

PLASTIC BOTTLED WATER CONSUMPTION IN THE US vs. AUSTRALIA

Melanie Frank
ENVS 400: Thesis Spring 2012

OVERVIEW

- Both the US & Australia are industrialized countries with some of highest quality and affordable tap water in the world
- The United States is one of the biggest consumers of bottled water**
- The life cycle of bottled water (production, transportation and disposal) is inefficient, costly, and is associated with many negative environmental concerns
 - Production and transportation of bottled water creates a vast amount of GHG pollution
 - More than half of it is not recycled adding to the plastic waste in landfills
 - Plastic bottled water cost **as much money as a liter of gasoline**
- My goal** is to understand what goes into the American and Australian consumer choice when it comes to deciding between the tap or plastic bottled water
- I analyze how marketing, advertising, & anti-bottled water/pro-tap campaigns impact the consumers' choice.
- I want to know how aware consumers are about the products they are choosing & how effective anti-bottled water campaigns are compared to the marketing for advertisements at spreading their awareness. My research questions are as follows:

RESEARCH QUESTIONS

- What is the difference between the amount of bottled water vs. tap being consumed between each country? Who is consuming more and who is consuming less?
- What choices are the consumers making when it comes to purchasing plastic bottled water?
- Which country is more aware about the negative facts of consuming bottled water and how are they receiving this information- Is it different between countries? Why?
- Are people aware of the water campaigns going on in their countries? In their respective countries, how effective are anti-bottled water campaigns at increasing awareness of the adverse environmental impact bottled water production/consumption creates



Table 3: Bivariate Correlation Test and Independent Sample T-Test Results From Survey Question: *What is the most frequent source of what that you drink?* (0 = Bottled water, 1= Not bottled water/tap)

Statistical Analysis Test of Awareness vs. Country	Statistical Results
Bivariate Pearson Correlation	0.169**
Statistical Significance (2-tail sig. (p< 0.05)	0.002**

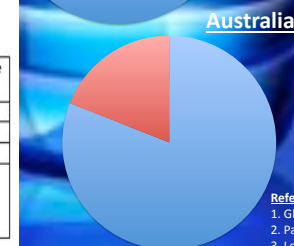
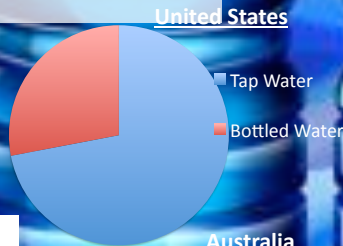


Table 6: Results From Survey Question: *How aware are you of anti-bottled water campaigns going on within your country?* (0= Not aware, 1= Somewhat aware, 2= Very aware)

Awareness	United States	Australia	Statistical Significance (2-tail sig. (p< 0.05)
Not Aware	0.60	0.47	*0.020
Somewhat Aware	0.36	0.39	0.544
Very Aware	0.04	0.14	**0.004

** = Strong statistical significance * = Weak statistical Significance NO * = No statistical significance Results from an Independent T-test

PROCEDURE

PRE AUSTRALIA: Fall 2010

- Conducted preliminary researching on the internet about bottled water consumption in the US & Australia
- Created an online survey with 10 multiple choice & short answer questions focused on bottled water vs. tap consumption, awareness, and demographics that would be distributed throughout Australia

SEMESTER IN AUSTRALIA: Spring 2011

- Most of my observational research was done in & around Brisbane & Sydney, Australia between 1/15/2011 - 4/22/2011
- Distributed my **online survey**
 - Distributed survey through the internet as well as snowball sampling from previous participants
 - Collected **189 surveys** across Australia
- Conducted an **interview with Huw Kingston**, the leader of the campaign to make Bundanoon NSW, Australia **1st town in the world to go bottled water free**
- Took observational data that related to bottled water consumption
- Collected Australian bottled water advertisement and labels



POST AUSTRALIA: Fall 2011- Spring 2012

- Adjusted my online survey and distributed it online in the US
 - Collected **134 surveys** across the US
- Continued my research on bottled water consumption in both countries
- Collected US bottled water advertisement and labels
- Ran statistical analysis with SPSS on both survey data results
- Analyzed survey results and compared/contrasted advertisements from both countries

RESULTS OF ADVERTISEMENT & SURVEY DATA

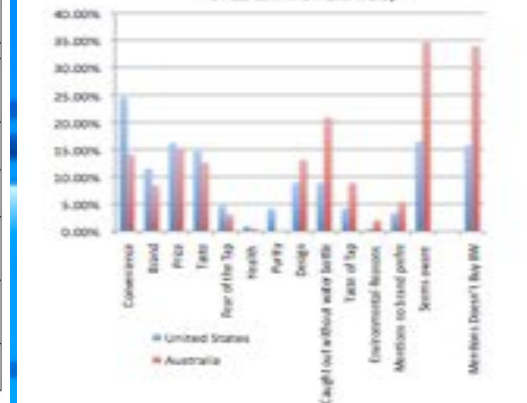
- The United States consumes more bottled water than Australia
- Both countries use similar peripheral based influential advertisement tools** to persuade the consumer to buy their bottled water products
- Compared to the Americans, Australians seem overall more aware of anti-bottled water campaigns going in within their country
- Anti-bottled water campaigns in Australia appear to be more influential than in the US

Table 4: Independent Sample T-Test Results From Survey Question: *How aware are you of any anti-bottled water campaigns/protest going on within your country?* (0 = Not aware, 1= Somewhat aware, 2= Very aware)

Consumer is Aware of...	United States	Australia	Statistical Significance (2-tail sig. (p< 0.05)
None	0.78	0.58	**0.000
Don't Know	0.10	0.07	0.255
Specific Anti-bottled water movement			
Community based anti-bottled water campaign	0.03	0.25	**0.000
College based anti-bottled water campaign	0.01	0.02	0.684
Media based anti-bottled water awareness campaigns	0.04	0.03	0.373
Specific movement (not based in media, community)	0.02	0.05	0.170

** = Strong statistical significance * = Weak statistical Significance NO * = No statistical significance Results from an Independent T-Test

Results from open-ended Survey Question: *Why do you like to buy the bottled water product that you do?* (Mean of 12 common answers)



References:

- Gleick, Peter H. 2010. *Bottled and Sold: The Story Behind Our Obsession with Bottled Water*. Washington, D.C: Island Press.
 - Pacific Institute, "Pacific Institute - Bottled Water and Energy," *Pacific Institute*, 2008, http://www.pacinst.org/topics/water_and_sustainability/bottled_water/bottled_water_and_energy.html.
 - Leonard, Annie. 2010a. *The Story of Bottled Water (2010) - YouTube*, <http://www.youtube.com/watch?v=Se12y9hSOM0>.
 - Union of Concerned Scientist. 2007. A World of Reasons to Ditch Bottled Water. *TreeHugger*. http://www.treehugger.com/files/2007/07/reasons_to_ditch_bottled_water.php.
- Acknowledgements: Thank you to Jim Proctor, Liz Safron, and the ENVS department for helping and guiding me with this research.