

**Utah Association of Family and Consumer
Science
Annual Meeting**

**Research Section
Conference Proceeding**



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Information Collection and Privacy Practices of Internet Health Sites

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Consumers have turned in large numbers to health-related Internet sites that provide opportunities to obtain information, purchase goods, and/or exchange opinions with other people. In the United States, more people use the Internet for obtaining health care information than for online shopping or financial advice. However, given the sensitive nature of personal health information many consumers are hesitant about visiting health-related Internet sites for fear their privacy may be compromised intentionally or inadvertently.

The purpose of this study is to provide a description of the (a) information that is collected by consumer-oriented health Web sites, and (b) stated privacy practices of these sites. A report will be made on the extent to which sites follow the FTC's four fair information practice principles. The sample of 257 sites is larger than any previous Internet study of health sites. The study also permits three important comparisons: (a) between sites appearing on lists of the Internet's more popular health sites and less popular sites found through naturalistic searching of Web portals and search engines, (b) between sites whose primary function is to provide health-related information and those whose primary function is to sell health-related products, and (c) between sites that are certified with an industry-run certification scheme and those that are not.

Of the 257 unique sites visited, 93.8% provided the means to collect at least one piece of personal information on the visitor. Privacy policies were disclosed by 53.7% of all sites. The percentage was higher among most popular sites (72.7% versus 34.9%), but sites that allowed on-line purchases were less likely to provide a privacy policy than those that did not (48.5% versus 55.8%). Regarding compliance of FTC's fair information practices, of those sites having a privacy policy, 72.8% described the types of information they collect; 86.0% described the parties with whom information is shared; 39.7% indicated how information could be corrected, updated, or deleted; 41.9% gave consumers the option of not receiving follow-up email, and 37.0% informed consumers about their in-house data security efforts. Only one fifth of all sites (21.0%) displayed a privacy certification such as TRUSTe and the Health on the Net Foundation's @HON.

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Sugar Substitute and Colorectal Cancer

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Dietary habits and nutritional status have been suggested to play important roles in the prevention of colorectal cancer. The National Institutes of Health's National Cancer Institute stated that colorectal cancer is a commonly diagnosed cancer in both men and women. In 2004, an estimated 146,940 new cases will be diagnosed, and 56,730 deaths from colorectal cancer will occur. By age 50, most persons at average risk for colorectal cancer should begin regular screening (1). The main dietary factors that can initiate colorectal cancer development are meat intake, altered vitamin and mineral intake, bile acids, fecal mutagens, fecal pH, and fecal bulk. It has also been suggested that calcium, by binding bile acids in the bowel lumen, might inhibit carcinogenic effects.

Alkaline environments in the stool (pH >7.0) sustain higher concentrations of potential carcinogens (substances that increase the risk of cancer) such as free bile acids. This alkaline pH may affect the solubility of bile acid and carcinogens and make them more genotoxic (damaging to DNA) to the lubricated lining of intestinal cells. Epidemiological studies show that higher rates of colon carcinoma are found in individuals with a more alkaline stool pH (i.e., a stool pH >7.0). In addition, a more acidic lumen is also beneficial by making a less favorable environment for pathogenic species of bacteria, and increasing solubility and absorption of minerals such as calcium. Increased fecal bulk or reduced transit time can have effect by diluting potential toxins and carcinogens and reducing their contact time with the colonic epithelium. Increased SCFA production, in particular butyrate, is another proposed mechanism for protective effect. Butyrate is produced by anaerobic fermentation of certain non-digestible carbohydrates.

On the treatment side, diet is very important as well. Tumor cells consume glucose at a rate 3-5 times higher than normal cells, creating a highly stimulated glycolysis (glucose-burning) pathway. Therefore, based on cancer's sugar dependency, a sugar deprivation diet is strongly recommended. High glycemic foods also increase insulin, which is a growth factor that stimulates glycolysis and the proliferation of many cancer cell lines. In cancer patients, elevated levels of insulin are common in cancerous tissue and blood plasma. It is therefore suggested that both a low sugar and a low saturated fat diet be followed.

Our study looked at fecal pH and mass (bulk) among fifteen adults (average age of 62.3 years \pm 9.6) over a six week period while taking two different sugar substitutes. The sweeteners used were xylitol, and a mix of xylitol and inulin. Xylitol has one-third fewer calories than sugar (about 2.4 calories per gram versus 4.0 for sugar), and is the sweetest of all bulk sugar substitutes, comparing just as well in sweetness to sugar. Two drawbacks often associated with sugar alcohols are that of price and osmotic diarrhea. To combat this, inulin, a non-digestible fiber, can be added—decreasing the amount of xylitol needed. The inulin also assists in the decreasing of potential gastrointestinal discomfort, as well as assisting in the effects on decreasing colorectal cancer risk factors.

Our results showed that xylitol by itself decrease fecal pH to 6.3 ± 0.76 , while xylitol plus inulin went to 6.2 ± 0.54 . This decrease is from the baseline pH of 6.9 ± 0.61 . In addition, the total mass without treatments was $171.65 \text{ g} \pm 99.19$. With xylitol the mass dropped to $159.39 \text{ g} \pm 94.80$; whereas the inulin added, raised it to $175.25 \text{ g} \pm 114.13$. This showed a slight decrease in mass with xylitol, which was negated by the addition of inulin. The more beneficial influence is seen in the decrease of pH among both treatments, this most likely due to the fermentation by colonic bacteria (possibly health promoting strains of bifidobacteria). Also of interest was that during the treatments, total calories (1682 ± 424.5 for xylitol; 1620 ± 526.0 for added inulin) and carbohydrates ($222 \text{ g} \pm 65.0$ for xylitol; $222 \text{ g} \pm 83.1$ for inulin added), including sugars, decreased from the baseline ($1703 \text{ cal} \pm 428.0$ and $238 \text{ g} \pm 76.6$ respectively).

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Youth-Adult Partnerships: Practical Tool for Positive Engagement

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Meaningful youth-adult partnerships can be positive forces for change. The results include sustainable, powerful programs and youth possessing strong communications and leadership skills. The 4-H Southwest District Ambassador program in the Southwest region of Utah has been involved with the training of youth and adults as partners in leadership. Throughout its hundred years of existence, 4-H youth development has accumulated a wealth of experience in creating opportunities through which young people and volunteer adult leaders can build their capacities. 4-H has engaged youth and adults in “learn by doing” through hands-on learning environments, such as the 4-H SW District Ambassador program.

The literature points to various ingredients of successful youth development programs (Carnegie, 1994; Peterson, Gerhard, Hunter, Marek, Phillips & Titcomb, 2001; Pittman, Irby, & Ferber, 1999) but suggests lack of qualitative inquiries that feature the voice of the youth. In New York State, a 4-H Club Study (Mead, Rodriguez, Hirschl, & Gogin, 1999) concluded that 4-H club participation does make a difference in the lives of youth. Yet Narrative accounts of youth and adult experiences in 4-H Clubs or programs were needed to enrich our understanding of what makes that difference. Helene Gregorie in 2001 did a narrative study on youth development in 4-H that found that the New York Study (Mead et al., 1999) and Peterson et al., (2001) were fairly consistent with the key elements necessary in successful youth development programs found in their previous research.

The young people who are part of the 4-H SW District Ambassador program and volunteer adult leaders who have guided them have some important lessons to teach us. In an attempt to find out what the essential elements of the 4-H District Ambassador program were in the eyes of the 4-H teens, ages 13-18 and their volunteer leaders/mentors, a study was undertaken in the spring of 2004. A qualitative research design was used to collect data by interviewing a sample of 47 4-H youth District Ambassadors and adult volunteer leaders/mentors from 10 counties in Southwest Utah.

The findings confirm that an essential element to the 4-H youth leadership experience is positive relationships with caring adults. These youth-adult partnership narratives provide a picture of how these relationships can be a positive force for growth and change for both the youth and adults. Findings also showed that the 4-H SW District Ambassador program provided a) a safe environment, b) opportunities to master skills by doing, c) experiences that helped you learn leadership and communication through service, d) an inclusive environment and e) opportunities to see oneself as an active participant in the future.

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Flaxseed Health and Nutrition Information

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Flax, a blue flowering plant, is grown in the United States, Canada, Europe and Asia. Flax was the first major crop produced in the United States, but with the invention of the cotton gin, flax production slowed and other products increased. Flax is used in the production of textiles, as a functional food, as an oil, in health care products, and as a food supplement and medicine. Flax is successfully used in animal feed with very good results. Health-concerned consumers are raising a demand for flax and flax nutritional facts.

The composition of flax is 1/3 oil or fat, 2/3 fiber and protein. Flax can be consumed in 3 forms; eaten as a seed, having a “nutty” flavor, ground into a flour, or in the oil form. There are different benefits from each form of flax.

Flax contains lignans, fiber and omega 3 fats. These are the elements that give the health benefits of flax. The lignans contained in flax are phytoestrogens and are powerful antioxidants. They are plant chemicals that have estrogen-like actions in human and animal cells. The lignans found in flax are being further studied for possible cancer prevention, especially breast cancer. Flax is also a rich source of soluble, insoluble and mucilage fiber. Soluble and insoluble fibers are important in promoting normal cholesterol levels, and in the cleansing of the intestinal tract. Flaxseed is an excellent source of the omega 3 fats. These fats are essential for functions of the nervous and vascular systems in our body. Omega 3 fats are needed for proper eye and brain function. They also aid in maintaining a healthy heart.

Flax studies are incomplete on humans. They have been conducted extensively on animals and many conclusions have been reached because of the animal studies. Studies have shown that flax **MAY** help with these health issues:

- Maintaining a healthy cholesterol level.
- Lowering blood pressure and fighting heart disease.
- Preventing osteoporosis.
- Providing increased protection against breast cancer, liver disease and kidney disease.
- Reducing blood sugar levels
- Flax seed has been proven to be a good laxative agent.

The long term research on flax has shown very few side effects. Humans seem to tolerate flax supplements and flax products to their benefit.

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Microbial Presence in Stored Water Samples throughout Utah

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A survey of homes in Utah showed that 67% of the homes in Utah have a food storage program. In emergency conditions individuals under stress, the elderly, and infants can be substantially more susceptible to infection as their immune system is compromised. While addressing this issue, stored water samples were collected from 16 counties located throughout Utah. Storage containers consisted mostly of one gallon plastic jugs, two liter soda bottles, plastic juice bottles, as well as a single sample in a glass container. The storage duration of samples varied from a few months to 40 years in length. Viable numbers of microorganisms were counted on Plate Count Agar (PCA) and PCA diluted to 1/4 and 1/10 strengths. The plates were incubated at temperatures of 15, 25, and 37 degrees Celsius, and enumerated following periods of 2, 4, and 6 days. Out of 72 total samples, only one sample consistently exhibited no bacterial counts in any of the dilutions. Out of the 16 counties tested, 15 of them were found to have significant bacterial counts of 15-300 CFU per cc, with the greatest counts being obtained in the 1/4 and 1/10 dilutions incubated at 37 degrees Celsius.

3M Petri film E. Coli/Coliform count plate method was utilized in order to determine the number of viable organisms present in the samples. Six of the 16 counties tested contained significant counts of coliform as well as high counts on PCA.

Current recommendations suggest that no further treatment is required when storing water coming from a chlorinated water supply. HF Scientific chlorine micro check test strips were used to evaluate the amount of chlorine present within the stored water samples. This method measures accuracy up to .05 ppm of residual chlorine. A total of 0% of the samples were found to have chlorine present, despite the fact that the majority of the collected samples came from counties which claim to have chlorine in the water supplies.

All samples stored in one gallon plastic jugs by individuals at their homes, were found to have high bacterial counts. However commercially produced samples stored in one gallon jugs were found to have somewhat lower counts. It appears that juice containers and Clorox bottles also have somewhat lower counts than regular two liter soda bottles. The highest overall counts were found in one gallon plastic jugs and two liter soda bottles respectively. The single sample stored in a glass container was the single sample that had relatively small counts consistently throughout the study.

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