

## **Report for 2004DC58B: District of Columbia Drinking Water Blind Taste Testing Project**

There are no reported publications resulting from this project.

Report Follows

**University of the District of Columbia**



# **District of Columbia Drinking Water Blind Taste Testing**

**Annual Progress Report for FY 2004**

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**Date:** May 2005

**Prepared for the DC Water Resources Research Institute  
Funds provided by USGS through the US Department of Interior**

# **District of Columbia Drinking Water Blind Taste Testing Research Project**

## **Introduction**

The largest component of all living matter is water. The human body is approximately 60 to 70% water and 30% solids. However these figures vary with age and sex. Water is essential for many body functions. Water provides an aqueous medium for cellular metabolism, transports materials to and from cells, acts as a solvent, regulates body temperature, maintains the vascular blood volume, aids in the digestion of food, maintains the chemical and physical constancy of the intracellular and extracellular fluids, and aids in the excretion of waste from the body. Body water balance is essential for good health. Water imbalances may lead to overload or dehydration. Water distribution in the adult body consists of: 30% extracellular fluid (6% plasma, 24% tissue space) and 70% intracellular fluid. A human being deprived of water (fluid) cannot live for long. Without water (fluid) the skin becomes dry and cracks, temperatures soars to burning heights, the mind deteriorates, and cells shrivel.

The question consumers are most often faced with is “Is your water safe? Consumers use many different filtering processes to affect water taste and make the water safe for use such as: shower filters, water filters, water purifiers, water distillers, water ionizer, water coolers, counter top ultra violet water sterilizer system, counter top water distiller, counter top true ionized water ionizer, refrigerator ice and water filters, whole house water treatment system, and whole house water filtration. One of the important elements affecting water taste is the amount of chlorine added to the water supply.

An average, healthy person should take in approximately 2600 milliliters of fluid per day to meet the body's water requirements. A standard calculation for water requirements is 30 milliliters per kilogram of body weight. In order to calculate body weight in kilograms, divide the individual's body weight by 2.2. This research project sought to gather information on consumers' preferences and consumption of drinking water; specifically, District's tap water.

### **Goal and Objectives**

The overall goal of this project was to determine consumers' preferences and level of consumption of water; specifically, District of Columbia tap drinking water and to make recommendations for increase consumption by individuals who live and work in the District of Columbia.

### **Objectives**

- 1) To conduct drinking water Blind Taste Testing to a cross-sectional sample of 100 individuals who live and /or work in the District of Columbia .
- 2) To determine consumers' preferences for the different types of drinking water: DC tap water, spring water, distilled water, and mineral water.
- 3) To determine the types of drinking water being consumed by individuals who live and/or work in the District of Columbia.
- 4) To determine factors related to the selection of drinking water by individuals who live and/or work in the District of Columbia.
- 5) To develop recommendations for the increased consumption of the District of Columbia tap drinking water.

## **Methods and Procedures**

### **Objective 1**

To conduct drinking water blind taste testing to a cross-sectional sample of 100 individuals who live and/or work in the District of Columbia.

Two hundred fourteen (214) individuals who live and/or working in the District of Columbia participated in the study. Each participant was required to read and sign the Informed Consent Form. The participant was required to be willing to taste each of the four samples of water and complete all documents needed by the project. The participant ranked each sample based upon preference order of 1<sup>st</sup> choice, 2<sup>nd</sup> choice, 3<sup>rd</sup> choice, and 4<sup>th</sup> choice with 1<sup>st</sup> being the most favorable and 4<sup>th</sup> being the least favorable. The participants were identified through work sites, churches, health clubs, and community based organizations and agencies. A double blind number unknown to the participant and researcher identified each sample of water. The participant received and completed the survey instrument prior to participating in the taste testing of the water samples. Educational materials on water were provided to each participant. The materials included: District of Columbia Drinking Water Blind Taste Testing Research Project brochure, Are You Drinking Too Much Sugar Informational Sheet, What are your Water Options? Why Drink Water? Myth or Fact about Water, Prices of Water by Brand Name,

### **Objective 2**

To determine consumers' preferences for the different types of drinking water: Dc tap water, spring water, distilled water, and mineral water.

A short data collection instrument was developed and administered to project participants as part of the taste testing session. The instrument included some open-ended questions in

order to solicit additional detailed information. A copy of the data collection instrument is included in the Appendixes as Appendix D.

### **Objective 3**

To determine the types of drinking water being consumed by individuals who live and/or work in the District of Columbia.

Questions were developed and included on the data collection instrument to collect the information.

### **Objective 4**

To determine factors related to the selection of drinking water by individuals who live and /or work in the District of Columbia.

Questions were developed and included on the data collection instrument to collect the information.

### **Objective 5**

To develop recommendation for the increase consumption of the District of Columbia tap drinking water.

Upon completion of the analysis and interpretation of the data, recommendations will be included in the final report. No recommendations are included in this preliminary final report.

### **Facilities**

The facilities used for the collection and analysis of data included the Center for Nutrition, Diet and Health located in Building 52, B-O4; New Commandment Baptist Church, Miles Memorial CME Church, Greater Mount Calvary Holy Church, Shiloh Baptist Church, Coalition for the Homeless, Gold's Gym, and UDC Fire Bird Inn.

## Findings

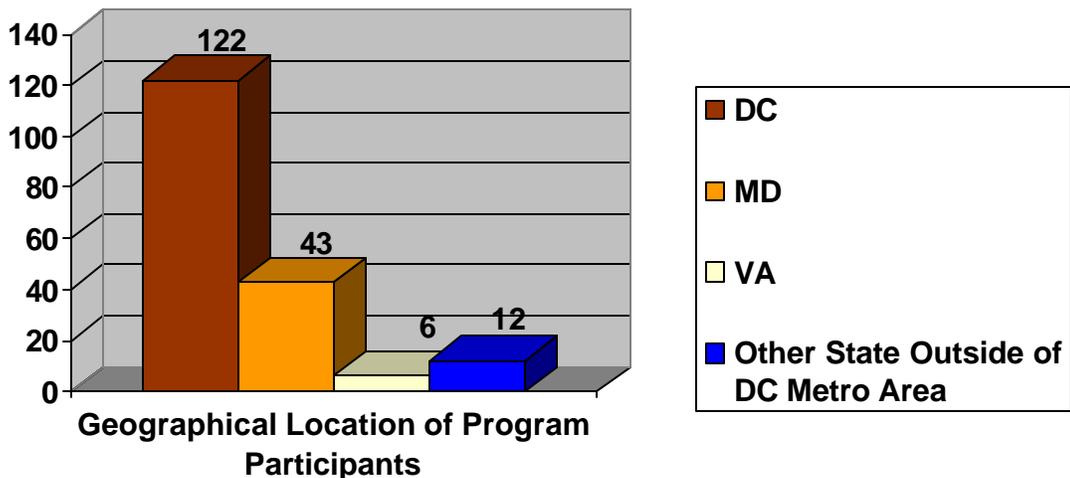
### DEMOGRAPHICS

**Table 1:** Shows program participants by geographical location, frequency and percentage

LOCATION	FREQUENCY	PERCENTAGE
District of Columbia	122	66.70
Maryland	43	23.50
Northern Virginia	6	3.20
Outside of the DC Metro Area	12	6.60
<b>TOTAL</b>	<b>183</b>	<b>100.00</b>

Table 1 shows the distribution of program participants who live or work in the District of Columbia metropolitan area; which includes the District of Columbia, Maryland, Northern Virginia (66.70%, 23.50% and 3.20%) and those from other states outside of the metropolitan area (6.60%). The majority of the participants who consented to mailing addresses on the study survey showed they were from the District of Columbia. Chart 1 shows an illustration of the program.

**Chart 1:** Illustration of geographical distribution of program participants

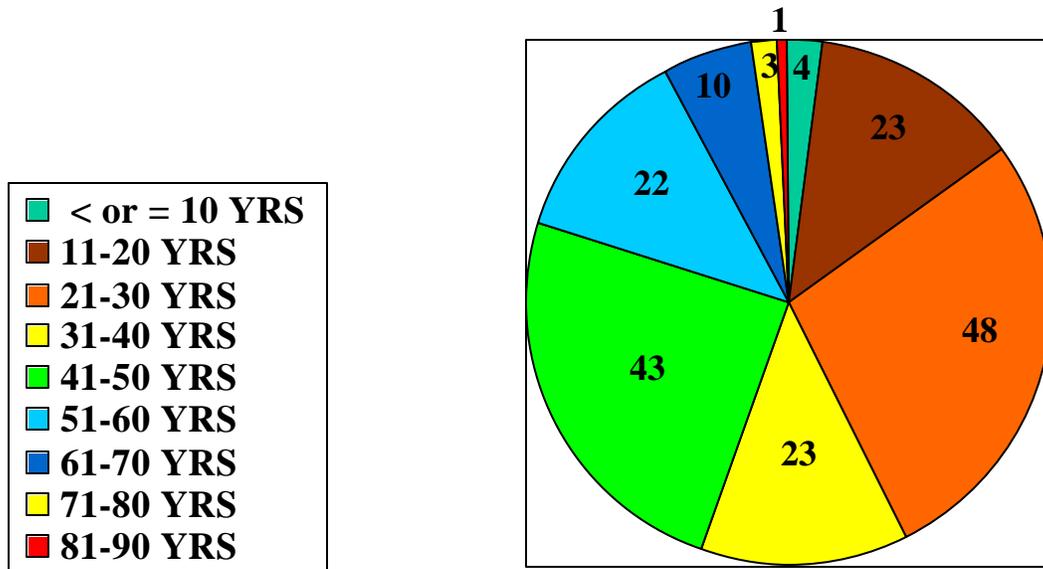


**Table 2:** Shows age ranges of program participants by years, frequency and percentage

<b>AGE IN YEARS</b>	<b>FREQUENCY</b>	<b>PERCENTAGE</b>
<b>≤10</b>	<b>04</b>	<b>1.87</b>
<b>11-20</b>	<b>23</b>	<b>10.75</b>
<b>21-30</b>	<b>48</b>	<b>22.43</b>
<b>31-40</b>	<b>23</b>	<b>10.75</b>
<b>41-50</b>	<b>43</b>	<b>20.09</b>
<b>51-60</b>	<b>22</b>	<b>10.28</b>
<b>61-70</b>	<b>10</b>	<b>4.67</b>
<b>71-80</b>	<b>03</b>	<b>1.40</b>
<b>81-90</b>	<b>01</b>	<b>.47</b>
<b>No Response</b>	<b>37</b>	<b>17.29</b>
<b>TOTAL</b>	<b>214</b>	<b>100.00</b>

Table 2 shows the ages of the program participants. The mean age of participants who reported their age was 27 years of age with a range of 10 to 90 years of age. Sixty-five or 30.37% ranged in age from 41-60 years, and 14 or 6.54% were in the range of 61-90 years of age. Chart 2 shows an illustration of the range of the number of participants within a ten-year span.

**Chart 2:** Illustration of participant ages



**Table 3:** Shows consumers' preferences for the different types of drinking water by type with frequency and percentage.

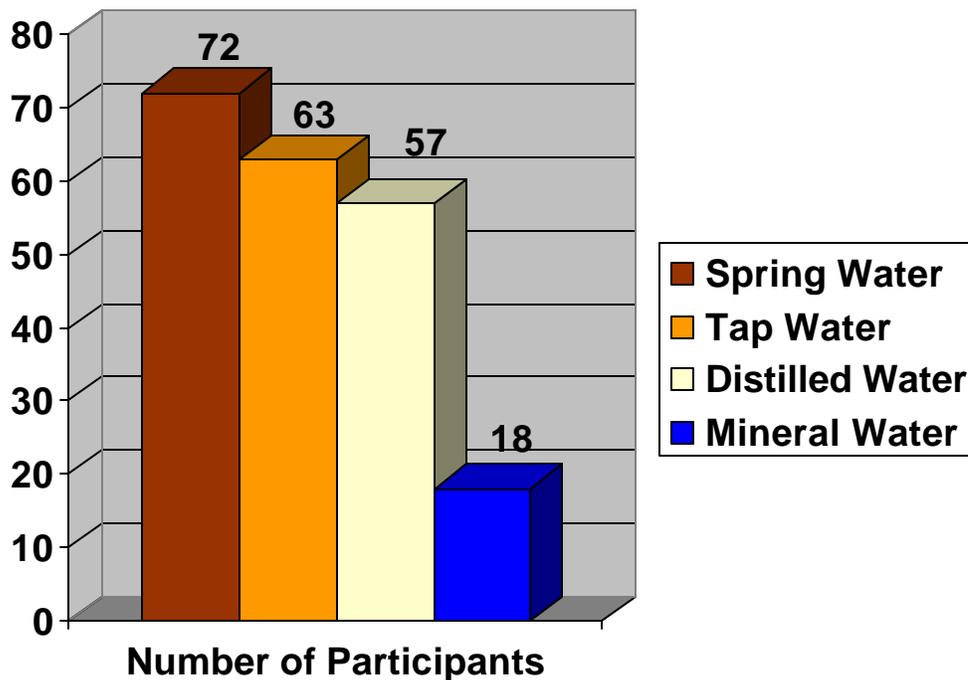
TYPE	FREQUENCY	PERCENTAGE
SPRING WATER	72	34.29
TAP WATER	63	30.00
DISTILLED WATER	57	27.14
MINERAL WATER	18	8.57
<b>TOTAL</b>	<b>210</b>	<b>100.00</b>

Table 3 shows that seventy two (72) individuals chose spring water as their first choice (34.29%), sixty three (63) individuals chose tap water as their first choice (30%), fifty seven (57) individuals chose distilled water as their first choice and eighteen individuals chose mineral water as their first choice (8.57%) among the four types of

drinking water categories that were taste tested. The preferred types that were chosen by the study sample (N=210) showed that spring water was the most preferred drinking water choice, while mineral water was the least preferred drinking water choice.

We can imply as a result of this table that the study participants have a positive preference for District of Columbia tap water. Despite the negative exposure associated with District of Columbia tap water, the study participants ranked the District of Columbia tap water sample as their second most preferred choice. Chart 3 is an illustration of table 3, which shows the range of total participant responses to the four types of drinking water categories in the study.

**Chart 3:** Illustration of consumers' preferences by water type (N=210)

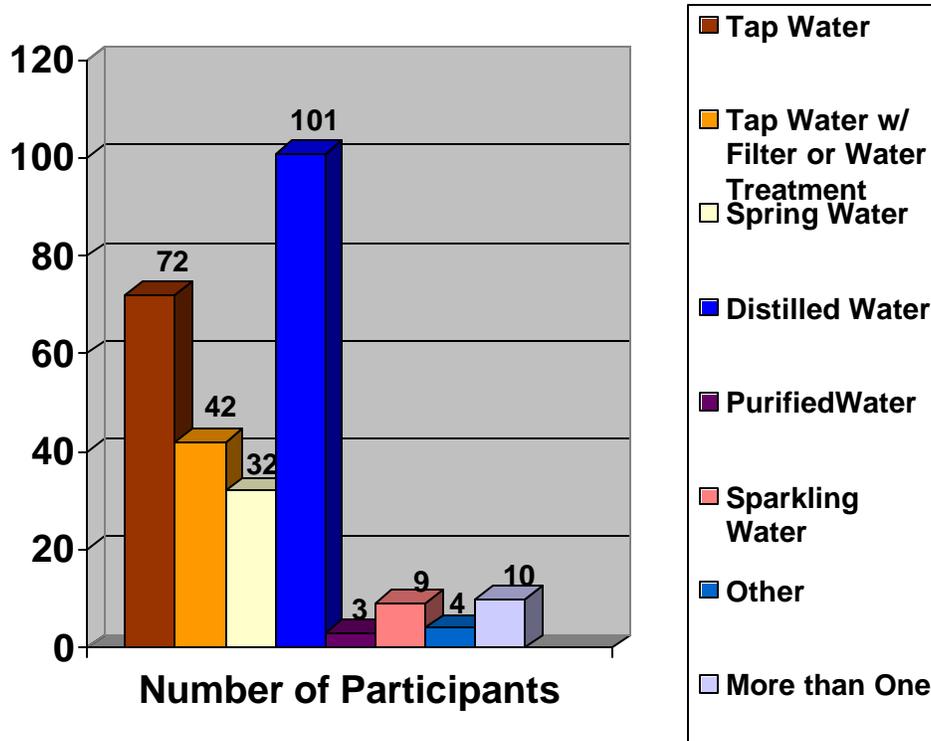


**Table 4:** Shows survey responses to participant sole source of drinking water

<b>TYPE</b>	<b>FREQUENCY</b>	<b>PERCENTAGE</b>
<b>TAP WATER</b>	<b>42</b>	<b>20.79</b>
<b>TAP WATER W/ FILTER OR WATER TREATMENT SYSTEM</b>	<b>32</b>	<b>15.84</b>
<b>SPRING WATER</b>	<b>101</b>	<b>50.00</b>
<b>MINERAL WATER</b>	<b>3</b>	<b>1.49</b>
<b>DISTILLED WATER</b>	<b>9</b>	<b>4.46</b>
<b>PURIFIED WATER</b>	<b>0</b>	<b>.00</b>
<b>SPARKLING WATER</b>	<b>1</b>	<b>.49</b>
<b>OTHER</b>	<b>4</b>	<b>1.98</b>
<b>INCORRECT RESPONSE</b>	<b>10</b>	<b>4.95</b>
<b>TOTAL</b>	<b>201</b>	<b>100.00</b>

Table 4 shows the results from the question on the survey that asked participants details on their preferences prior to the taste test showed the following results for survey question number two. The results of the responses from participants on the question that asked, what single type of water source do the participants drink most frequently is shown below. There were 10 persons who did not answer the question correctly, while the majority drank spring water most frequently (101) followed by tap water (42), tap water with a filter system (32), and distilled water (9).

**Chart 4:** Illustration of participant preferences for water source most frequently consumed



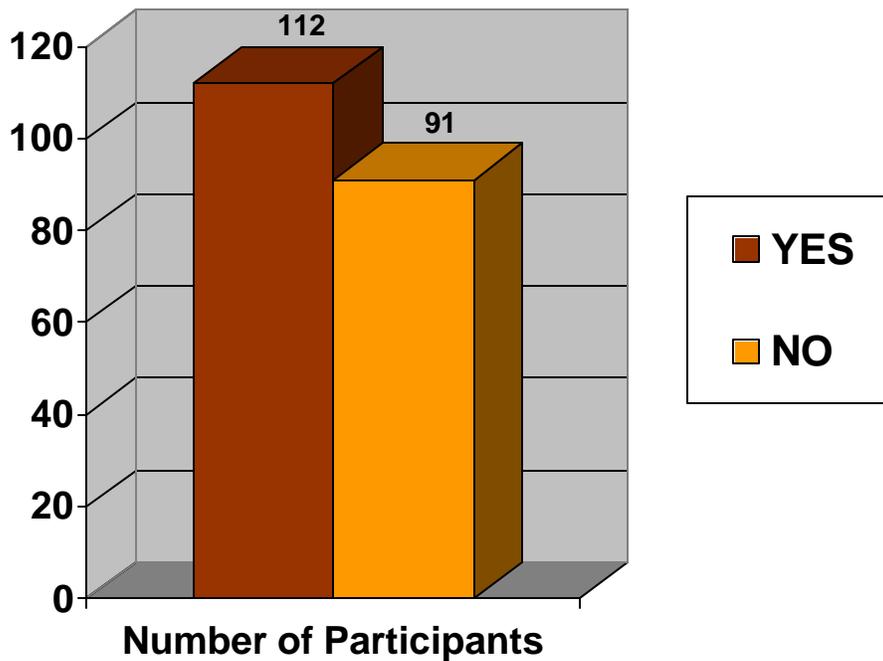
**Table 5** Shows the survey responses for participant intakes of 4 (16 oz.) bottles of water per day

CATEGORY	TOTAL NUMBER (N)	PERCENTAGE
YES	112	55.17
NO	91	44.83
<b>TOTAL</b>	<b>203</b>	<b>100.00</b>

Table 5 shows the responses to the question on the survey that asked participants details on their preferences prior to the taste test showed the following results for survey question number five. The results of the responses from participants on the question that asked, if the participants drank at least 4 (16 oz.) bottles of water a day? This question

gives us a perspective on whether or not the participants drank the recommended intakes of water set by the American Dietetic Association for optimal health and wellness. The majority of the participants who answered this question said yes they did meet the dietary recommendations for fluid intakes (55.17%) and 91 (44.83%) program participants said they did not.

**Chart 5:** Illustration of drinking water intakes of 4 (16 oz.) bottles of water by participant

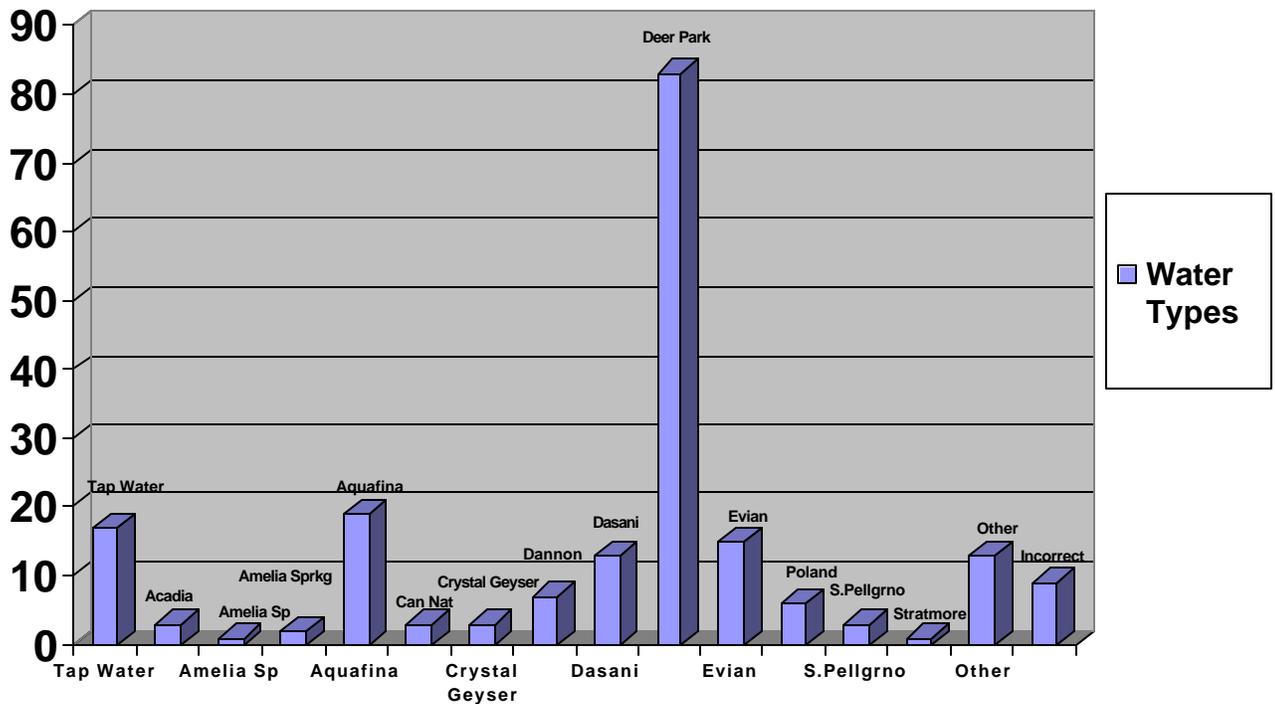


**Table 6:** Shows preferred water types by program participants regardless of usual choices

<b>TYPE</b>	<b>FREQUENCY</b>	<b>PERCENTAGE</b>
<b>TAP WATER</b>	<b>17</b>	<b>8.59</b>
<b>ACADIA</b>	<b>3</b>	<b>1.51</b>
<b>AMELIA SPRINGS</b>	<b>1</b>	<b>.50</b>
<b>AMELIA SPARKLING WATER</b>	<b>2</b>	<b>1.00</b>
<b>AQUAFINA</b>	<b>19</b>	<b>9.60</b>
<b>CANADIAN NATURALLE</b>	<b>3</b>	<b>1.51</b>
<b>CRYSTAL GEYSER SPRING WATER</b>	<b>3</b>	<b>1.51</b>
<b>DANNON SPRING WATER</b>	<b>7</b>	<b>3.55</b>
<b>DASANI</b>	<b>13</b>	<b>6.57</b>
<b>DEER PARK SPING WATER</b>	<b>83</b>	<b>41.92</b>
<b>EVIAN SPRING WATER</b>	<b>15</b>	<b>7.58</b>
<b>POLAND SPRING WATER</b>	<b>6</b>	<b>3.03</b>
<b>S. PELLEGRINO SPARKLING NATURAL MINERAL WATER</b>	<b>3</b>	<b>1.51</b>
<b>STRATHMORE CARBONATED LOW MINERAL WATER</b>	<b>1</b>	<b>.50</b>
<b>OTHER TYPES NOT MENTIONED</b>	<b>13</b>	<b>6.57</b>
<b>INCORRECT RESPONSE (MORE THAN ONE CHOICE MARKED)</b>	<b>9</b>	<b>4.55</b>
<b>TOTAL</b>	<b>198</b>	<b>100.00</b>

Table 6 shows the responses to the question on the survey that asked participants details on their preferences prior to the taste test showed the following results in Table 6 for survey question number nine. The results of the responses from participants on the question that asked, what single type of water is preferred regardless of actual type of water ordinarily consumed is illustrated in chart 6. This question gives us a perspective on individual preferences for water brands and sources regardless of the circumstances that may influence someone to drink a specific type of water. Influences for selecting water types can be economical, geographical, or convenience. The majority of the participants chose Deer Park Spring Water (41.92%) followed by Aquafina Spring Water (9.60%), Tap Water (8.59%), Evian Spring Water (7.58%), Dasani (6.57%), and another choice not mentioned was equally preferred as the Dasani (6.57%) type. There were nine individuals who did not answer the question correctly (4.55%).

**Chart 6:** Illustration of types of water participants prefer regardless of usual choices consumed



**Program Photographs:**



**Program Interns :**

Deshawn Williams, DC Summer Youth Program  
Washington, D.C.

Paul Brown Jr., Student  
St. John's University, New York

Eugene Williams III, Student  
University of the District of Columbia

Latasha Peace, Student  
Towson State University, Maryland

Rebecca Gill, DC Summer Youth Program  
Washington, D.C.

Erin Crawford, Student  
Morgan State University, Maryland

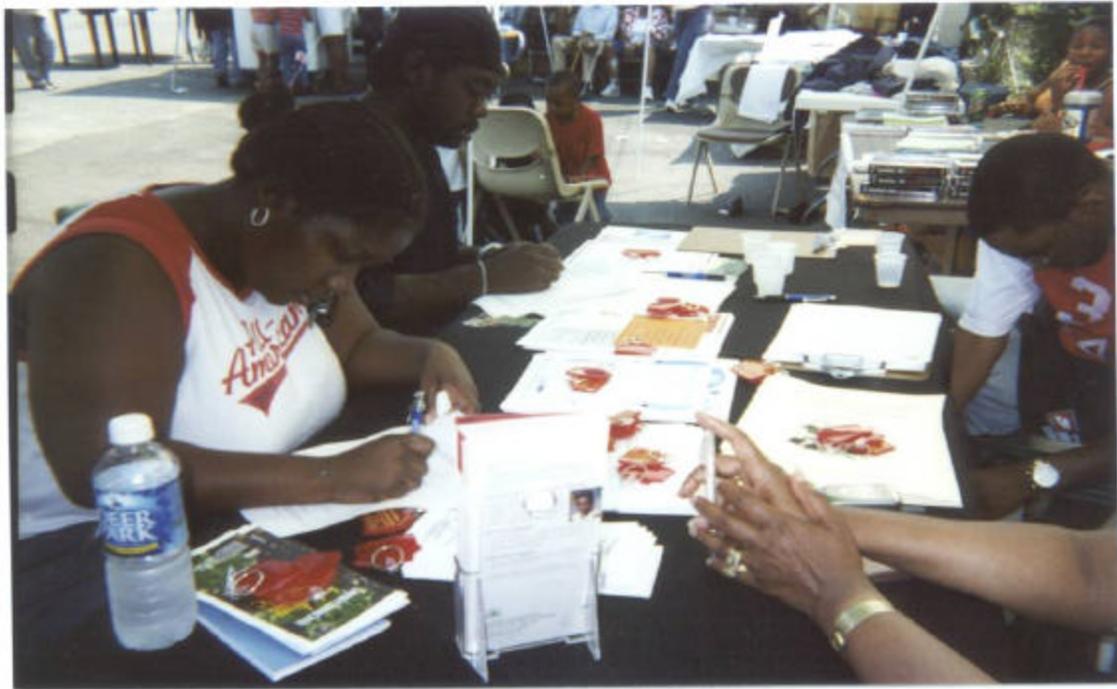
Amy Busia, Student  
University of the District of Columbia



DC Drinking Water Blind Taste Testing Project activity on Saturday August 21, 2004 held at the *Be Healthy for Life Day* at the Greater Mount Calvary Holy Church located at 601 Rhode Island Avenue, NE Washington, DC 20001.



DC Drinking Water Blind Taste Testing Project activity on Saturday August 21, 2004 held at the *Be Healthy for Life Day* provided by the Greater Mount Calvary Holy Church located at 601 Rhode Island Avenue, NE Washington, DC 20001.



DC Drinking Water Blind Taste Testing Project activity on Sunday August 28, 2004 at the *Community Resource Day* provided by the New Commandment Baptist Church located at 925 Park Road NW, Washington, DC 20010.



DC Drinking Water Blind Taste Testing Project activity on Sunday August 28, 2004 at the *Community Resource Day* provided by the New Commandment Baptist Church located at 925 Park Road NW, Washington, DC 20010.



DC Drinking Water Blind Taste Testing Project activity on Sunday August 7, 2004 at the Miles Memorial CME Church located at 510 N Street NW, Washington, DC 20001

## **Appendixes**



District of Columbia
Drinking Water
Blind Taste Testing Project



INFORMED CONSENT

The University of the District of Columbia's Drinking Water Blind Taste Testing Project is designed to determine the comfort level and water intake of the residents and employees of the District of Columbia. You will be asked to taste 4 types of drinking water, rank them in order of preference, and complete a questionnaire. Tap water will be included as one of the taste testing samples. The tap water sample will contain the minimal levels of minerals that are approved by the Washington Sanitation and Sewage Commission (WSSC) and Environmental Protection Agency for all residents of the District of Columbia. You will be randomly assigned an identification number to assure all of your responses will be kept confidential. This experiment will take approximately 5 minutes to complete.

Agreement to Participate/Consent

I have read the above information and have been given sufficient opportunity to ask questions which have been answered to my satisfaction. There will be no costs to me associated with this Blind Taste Testing Project. I am aware that my participation in this taste test is completely voluntary. Based upon this information, I agree to participate in the District of Columbia Drinking Water Blind Taste Testing Project.

I will receive a signed copy of this consent form. If at any time I have questions about this research project, I may call Lillie Monroe-Lord, Ph.D, R.D, L.D, Principal Investigator, Head, of the Center for Nutrition, Diet and Health at the University of the District of Columbia from 9:00 – 5:00p.m. Monday through Friday at 202-274-7115.

Your Name (please print)

Your Signature (please sign)

Date

The investigator or his/her designee has explained the Blind Taste Testing Project to the participant and has answered any questions.

Investigator's or designee's name (please print)

Investigator's or designee's signature (please sign)

Date

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Cooperative Extension Services (CES)  
University of the District of Columbia (UDC)

**DISTRICT OF COLUMBIA DRINKING WATER  
BLIND TASTE TESTING PROJECT**

*This survey will collect information to help determine what types of water sources you or your family consume on a routine basis. Our goal is to help promote recommended intakes of water for healthy living. We appreciate your assistance in completing and returning this form to one of the representatives of our taste test. If you would like more information on the project, please contact: Dr. Lillie Monroe-Lord, Ph.D., Head Center for Nutrition, Diet, and Health or Ms. Dawanna James, Program Coordinator at the University of the District of Columbia – Center for Nutrition, Diet, and Health, 4200 Connecticut Ave. NW, Building 52, Room 322, Washington, DC 20008 or Phone (202) 274-7115 Fax (202) 274-7130.*

**PROFILE**

ID Number \_\_\_\_\_ TELEPHONE \_\_\_\_\_

ADDRESS \_\_\_\_\_

CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP CODE \_\_\_\_\_

AGE \_\_\_\_\_

1. What drinking water type (brand) do you drink most frequently? **Circle One**

- A. Evian (Spring Water)
- B. Poland Spring (Spring Water)
- C. Aquafina (Spring Water)
- D. Deer Park (Spring Water)
- E. Dannon (Spring Water)
- F. Amelia Springs (Spring Water)
- G. Crystal Geyser (Alpine Spring Water)
- H. Perrier (Sparkling Water)
- I. Amelia Sparkling (Sparkling Water)
- J. Canadian Naturalle (Spring Water)
- K. Acadia (Distilled)
- L. Strathmore (Carbonated Low Mineral Water)
- M. Tap Water W/ Filter or Filtration System 9Brita or other brand)
- N. Over the Counter (Giant, Safeway, CVS, etc.)
- O. Other (write in brand name) \_\_\_\_\_

2. What type of water source do you drink most frequently? **Circle One**

- A. Tap Water
- B. Tap Water w/ Filter or Water Treatment System (Brita System)
- C. Spring Water (Evian, Poland Spring, Aquafina, Deer Park, Over the counter brand)
- D. Mineral Water (S. Pellegrino)
- E. Distilled Water (Over the Counter or other brand)
- F. Purified Water (Dasani)
- G. Sparkling Water (Amelia Sparkling, Perrier)
- H. Other (write in brand name) \_\_\_\_\_

3. How many 8 oz (1 glass) glasses of water do you drink in one day (24 hours)? **Circle One**

- A. One
- B. Two
- C. Three
- D. Four
- E. Five
- F. Six
- G. Seven
- H. Eight or More

4. What quantity of drinking water do you purchase most frequently? **Circle One**

- A. 8 oz. at a time
- B. 16 oz. at a time
- C. 20 oz. at a time
- D. 24 oz. at time
- E. 1 liter at a time
- F. 1 gallon at a time
- G. 2 or more gallons at a time
- H. I do not purchase drinking water, I drink Tap

5. Do you drink at least 4 (16 oz.) bottles of water a day? **Check One**

Yes\_\_\_\_\_ No\_\_\_\_\_

6. Do you find water to be a refreshing drinking beverage? **Check One**

Yes\_\_\_\_\_ No\_\_\_\_\_

7. Have you in the past few months drank water from a DC Water Fountain or other DC Tap Water Source? **Check One**

Yes\_\_\_\_\_ No\_\_\_\_\_

8. Which of the following stores is the store you most frequently buy your water

- A. Giant Food Stores
- B. Safeway
- C. CVS
- D. Walmart
- E. Target
- F. Cosco
- G. Sams Club
- H. Local corner store
- I. Other (write in name):\_\_\_\_\_

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## District of Columbia Drinking Water Blind Taste Testing Project



### Which type of water would you prefer to drink?

ID Number: \_\_\_\_\_

**Please check one:**

- Tap Water
- Acadia
- Amelia Springs
- Amelia Sparkling Water
- Aquafina
- Canadian Naturelle Spring Water
- Crystal Geysler Spring Water
- Dannon Spring Water
- Dasani Spring Water
- Deer Park Spring Water
- Evian Spring Water
- Poland Spring Water
- S. Pellegrino Sparkling Natural Mineral Water
- Strathmore Carbonated Low Mineral Water
- Other \_\_\_\_\_

This program is funded from a Department of Interior / USGS grant through the DC Water Resources Research Institute

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**District of Columbia  
Drinking Water  
Blind Taste Testing Project**



**What type of drinking water do you prefer to drink?**

**ID NUMBER:** \_\_\_\_\_

**RANK IN ORDER:**

**1<sup>st</sup>** \_\_\_\_\_

**2<sup>nd</sup>** \_\_\_\_\_

**3<sup>rd</sup>** \_\_\_\_\_

**4<sup>th</sup>** \_\_\_\_\_

**OPTIONS:**

**A1-A8 = Red**

**B3 = Orange**

**C1 = Green**

**D1-D2 = Blue**

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# Myth or Fact?

**Myth:** *You do not have to drink as much water in the winter months as in the summer months.*

**Fact:** The human body requires water all year long. The requirement is greater during the summer because people perspire more due to humidity and higher temperatures. The fluid lost must be replaced to maintain proper hydration. At least 70% of our body is water<sup>1</sup>; therefore, it is essential that we consume enough water for proper bodily functions.

**Myth:** *You can consume eight glasses of any beverage to fulfill the fluid intake requirement.*

**Fact:** This statement contains some truth. However, other beverages like coffee, tea, and fruit juices contain calories and additives that may contribute to weight gain if consumed in excess<sup>1</sup>. Water does not contain any calories or carbohydrates. It contains very little sodium, depending on the source. If you do not like the taste of water, try mixing it with other beverages. For example, try drinking half a glass of water mixed with half a glass of juice<sup>1</sup>. You could also try a hint of lemon in your water to provide it with flavor.

**Myth:** *Water only helps us get rid of wastes.*

**Fact:** The organs that benefit most from our adequate water consumption are the kidneys. Water allows the kidneys to filter out waste products that are later excreted into the urine. If we do not consume the proper amount of water, our kidneys are unable to do their job adequately and they must recruit help from the liver. The liver compensates for the kidneys and has to compromise the breakdown of fats. This process diminishes the amount of fat your body is about to burn during the course of the day. Therefore, water is also essential in weight loss. (Also see handout, “Why Drink Water”)

**Myth:** *You will know when your body needs water because you will feel thirsty.*

**Fact:** Sometimes, thirst may be confused with hunger. We may think we are hungry when we are actually thirsty. The older we are the less reliable our thirst gauge becomes<sup>2</sup>. We may lose considerable amounts of water before we even feel thirsty. Therefore, it is important to consume water throughout the day whether we are thirsty or not to remain hydrated. After drinking coffee or tea (diuretics), our bodies begin losing water and it must be replaced to maintain a balance. To drink more water throughout the day, try keeping a water bottle handy<sup>3</sup>. **Warning signs of dehydration are excessive thirst, fatigue, headache, dry mouth, little or no urination, muscle weakness, dizziness, and lightheadedness<sup>3</sup>.**

**Myth:** *During exercise, water only replaces the fluid lost.*

**Fact:** Water does not contribute to energy like carbohydrates, proteins and fats, but it does aid in the transformation of energy<sup>4</sup>. Water carries nutrients to the areas they are needed in the body. Water is also essential to building muscle. The electrolytes naturally found in water are needed to conduct a nerve impulse to the muscle for contraction. Without an adequate amount of water, it is harder to control and increase muscle mass<sup>4</sup>. Water also cushions and lubricates the joints. During exercise, the joints are being taxed. With enough water, stress on the joints decreases.

## Sources:

1. [www.mhcs.health.nsw.gov.au/health-public-affairs/mhcs/publication/3055.html](http://www.mhcs.health.nsw.gov.au/health-public-affairs/mhcs/publication/3055.html)
2. [www.mayoclinic.com](http://www.mayoclinic.com)
3. [www.nutrition.about.com/od/hydrationwater](http://www.nutrition.about.com/od/hydrationwater)
4. [www.building-muscle101.com/drinking-water-for-health.html](http://www.building-muscle101.com/drinking-water-for-health.html)

**District of Columbia  
Drinking Water  
Blind Taste Testing Project**

**Prices of water in Giant Food Stores:**

<b>Brand Name</b>	<b>Type of Water</b>	<b>Cost per 8oz</b>	<b>Cost per Bottle</b>
Strathmore	Carbonated Low Mineral Water	50.7 oz = \$1.79 8 oz = \$0.28	\$1.12 per qt
Acadia	Distilled	6pk 16oz = \$2.59 8oz = \$0.22	\$0.817 per qt
Poland Spring	Spring Water	6pk 9oz = \$2.99 8oz = \$0.44	24oz = \$0.69 \$0.937 per qt
Canadian Naturelle	Spring Water	12pk 16.9oz = \$4.99 8oz = \$0.20	\$0.937 per qt
Dasani	Purified Water Non-Carbonated	24oz = \$1.09 8oz = \$0.36	20 oz bottle = \$1.09
Dannon	Spring Water	24pk 16.9oz = \$7.99 8oz = \$0.16	\$0.634 per qt
Amelia Springs	Spring Water	6pk 16.9oz = \$3.99 8 oz = \$0.32	\$1.25 per qt
Evian	Spring Water	6pk 11.2oz = \$4.59 8oz = \$0.55	\$2.19 per qt
Aquafina	Spring Water	6pk 16.9oz = \$3.29 8 oz = \$0.28	20oz = \$0.99
Deer Park	Spring Water	24pk 16.9oz = \$7.59 8oz = \$0.15	24oz sport pack = \$1.09
Crystal Geyser	Alpine Spring Water	28pk 8oz = \$7.99 8oz = \$0.29	\$1.14 per qt
S.Pellegrino	Sparkling Natural Mineral Water	25.3 oz = \$1.89 8oz = \$0.60	\$2.39 per qt
Amelia Sparkling	Sparkling Water	4pk 12oz = \$1.69 8oz = \$0.14	\$1.25 per qt
Perrier	Sparkling Mineral Water	4pk 11oz = \$2.99 8oz = \$0.54	\$2.17 per qt
Poland Spring Sparkling	Sparkling Water	33.8 oz = \$1.29 8oz = \$0.30	\$1.22 per qt
Acadia	Distilled		\$0.229 per qt

*Formula 1: Total Cost /Size of the pack = N  
Oz of one container/8 oz = N<sub>2</sub>  
N/N<sub>2</sub> = Price per 8 oz*

*Formula 2: Oz of the container/ 8 oz = N  
Total Cost/ N = Price per 8 oz*

In cooperation with the U.S. Department of Agriculture and District of Columbia Government Cooperative Extension Service and Agricultural Experiment Station programs and employment opportunities are available to all people regardless of race, color, national origin, gender, religion, age, disability, political beliefs, sexual orientation, marital status or family status.

**District of Columbia  
Drinking Water  
Blind Taste Testing Project**

**Prices of water in CVS:**

<b>Brand Name</b>	<b>Type of Water</b>	<b>Cost per 8oz</b>	<b>Cost per Bottle</b>
Aquafina	Spring Water	6pk-16.9 oz = \$2.89 8oz = \$0.23	20oz = \$1.19
Dasani	Purified Water Non-Carbonated	12pk-12oz = \$4.99 8oz = \$0.28	20oz = \$1.19
Evian	Spring Water	8 oz.= .56	16.9oz = \$1.19
CVS Brand Gold Emblem	Natural Spring Water	8 oz = .42	16.9oz = \$0.89
Penta H <sub>2</sub> O – Ultra Premium Purified Drinking Water	Purified Drinking Water	8 oz = .85	16.9oz = \$1.79
Poland Spring	Spring Water	8 oz = .56	16.9oz = \$1.19

**Formula 1:** Total Cost /Size of the pack = N  
Oz of one container/8 oz = N<sub>2</sub>  
N/N<sub>2</sub> = Price per 8 oz

**Formula 2:** Oz of the container/ 8 oz = N  
Total Cost/ N = Price per 8 oz

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