

Factors influencing bottled water drinking behavior

A survey on factors that shape people's beliefs on bottled water and tap water

Zeyu Yao

4/28/2011

This paper studies the factors influencing bottled water drinking behavior, including physical location, education and impersonal and interpersonal source of information. This study aims to find correlations between these factors and bottled water drinking behavior. Current college students or recent college graduates are given a survey to evaluate the quality of tap water of the cities they lived, their bottled water drinking behavior, and their beliefs on bottled water and tap water and also that of their primary caretakers. An analysis of the responses shows that impersonal source of information (mainly mass media) and physical education are only weakly associated with bottled water drinking behavior, whereas interpersonal source of information and education are much stronger of an influence of bottled water drinking behavior.

KEY WORDS: BOTTLED WATER AND TAP WATER, BEHAVIOR, PHYSICAL LOCATION, ENVIRONMENTAL EDUCATION, IMPERSONAL AND INTERPERSONAL INFORMATION

INTRODUCTION

In 2004, the world consumption of Bottled Water reached 154 billion liters (41 billion gallons), and Americans alone consumed 26 billion liters (Arnold, 2006). Since then, the demand for bottled water has been increasing, even in places where tap water is safe to drink (Emily & Janet, 2006). Consumers choose to drink bottled water for several reasons. In many cases, it is because the consumers think bottled water tastes better than tap water, which they think is a sign for better quality. Furthermore, consumers are very health conscious, so they perceive bottled water as safer and of better quality (Ferrier, 2001). The increasing usage of bottled water represents a change in ways of life, for example, the increasing urbanization deteriorates the quality of tap water, but at the same time, the increasing standard of living enables people to drive far and bring home heavy and expensive bottled water (Ferrier, 2001).

Although bottled water is a huge market success, it is not a sustainable solution for the global community due to the massive amount of fossil fuel burning required for transportation and packaging (Emily & Janet, 2006). Furthermore, the bottles degrade slowly, and incinerating used bottles can produce toxic byproducts. Therefore, it is necessary to investigate consumer's behavior – why some people think bottled water is better than tap water and some think otherwise, and especially the factors that shape such behavior. In a 1993 poll of people who drink bottled water, it was found that 35 percent of people chose bottled water because of concern of tap water quality, and 12 percent chose bottled water because of both health concerns and desire for a substitute for other beverages. Another 35 percent drank bottled water as a substitute for soft drinks and other beverages. The last 7 percent chose bottled water for other reasons such as taste and convenience (Olson, 1999). This study shows that a leading reason for the explosion in bottled water consumption is people's perception of bottled water as purer and

healthier. And this is largely caused by the heavy industry advertisement of bottled water being pure and pristine, and is healthier than tap water (Olson, 1999).

One of the factors that contribute to the consumption of bottled water is the dissatisfaction with tap water organoleptics (i.e. sensorial information from taste, odor, color and turbidity) (Doria, Bottled water versus tap water: understanding consumers' preferences, 2006). Although sensory information is often interrelated, the relative importance attributed to each of the sense varies according to time and culture (Doria, Factors influencing public perception of drinking water quality, 2010). For example, in western countries, water taste is usually identified as more important than odor or appearance (Doria, Factors influencing public perception of drinking water quality, 2010). Also, the importance of organoleptics (in this case, taste) is found in survey conducted in several Canadian regions and France (Doria, Bottled water versus tap water: understanding consumers' preferences, 2006).

Other than organoleptics, Doria (2010) investigated a variety of factors that influence perceptions of water quality. These factors include risk perception, attitude towards water chemicals, contextual cues provided by the supply system, familiarity with specific water properties, trust in suppliers, past problems attributed to water quality and information provided by the mass media and interpersonal sources. A study by Johnson (2003) on risk beliefs found that the beliefs that there are serious environmental health problems in the places where respondents live and there is low personal control over their own health risks play an important role in personal concern about drinking water risks (Doria, Factors influencing public perception of drinking water quality, 2010). It is thus not surprising to find that the consumption of bottled water is sometimes higher in communities that have serious problems with their tap water (Doria, Bottled water versus tap water: understanding consumers' preferences, 2006). They study by

Doria (2010) also found that although almost all the respondents (88%) would like the water quality reports to include both detected and undetected substances in drinking water, and that 80% of the respondents wanted to know the specific sources of contaminants in their water, the water quality reports overall had very modest effects on shifting the respondents' evaluations of water quality and utility performance (Johnson, 2003). As mentioned above, consumers are very health conscious, and therefore they tend to emphasize the importance of exposure to chemicals irrespective of the dose (Doria, Factors influencing public perception of drinking water quality, 2010). Compared to toxicologists, the lay public is more likely to agree that the simple reduction of a chemical in drinking water does not necessarily imply that the risks are also reduced; as a consequent, the public tends to be much pessimistic about the potential risks of chemicals and more skeptical about their benefits (Doria, Factors influencing public perception of drinking water quality, 2010).

In addition to organoleptics and risk/health concerns, there are several other factors in the study by Doria (2010) that have not been considered very much in previous studies. It is found that context can provide indirect information about water quality, and that the contextual cues are interpreted from prior experience and can lead to expectations that will strongly influence perception (Doria, Factors influencing public perception of drinking water quality, 2010). In the case of drinking water, contextual cues can be derived from taps, water pipes, bottles and the characteristics of the place where water is consumed, etc. (Doria, Factors influencing public perception of drinking water quality, 2010). However, public knowledge about water sources is often limited, therefore knowledge about the place where drinking water is abstracted seems to be weakly associated with perceptions of quality and risk (Doria, Factors influencing public perception of drinking water quality, 2010). Prior personal experience can have a strong effect on

perceptions of water quality and risk, because people tend to prefer what they are used to, therefore, the acceptability of water with identical physicochemical compositions can vary geographically (Doria, Factors influencing public perception of drinking water quality, 2010).

Besides personal experience, impersonal and interpersonal experience can also influence perception and behavior (Doria, Factors influencing public perception of drinking water quality, 2010). Although the importance of particular information sources varies geographically and is influenced by demographics, mass media coverage is the main impersonal source of information that publicize uncommon events such as water risks, which then influences people's beliefs on tap water quality. However, the overall impact of the media on public perception is generally very limited, whereas the influence of interpersonal sources on perceptions and behavior seems to be stronger than that of mass-mediated sources (Doria, Factors influencing public perception of drinking water quality, 2010). This is because people do not draw personal implications from their general views of society (Park, Scherer, & Glynn, 2001). A number of demographic variables can also influence the bottled water usage, though the pattern seems to vary according to the region and country; such variables include ethnic group, age, income, occupation and gender (Doria, Bottled water versus tap water: understanding consumers' preferences, 2006). A study on differences in water consumption choices in Canada found that certain socio-demographic factors are important determinants of choices; for example, male respondents living in a household with children are more likely to consume filtered tap water or bottled water than male respondents that live in a household without children (Dupont, Adamowicz, & Krupnick, 2009). Different factors can have different degree of influence over people's perception and behavior. Age is often weakly associated with several variables; some studies found that younger respondents are more likely to perceive tap water as slightly riskier or less safe, while other

studies report that older respondents perceive tap water as riskier (Doria, Factors influencing public perception of drinking water quality, 2010). On the other hand, education and income were found to be inversely associated with the risk perception of drinking water (Doria, Factors influencing public perception of drinking water quality, 2010). More educated people are likely to attribute smaller risks to drinking water contamination, moreover, education influences the selection of environmental communication channels (Doria, Factors influencing public perception of drinking water quality, 2010).

Previous studies have investigated to some extent the behavior of bottled water consumers and the factors that shape their behavior. Most of the earlier studies were focused on factors such as organoleptics and risk/health concerns, with only limited amount of studies that focus on factors such as interpersonal information and demographics and cultural background. In order to understand the what factors are influencing people's beliefs and behavior, it is necessary to further investigate the influence of one's environmental background, such as demographics, education and physical location. This study aims to expand on the previous findings on the factors including impersonal and interpersonal experience, demographics and physical locations, with focus on impersonal and interpersonal sources (usually comprising family members and friends), education and physical location. This study is accomplished by surveying groups of people under the age of thirty from different environmental background, and then comparing their behaviors.

HYPOTHESES

1. Impersonal information: It is predicted that the people who acquired their beliefs based on environmental related class and government pamphlet tend to drink less bottled water than those who based their beliefs on advertisement (TV, magazine, internet, etc.)
2. Education: the more education on tap water quality received leads to “greener” behaviors. The respondent and his or her caretakers can make better decision on whether to drink bottled water or tap water if they have received information on the tap water quality of the community, or education on plastic bottle pollution on the environment.
3. Interpersonal information: the beliefs of the respondent and that of their caretakers should be consistent, especially if the respondent acquired his or her beliefs from the caretaker. Inconsistency may due to the difference in education received, for example, the respondent has received environmental education in high school or college and thus acquired different beliefs than their caretakers’.
4. Physical location: the beliefs of the respondent on bottled water and tap water are strongly influenced by the tap water quality of the city in which the respondent grew up. If the respondent spends a long time in a place that has poor tap water quality, he or she tends to drink more bottled water, and vice versa.

METHOD

Design: This experiment used a survey. The independent variables were impersonal information, interpersonal information, educational background and physical location of the respondents. The dependent variable was the respondent's behavior towards bottled water drinking. Impersonal source of information consists of mass media such as newspapers, television, etc. Impersonal information is said to have influence on beliefs at the societal level but not at the personal level,

therefore people tend not to draw personal implications from information advertised in mass media (Park, Scherer, & Glynn, 2001). This study will test the strength of influence it has on the respondents' behavior. In this study, impersonal sources of information used to measure behavior are mainly television and internet. Interpersonal information is comprised of family members and friends. It has influence on beliefs at the personal level but not at the societal level, and this study will test the strength of its influence on the respondents' behavior and compare it to that of impersonal information (Doria, Factors influencing public perception of drinking water quality, 2010). Education can influence people's behavior because people at different educational levels have different extent of knowledge on the subject of bottled water and tap water, and they tend to choose different source of information. In this study, education level is measured by asking the respondents their main source(s) of information. Physical location influences people's beliefs on bottled water and tap water since the quality of tap water varies in different locations, and that people living in different places can possess different standard of quality of tap water.

In this study, only behavior of the respondent is measured. It must be recognized that behavior does not always reflect attitude, but for the purpose of this study, it is assumed that the behavior and attitude of the respondent are consistent. There may be coverage error because all the people sampled are either current college students or college graduates, so they do not represent all the populations from different cultural and educational background. However, if the study is limited to college students and recent graduates specifically, the coverage error could be eliminated. Lastly, there could also be nonresponse error, which results in a too small size of sample.

Apparatus/setting: The survey was designed to have three sections. The first section collects general information, such as the frequency one drinks bottled water and tap water, the factor that determines preference. The second section measures how physical location, education and impersonal information shape one's behavior. The respondents are asked to rate the tap water quality of the cities in which they have lived. They are also asked questions on their beliefs on bottled water and tap water, and also where they acquired such beliefs. The third section measures how interpersonal information shapes one's behavior. The respondents are asked the frequency their primary caretakers drink bottled water and tap water, their beliefs on bottled water and tap water, and where they acquired such beliefs.

Participants: respondents are either current college students or recent college graduates, and have lived in more than one city. The respondents are chosen randomly among people I know. They have lived in different countries and cities, and are specialized in different fields. The participants were told that the survey is for the research project of my class, the project concerns bottled water and tap water, but they were not told the specific purpose of the study to avoid any bias in the response.

Procedure: The respondents are told to complete a survey for a research project concerning people's behavior on bottled water and tap water. They answered the survey questions without knowing what will be measured for this study.

Analysis of survey:

1. The influence of impersonal source of information is measured by comparing behavior (drink or not drink bottled water) of people who acquired their beliefs from

mass media and that of those who acquired their beliefs from sources other than mass media.

2. The influence of education is measured by comparing behavior (drink or not drink bottled water) of people who have received environmental education before and that of those who have not received any environmental education.
3. The influence of interpersonal source of information is measured by comparing the response of the respondents and that of their primary caretakers on certain chosen survey questions regarding the quality of bottled water and tap water.
4. The influence of physical location is measured by plotting the score given by the respondents on the tap water quality of the cities where they lived and the respondents' behavior (drink or not drink bottled water) and find the correlation between the two variables.

RESULTS

1. Impersonal sources

Figure 1 presents the influence of advertisement (TV, magazine, internet, etc.) on bottled water drinking behavior. There are 17 respondents in total.

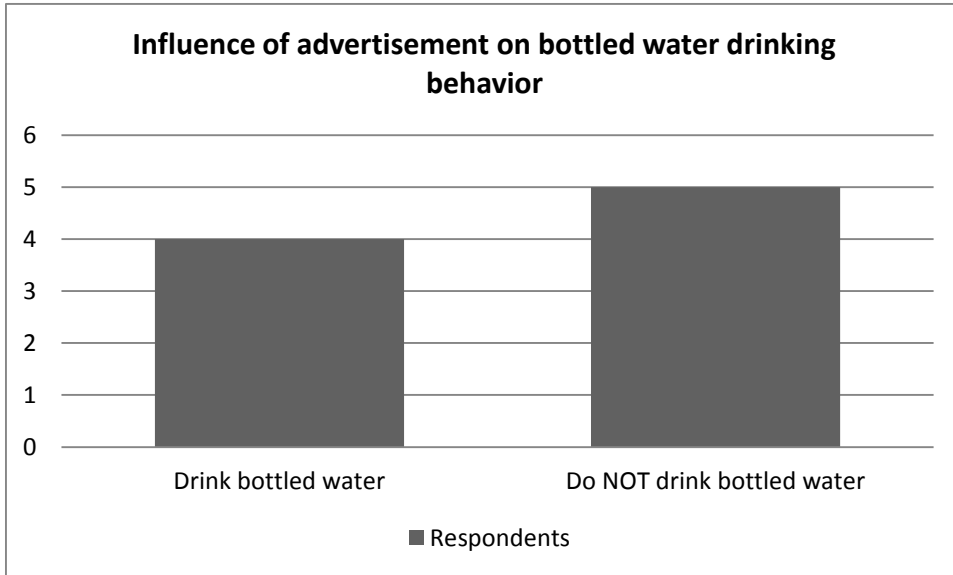


Figure 1

2. Education

Figure 2 presents the influence of environmental education (environmental related classes/seminar/presentation/etc.) on bottled water drinking behavior. There are 17 respondents in total

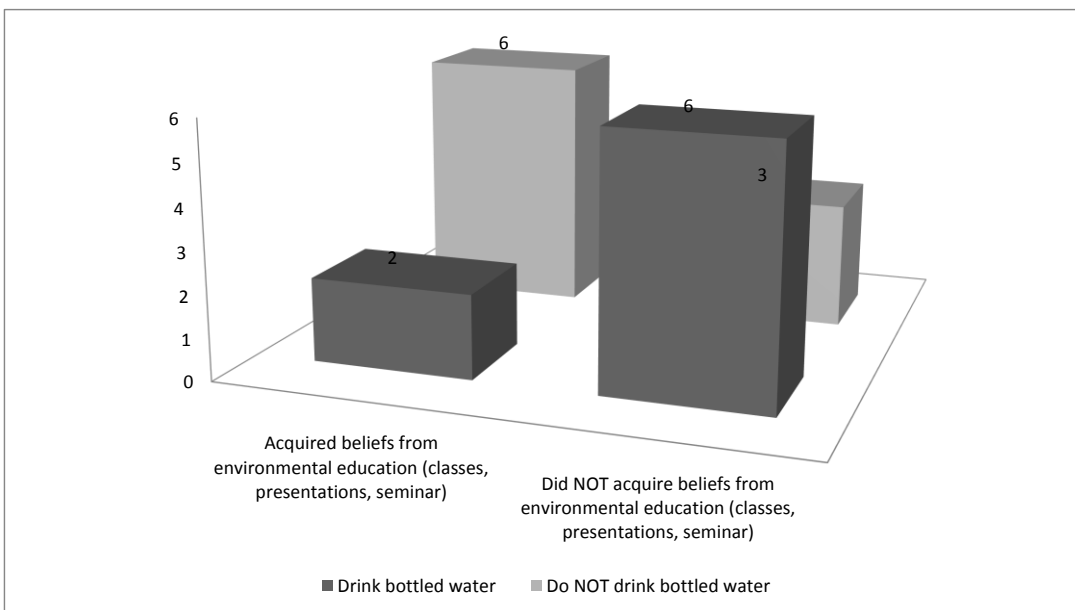


Figure 2

3. Interpersonal sources

Table 1 and table 2 present the consistency between the beliefs of the respondents and their caretakers. There are 17 respondents in total.

		Bottled water is safer (better disinfected)		
		Respondent		
		Agree	Unsure	Disagree
Bottled water is safer (better disinfected) Caretaker	Agree	5	1	1
	Unsure	0	3	0
	Disagree	0	2	5

Table 1

		Tap water produces less waste		
		Respondent		
		Agree	Unsure	Disagree
Tap water produces less waste Caretaker	Agree	9	1	0
	Unsure	2	1	0
	Disagree	3	1	0

Table 2

Figure 3 and figure 4 provide a graphical presentation of the consistency between the beliefs of the respondents and their caretakers

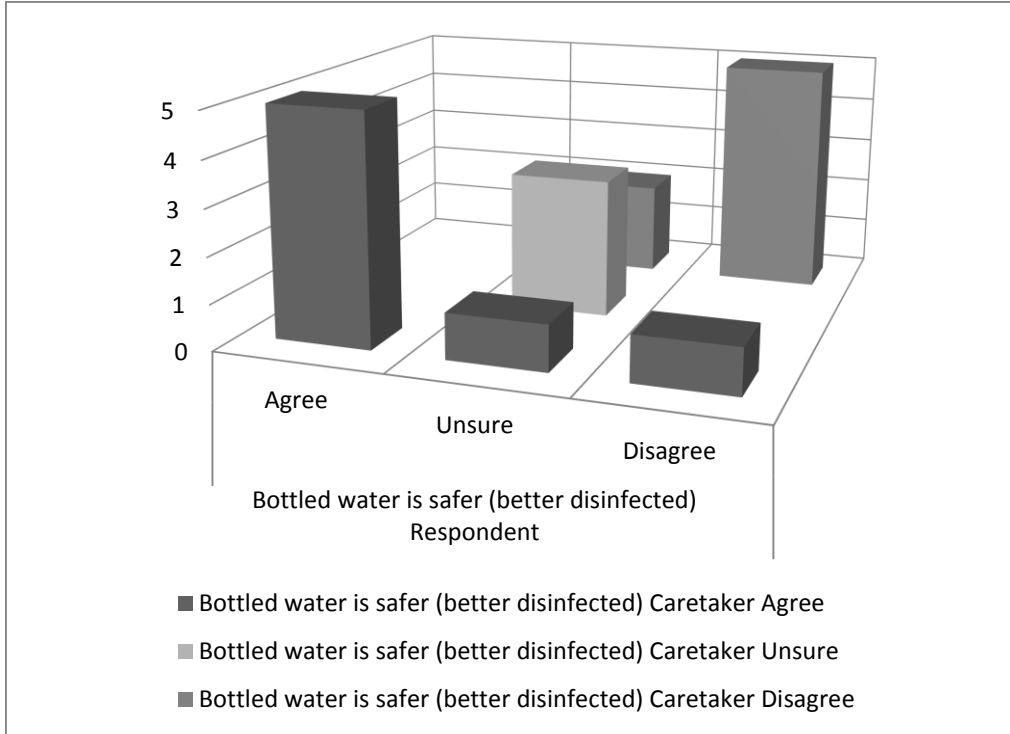


Figure 3 "Bottled water is Safer (better disinfected)"

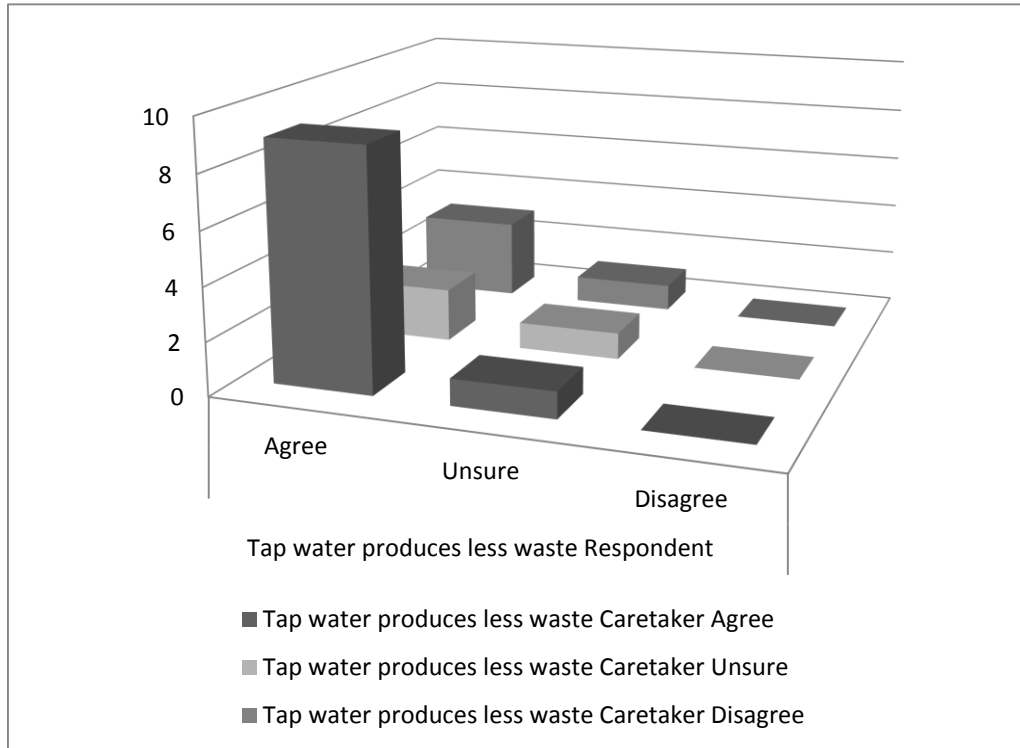


Figure 4 "Tap water produces less waste"

4. Physical location

Figure 5 presents the tap water quality of the city and the bottled water drinking behavior of the respondent

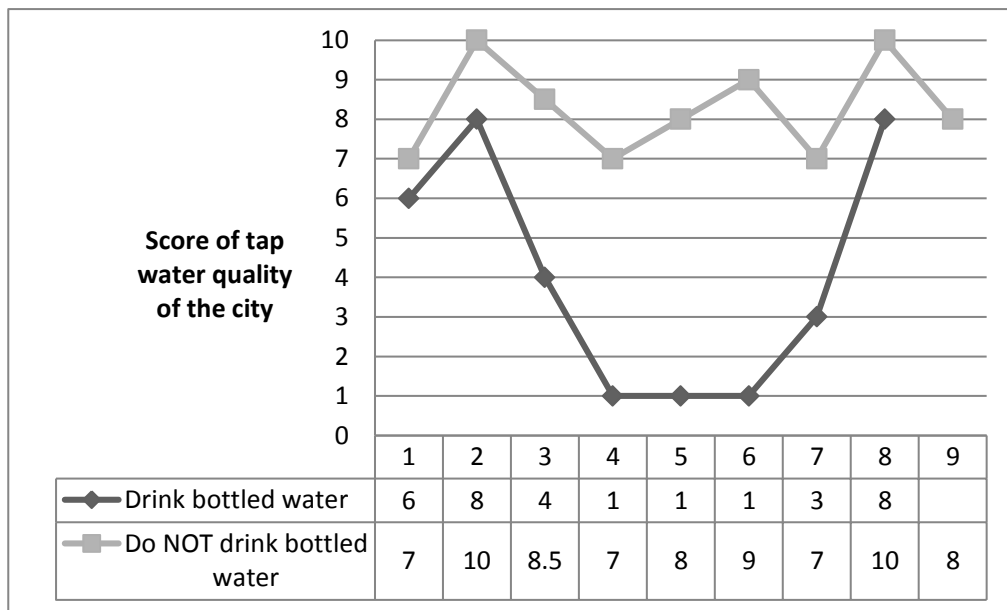


Figure 5

DISCUSSION

The responses of this study support the findings of Doria (2010) and Park, Scherer, & Glynn (2001), that the influence of impersonal source of information and physical location on bottled water drinking behavior is less than that of interpersonal source of information and education. As figure 1 indicates, mass media does not have significant influence on the behavior of the respondents. Among the nine respondents who acquired their beliefs from mass media, 4 of them reported that they drink bottled water, and five reported they do not drink bottled water. This result supports the study of Park, Scherer, & Glynn (2001) that people's beliefs are not

influenced much by the general views of the society. However, it is important to note that even though the data show that mass media does not have a direct influence on bottled water drinking behavior, the respondents who acquired beliefs from mass media but does *not* drink bottled water are likely to have also acquired their beliefs from other sources, especially environmental education.

Physical location only has influence on bottled water drinking behavior if the behavior is “do not drink bottled water”, because the respondents that do not drink bottled water tend to have a high score for the water quality of the city where they lived. There is no direct link between physical location and the behavior if the respondent *drinks* bottled water. Although about 60% of respondents who drink bottled water have relatively low score for the water quality, the remaining 40% have relatively high score for the tap water quality. The findings support the study of Doria (2010) that people tend to prefer what they are used to, so the respondents who live in places that have good tap water quality tend to drink more tap water. However, the tap water quality of the place where the respondents live is only weakly associated with their bottled water drinking behavior, because factors such as social and economic status could potentially influence personal preference.

On the other hand, the link between education and interpersonal source of information and bottled water drinking behavior is much stronger. The data (figure 2) show that 75% of the respondents who have acquired beliefs from environmental education do *not* drink bottled water and 70% of those who did *not* acquire their beliefs from environmental education *do* drink bottled water, which indicates a strong positive correlation between environmental education and bottled water drinking behavior. Nevertheless, there are still cases where the influence of environmental education on behavior is not very clear due to several reasons. Firstly, there are

respondents who have not received any environmental education but still choose not to drink bottled water. For these respondents, the score for tap water quality of the primary city (the city where they lived the longest) is generally high, and their primary caretaker is more likely to prefer tap water over bottled water. There are also respondents who have received environmental education but still choose to drink bottled water. These respondents tend to own a re-usable water bottle and use it several times per week if not every day, and therefore, bottled water is not their main source of drinking water.

The positive correlation is the strongest between interpersonal source of information and bottled water drinking behavior. The data show a strong consistency between the beliefs of the respondents and that of their primary caretakers. When being asked if bottled water is safer, there is 76% consistency between the respondents and their primary caretakers. The consistency is slightly lower, which is 60%, when they are asked if tap water produces less waste. Nearly all of the respondents agree with the statement that tap water produces less waste, with only 17% reported to be unsure, and no one disagreed. However, 24% of the primary caretakers are reported to disagree with that statement. The inconsistency between the beliefs of the respondents and their caretakers could be caused by environmental education or the lack of, because none of the parents acquired beliefs from environmental education (class/seminar/etc.), whereas the respondents have learned that tap water produces less waste than bottled water from various sources.

Based on the data, education and interpersonal source of information have much more influence than impersonal source of information and physical location over bottled water drinking behavior, and the results supports the findings of Dori (2010) and Park, Scherer & Glynn (2001). However, the factors that have influence over behavior are often interrelated,

therefore it is rather difficult to study them as individual factors. In this study and also previous studies, it is shown that the influence of impersonal source of information can be affected by education, because education can influence the selection of environmental communication channels, and a person with more knowledge has more control over his or her own health risks (Doria, Factors influencing public perception of drinking water quality, 2010). Also, interpersonal source of information can influence the respondents differently depending on their educational level (whether received environmental education or not), because the respondents and their caretakers do not have the amount of environmental knowledge – the respondents tend to have learned more about the environment, especially students from Cornell University, where the issue of sustainable future is very salient. Aside from the four factors mentioned in this study, there are many other factors such as gender, cultural background that could potentially influence one's bottled water drinking behavior. In future studies on factors influencing bottled water drinking behavior, it is important to test the influence of each factor independently and also combined. Also important to incorporate in future studies are the style of environmental education and best age to give such education, for example, whether an environmental lecture or regular outdoor education is better, and whether it is better to give the lecture or course to a certain grade or continue throughout four years of high school or middle school. Finally, this study assumed that the behavior and attitude of the respondents are consistent, however, this may not always be true. A future study could investigate the possible inconsistency between one's attitude and behavior, for example, a person is aware of the potential pollution caused by plastic water bottles, but he or she still chooses to drink bottled water knowing the fact that such action is harmful to the environment.

There are a number of improvements to this study. The most important improvement would be an expansion on the sample size to eliminate coverage error. In this study, the majority of the respondents are students of Cornell University, but Cornell University is one the most “green” universities of the country, therefore to increase the validity of the study, respondents should be chosen randomly from universities or colleges, also chosen randomly across the United States. In addition, the survey questions are needed to be revised; the questions regarding the beliefs of the respondents and that of their caretakers should be the same so the analysis of the influence of interpersonal source of information would be more accurate. Finally, it would improve the results of the study if the beliefs of the primary caretakers are not obtained from the respondents, but through direct interview with the caretakers. Although in this study, it is assumed that the respondents were familiar with the beliefs of their caretakers, it is also possible that they were unsure, which could bias the results.

REFERENCES

- Arnold, E. (2006, February 2). *BOTTLED WATER: Pouring Resources Down the Drain*. Retrieved April 22, 2011, from earth-policy.org: http://www.earth-policy.org/Updates/2006/Update51_printable.htm (6 de 7)25/02/2006 18:52:45
- Doria, M. d. (2006). Bottled water versus tap water: understanding consumers' preferences. *Journal of Water and Health*, 271-276.
- Doria, M. d. (2010). Factors influencing public perception of drinking water quality. *Water Policy*, 1-19.
- Dupont, D., Adamowicz, W. L., & Krupnick, A. (2009). *Differences in Water Consumption Choices in Cadana: the Role of Socio-demographics, Experiences, and Perceptions of Health Risks*.
- Emily, A., & Janet, L. (2006, February 02). *Plan B Updates*. Retrieved March 13, 2011, from Earth Policy Institute: http://www.earth-policy.org/index.php?/plan_b_updates/2006/update51
- Ferrier, C. (2001, March). Bottled Water: Understanding a Social Phenomenon. *Ambio*, 30(2), 118-119.
- Johnson, B. B. (2003). Do reports on drinking water quality affect customers' concerns? Experiments in report content. *Risk Analysis*, 985-998.
- Olson, E. D. (1999). *Bottled Water: pure drink or pure hype?* California: NRDC Publications Department.
- Park, E., Scherer, C. W., & Glynn, C. J. (2001). Community involvement and risk perception at personal and societal levels. *Health, Risk & Society*, 281-292.

Appendix I:

DEA1501 Research Survey

1. Your age _____
2. Do you drink bottled water? YES/NO

If Yes, how often? (**20 fl. Oz** bottle)

- A. 1-3 bottles/week
- B. 4-7bottles/week
- C. 8-12 bottles/week
- D. 13 and more bottles/week

If yes, because bottled water is (Choose more than one if necessary):

- A. Convenient
- B. Tastes better
- C. Healthier
- D. Other _____

OR

- E. I forgot to bring a water bottle to refill it with tap water

3. If you were to drink bottled water, choose from below the brand(s) you prefer (circle **all that you prefer**)?

Aquafina® Dasani® Poland Spring® Nestlé® Evian®

Deer Park® Fiji® Other _____

4. What is the most important factor in determining preference?

- A. Taste
- B. Design of bottle
- C. Source of water
- D. Other _____

5. Do you use re-usable water bottles or re-use the plastic bottle that you previously purchased? _____

What kind?

- A. PET bottle (used for water, juice, soda, can only be used once)
- B. BPA-free plastic bottle (does NOT leach BPA , not toxic)
- C. Aluminum bottle (ex. Sigg)
- D. Stainless steel bottle

6. How often do you use your water bottle?

- A. Less than once/week
- B. Once/week
- C. 2-3 times/week
- D. 4-6 times/week
- E. Everyday
- F. Other _____

PLEASE READ BEFORE COMPLETING THE REST OF THE SURVEY:
TAP WATER = **FILTERED** TAP WATER

Section 1

1. Where are you from (provide all the cities that you have lived in before)?

Primary city _____ Length _____

Other City 1 _____ Length _____

Other City 2 _____ Length _____

2. Rate the tap water quality of that city (1 – extremely bad, 10 – extremely good)

Primary city: 1 2 3 4 5 6 7 8 9 10

Other City 1: 1 2 3 4 5 6 7 8 9 10

Other City 2: 1 2 3 4 5 6 7 8 9 10

3. A range of opinions exists about tap water quality vs. bottled water quality. Please indicate the extent to which you agree or disagree with each of the following statements by using the scale below

- SA – Strongly Agree
- MA – Mildly Agree
- U – Undecided or unsure
- MD – Mildly Disagree
- SD – Strongly Disagree

Statements:

1. Bottled water is better than tap water because it doesn't have weird taste
SA MA U MD SD
2. It is healthier to drink tap water because it contains less toxic chemicals
SA MA U MD SD
3. Bottled water is safe to drink because it does not contain toxic chemicals
SA MA U MD SD
4. I like tap water more because it tastes better than bottled water
SA MA U MD SD
5. Un-reusable water bottles can pollute the environment
SA MA U MD SD
6. Drinking bottled water is not harming the environment because the bottles do NOT leach toxic chemicals
SA MA U MD SD
7. The quality of tap water is better because the regulation of tap water is stricter than that of bottled water
SA MA U MD SD
8. It is safer to drink bottled water because the water is sterilized thoroughly
SA MA U MD SD
9. Bottled water is more convenient
SA MA U MD SD
10. Tap water produces less waste
SA MA U MD SD
11. Bottled water generate more waste than tap water
SA MA U MD SD
12. Bottled water is more accessible than tap water
SA MA U MD SD
13. It is easy to find a water fountain where I work/study
SA MA U MD SD
14. Tap water is cheaper than bottled water
SA MA U MD SD
15. Bottled water is not as expensive as tap water
SA MA U MD SD

4. Where did you acquire your beliefs on bottled water/tap water? (**circle all that apply**)
- A. Government pamphlet
 - B. Environmental science or any environment related class/seminar in college
 - C. Advertisement (TV, magazine, internet, etc.)
 - D. Parents/family members
 - E. Friends
 - F. Books/articles
 - G. Classes in high school/elementary school
 - H. Other _____

Please elaborate on your choice:

1. What are the beliefs that you learned from these sources?

-
-
2. At what age did you acquire these beliefs? _____
 3. Did you change your beliefs on tap/bottled water? What made them change? _____
-
-
-

Section 2

1. How often does your primary caretaker (ex. parent) drink bottled water?
 - A. 1-3 bottles/week
 - B. 4-7bottles/week
 - C. 8-12 bottles/week
 - D. 13 and more bottles/week

2. How often does your primary caretaker drink tap water?
 - A. Once in a while (a month or more)
 - B. 2-3 time/week
 - C. 4-6 times/week
 - D. All the time
 - E. Only when we run out of bottled water

3. Do you drink bottled water at home? **Yes/No**

If yes, how often?
 - A. Once in a while (a month or more)
 - B. 2-3 times/week
 - C. 4-6 times/week
 - D. All the time
 - E. Only when we need to change filter or the filter is broken

4. What are your parents' beliefs on bottled water? Please indicate the extent to which you agree or disagree with each of the following statements by using the scale below
 - SA – Strongly Agree
 - MA – Mildly Agree
 - U – Undecided or unsure
 - MD – Mildly Disagree
 - SD – Strongly Disagree

Statements:

16. My parents think bottled water tastes better than tap water
 SA MA U MD SD
17. Comparing to bottled water, my parents think that tap water has a better taste
 SA MA U MD SD
18. My parents do NOT like to use reusable water bottle because they think the bottle can leach chemicals
 SA MA U MD SD
19. They drink tap water because they think the bottle of bottled water contains toxic chemicals
 SA MA U MD SD
20. My parents think tap water has better quality because it contains less bacteria
 SA MA U MD SD
21. My parents think bottled water has better quality because it is well disinfected
 SA MA U MD SD
22. My parents think the source of water of bottled water is more reliable
 SA MA U MD SD
23. My parents do NOT drink bottled water because they do not trust the advertised source of water
 SA MA U MD SD
24. They prefer bottled water because it is very convenient
 SA MA U MD SD
25. They prefer tap water because it produces less waste
 SA MA U MD SD
26. They think that bottled water generate more waste than tap water
 SA MA U MD SD

5. How did they acquire these beliefs?

- A. Government pamphlet
- B. Advertisement (TV, magazine, internet, etc.)
- C. Environment related class/seminar
- D. Friends
- E. Books/articles
- F. Other family members

Where did they acquire their beliefs _____

- G. Others _____

Please leave any comment you have: