegetables did indeed have higher levels of vitamin C (Magkos et al. 2003). However, much like the Shahla study, these levels were not statistically significantly higher. It should also be noted that results for both of these studies are found in a lab setting and do not necessarily indicate that these higher levels of nutrition exist at the point of consumption (Shahla M. et al. 2008).

Considering the continual increase of organic sales, this study will first try to investigate the identity of the modern organic consumer. Who is modern organic consumer? Secondly this study will investigate the motivation behind the purchase of organic foods. Previous studies have shown health to be the main motivation, but will this be the case in Santa Cruz, CA (Schifferstein & Oude Ophuis, 1998)? In addition to finding the most popular motivation behind the purchase of organic foods, this study will determine if this motivation changes depending on various demographic characteristics. Looking specifically at demographic characteristics, such as income and education level. I hypothesize that in Santa Cruz, CA the most popular motivation behind the purchase of organic foods will be environmental. Furthermore, I predict there will be a positive correlation between education and the proportion of organic foods purchased. I also hypothesize that there will be a positive correlation between the proportion of organic foods purchased and annual salary.

Methods

To test my hypotheses I conducted a consumer survey. Survey analysis was most appropriate for this particular study because I investigated people's perceptions about a product they consume, which in this case, was organic foods. The survey was conducted in Santa Cruz, CA. Santa Cruz is geographically surrounded by rural communities that supply the city with a vast array of both organic and non-organic produce that are both fresh and local.

The thirty surveys were conducted at three separate locations for a total of ninety surveys. Survey locations were Safeway, Trader Joes and New Leaf. It is highly probable that a difference in demographic qualities exists between the customers of Safeway and customers found at Trader Joes and New Leaf. By conducting the survey at different types of locations, it will

potentially give a more accurate representation of the organic consumer in the Santa Cruz area, as well as variations between consumers depending on purchase location.

Once at the sampling location, subjects were selected at random from every third person exiting the grocery store, so as to avoid selection bias. This survey is only intended for organic consumers, therefore subjects were asked if they buy organic foods before administering the survey. If the subject answered “no”, then they were not asked to participate. Each survey took a maximum of five minutes to complete. Questions regarding demographic attributes were recorded on paper to increase accuracy, however the rest of the questions were recorded using a digital recorder for documentation purposes. Surveys were conducted March-April, 2008.

Even though the Stochilic study and my study investigated similar questions, the results from my study are expected to be different than Stochilic’s study, due to the differences in our methods. The Stochilic study (2004) was a nation wide phone survey consisting of 1,000 households. In addition to phone surveys, focus groups were held in various cities. The focus groups were split by organic consumers, which were defined as consumers who buy organic at least once a month, and non-organic consumers, which were defined as consumers who had not purchased any organic foods in at least a year. My study was centered in one city, surveys were conducted in person and subjects were recruited at the very location where the purchasing decisions are made. Finally, my survey will only be given to organic consumers. Another critical advantage of my methodology is the break down of organic consumers into different categories depending on the proportion of organic foods purchased. This is important because the previous study (Stochilic 2004) considered any subject who bought organic at least once an organic consumer, but given the increase in organic availability this definition can become problematic. It is strongly probable that motivations for purchasing organic foods can vary depending on the proportion of organics purchased.

The first goal of this study is to determine who the organic consumer is. We know there has been an increase in sales, but who exactly is the organic consumer? To determine this I asked various questions regarding age, education, annual salary, marital status and the number of children in the household. For privacy purposes, these questions were asked using a written questionnaire that was distributed before the recorded section of the survey.

Demographic information was then compared with the various answers given by each subject regarding motivations for purchasing organic foods and proportion of organic foods

purchased. By doing this I was able to determine whether any correlations existed between certain demographic categories and the various answers given regarding organic purchases.

The first test conducted was to determine the most common motivation for purchasing organic foods based on education level, annual salary and proportion of organic foods purchased. If more than one motivation was asked, subjects were asked to pick the best motive for purchasing organic foods. If subjects gave more than one motivation, then the first motivation said was the one recorded in the results section. From this I determined how many subjects in that demographic group purchased organics for that particular motive.

The next test I conducted determined whether there is a positive correlation between the proportion of organic foods purchased and income and education level. This was done using regression analysis.

Results

Demographics:

Age

The average age for respondents was 41 years and the ages ranged from 18 to 75 years. For the purpose of this study, subjects were asked to pick an age bracket rather than writing their age. The age distribution of subjects was: 18-25 (25.5%, n=23), 25-30 (8.8%, n=8), 30-40 (10%, n=9), 40-50 (13.3%, n=12), 50-65 (26.6%, n=24), 65 years of age and older (10%, n=9) and 5 of the 90 subjects did not give their age.

Sex

Women were overrepresented in this study. Of the 90 subjects that completed this survey 53 (58.8%) were women, when women comprise 50.2% of the Santa Cruz population. In turn men were underrepresented in this study, there were only 37 men (41.1%) of subjects.

Annual Salary

Of the subjects surveyed, (24.4%, n=22) had an annual salary of \$0-10,000, 21.1% (n=19) earned \$25,000-50,000, 20% (n=18) of subjects earned an annual salary of \$10,000-25,000, 12.2% (n=11) earned \$50,000-75,000, 12.2% (n=11) earned \$75,000-100,000, 7.7% (n=7) earned over \$100,000 and finally 2 subjects did not respond.

Marital Status

Of the 90 subjects surveyed a majority (60%, n=54) were single, 28.9% (n=26) were married and 6.7% (n=6) were in a relationship and 4.4% (n=4) were divorced.

Number of Children

Approximately two in five (43.3%) respondents reported having children. This variable was included because other research has found associations between the presence of children and increased organic consumption.

Highest Level of Education

This study had an overrepresentation of educated subjects with 56.7% of them having a bachelors degree or higher (44.4% of the people in Santa Cruz have bachelor degrees or higher). Looking at all the subjects, 13.3% (n=12) had a K-12 education, 30% (n=27) had completed some college, 27.8% (n=25) had a bachelor's degree, 21.1% (n=19) had a master's degree, and 7.8% (n=7) had a PhD.

Motives Behind the Purchase:

When the 90 subjects were asked why they purchase organic foods the most popular answer was health (37.8%, n=34). This is the breakdown of all the motives given for purchasing organic foods: 20% (n=18) answered no pesticides, 17.8% (n=16) answered environmental reasons, 12.2% (n=11) answered social pressures, 8.9% (n=8) answered taste, and finally 3.3% (n=3) answered availability.

Education

When looking specifically at the various education levels and the most popular reasoning behind their organic purchases we saw the following results.

Table 1. Purchasing Motivations Based on Education Level

Highest Level of Education Completed	Social Pressures	Pesticides	Taste	Health	Environmental	Availability
K-12	12.5%	25%	12.5%	25%	25%	0%
Some College	29%	22.6%	3.2%	35.5%	6.5%	3.2%
Bachelors	4.2%	12.5%	16.7%	37.5%	29.2%	0%
Masters	5.3%	26.3%	15.8%	36.8%	5.3%	10.5%
PhD	0%	28.6%	0%	28.6%	42.9%	0%

Income

When looking at the motives behind organic purchases based on income level, these were the most popular answers given by each annual salary bracket.

Table 2. Motives for Purchasing Organic Foods Based on Annual Salary

Annual Salary	Social Pressures	Pesticides	Taste	Health	Environmental	Availability
\$0-10,000	23.8%	14.3%	4.8%	33.3%	19%	4.8%
\$10,000-25,000	5.6%	27.8%	11.1%	38.9%	16.7%	0%
\$25,000-50,000	5.3%	21.1%	5.3%	36.8%	21.1%	10.5%
\$50,000-75,000	27.3%	18.2%	27.3%	9.1%	18.2%	0%
\$75,000-100,000	9.1%	9.1%	18.2%	54.5%	9.1%	0%
Over \$100,000	0%	0%	0%	57.1%	42.9%	0%

Proportion of Organic Products Purchased

These were the various motives for buying organic foods depending on the proportion of organic foods purchased.

Table 3. Motives for Purchasing Organic Products Based on Proportion of Organic Foods Purchased

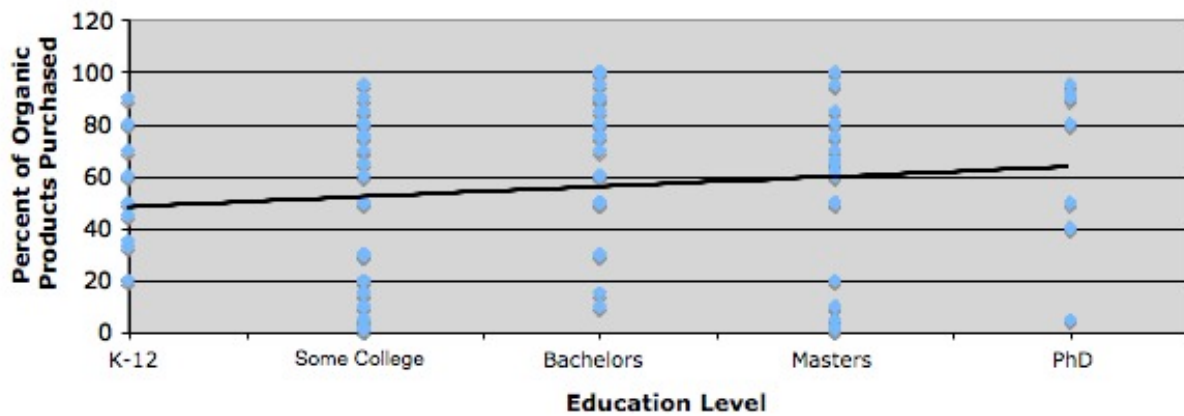
Percentage	Social Pressures	Pesticides	Taste	Health	Environmental	Availability
0-10%	33.3%	11.1%	11.1%	33.3%	0%	11.1%
10-30%	30.8%	15.4%	7.7%	15.4%	23.1%	7.7%
30-50%	11.1%	0%	0%	55.6%	33.3%	0%
50-75%	12.5%	33.3%	16.7%	20.8%	16.7%	0%
75-100%	0%	20.6%	5.9%	52.9%	17.6%	2.9%

Comparing Percentage of Organic Products Purchased With Both Education and Income:

Education

Figure 1 shows the various percentages of organic foods purchased for each level of education. A regression analysis was conducted for this particular graph and an R square value of .018 was obtained. This suggests that there is no, correlation between the proportion of organic foods purchased and education level.

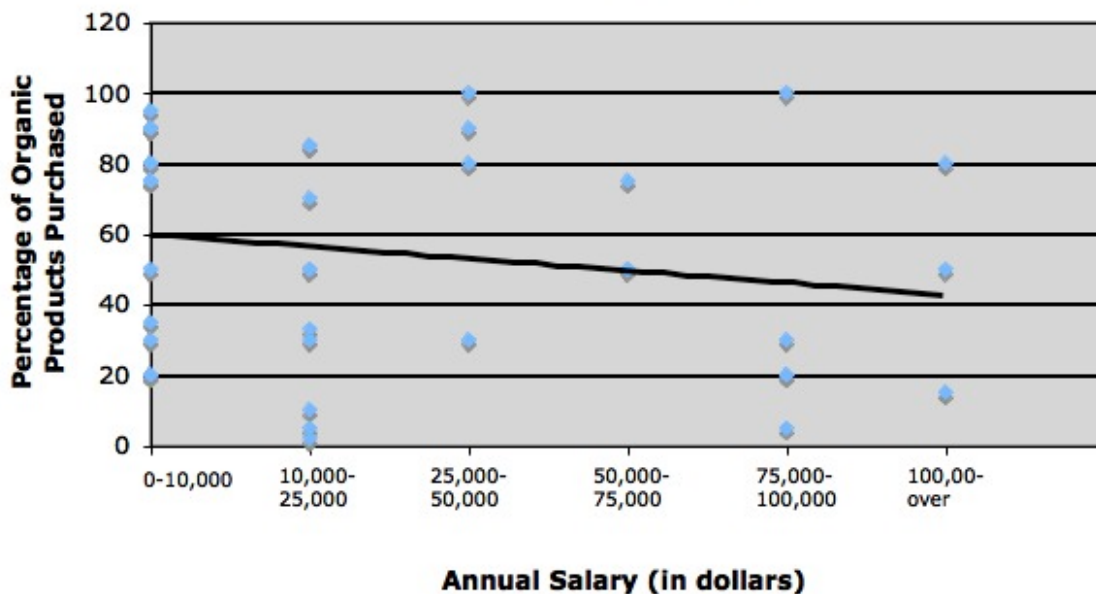
Figure 1. Correlation of Proportion of Organic Products Purchased with Highest Level of Education Completed. No Correlation found (R=.018)



Income

If you look at figure 2, the graph shows the various percentages of organic foods purchased for various annual incomes. A regression analysis was conducted for this particular graph and an R square value of .028 was obtained. This suggests that there is no correlation between the proportion of organic foods purchased and annual salary.

Fig 2. Correlation of Proportion of Organic Products Purchased with Annual Salary
No Correlation Found (R=.028)



Discussion

To answer the first hypothesis question regarding the identity of the modern organic consumer, I concluded that everyone is an organic consumer. Every subject that was randomly asked to participate and accepted, was an organic consumer. The important issue here is to understand the different motivations for purchasing organic foods for every level of organic consumer. Whether it be a consumer who purchases less than one percent of his/hers groceries organic or one hundred percent of their groceries are organic.

From this study we have realized that among all organic consumers the most popular motivation for purchasing organic foods is health and not environmental reasons as I originally hypothesized. Which is in compliance with previous studies (Saba et al, 2002; Schifferstein & Oude Ophius, 1998; Magnusson et al, 1999). However, this motive does change when looking at different demographic characteristics. If you refer back to table 3, you will see that subjects who's total organic food purchases are less than thirty percent, were at least two and a half times more likely to purchase organic foods due to social pressures compared to subjects who's food purchases are more than thirty percent organic foods. If you look at subjects who purchase organic foods at the highest proportion bracket (75-100%), zero percent of subjects answered social pressures as their main motivation for purchasing organic foods. Referring now to table 2, you can see that health was the most popular motivation for purchasing organic foods among subjects in the two highest income brackets. Furthermore, subjects who were in the highest income bracket are two times more likely to purchase organic foods due to environmental reasons compared to any other income bracket. Referring now to table 1, you can see that subjects who have completed some college or less are at least three times more likely to purchase organic foods due to social pressures compared to subjects who have completed a bachelors or higher. Also, subjects who have completed a PhD are the most likely to purchase organic foods due to environmental reasons.

Understanding the various motivations for purchasing organic foods based on various demographic characteristics is essential when creating a marketing strategy. By knowing the motivations behind the purchase, organic farmers or organic food distributors can better understand what aspects of organic foods to emphasize when trying to target a specific demographic.

It was surprising to find no correlation between the proportion of organic foods purchased and income. I originally hypothesized that there would be a positive correlation considering the higher price of organic products. This is an important finding because the high price of organic foods could discourage producers or grocery stores from offering organic foods in low-income areas.

However, this finding could potentially be misleading. This study included thirty-three subjects who were fifty years or older and twenty-three subjects were 18-25 years old. Having such a high number of older and younger subjects can affect the results because older subjects

could be retired, meaning their annual salary is not an accurate representation of their actual financial status. The same could be said for younger subjects, who could potentially be in college or live at home. If this study were to be repeated, results could be improved if there are further questions regarding income. For example including a question regarding their employment status rather than only income.

Another important finding from this study was the lack of correlation between proportion of organic foods purchased and education level. I originally hypothesized there would be a positive correlation, but as you can see in figure 1 there is no correlation. Previous research has shown that education and organic consumption has been positively correlated (Stochlic 2005). However, it is important to know that my study was only intended for organic consumers and also looked at proportion of organic foods purchased. Meaning that while people who have a higher education may be more likely to be a consumer of organic foods, but among organic consumers, education level does not affect the proportion they purchase. These results could explain why organic foods are offered in such a wide spectrum of grocery stores, from Wal-Mart to Whole Foods. Since organic foods have become so popular, now the question is what caused organics to go from a niche market to the commercial success it has become? Where are people obtaining their information? What has been the best tool to inform and motivate consumers to pay more?

Other interesting results found in this study relate to subject's perception of what being organic entails. Eighty-three percent of all subjects said they felt safer eating organic products compared to conventional. This is in compliance with previous studies that have also found a growing mistrust with today's conventionally grown foods (Ipsos-Reid 2000). Many studies have found that this growing mistrust is due to pesticide residues, which may be true for subjects in this study, but cannot be concluded because subjects were not asked why they felt safer eating organic products. If this study were to be conducted again, it could be beneficial to ask "why" subjects feel safer eating organic foods compared to conventional.

Like many other similar studies, a majority of subjects in this study (64%), felt that organic foods were more nutritious than conventional foods. Even though scientific research has found a higher level of nutritional value in organic produce, it is not significantly higher and is not certain if this higher level of nutrition makes a difference at the point of consumption (Shahla M. et al. 2008).

In conclusion it is important to note that health was the main motive for purchasing organic foods, but according to the Organic Trade Organization (OTA), there is no difference between organic and conventional. The only difference is how they were grown. Meaning they do not advocate organics as being better for your health. Which brings up another question, do organic consumers know exactly what they are paying for and is a new ad campaign necessary? Fifty-nine percent of subjects in this study believed organic only meant not having pesticides. If more than half of organic consumers believe organic only means not having pesticides will they be open to genetically modified (GM) foods? Since health was the main motivation for purchasing organic foods and many studies have shown that consumers are more concerned about pesticide residue than mad cow disease (Tucker M. et al. 2006), further research should be made on the social acceptance of GM foods in the United States.

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