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Greetings

Ask anyone associated with education, K-12 or higher ed, and we will tell you that the first of our year starts late August/early September and ends sometime in May or June. This is primarily how those in teaching positions feel. What the months in between count as I am not sure. Many outside education see them as a 2 to 3 month vacation. Not so much!

Here on the Moscow campus now starts the time of continuing or finishing research projects, writing new grant proposals, and of course teaching summer school classes. Many are also looking ahead to the start of a new academic year and revisions that need to be made to course content or curriculums. For me, this is a quieter time when I can focus on bringing closure to reports and plan for future directions for the Margaret Ritchie School of Family and Consumer Sciences and FCS University of Idaho Extension. There are many new and exciting opportunities on the horizon for FCS in Idaho.

Many of our public school districts find themselves faced with teacher retirements in FCS. Unfortunately there are not enough FCS teacher education programs in existence nationwide to fill all of the vacant position. This is not just an issue with Idaho; it is happening on the national level. Yet this is also a time that society is coming to grips with the need to reinstate programs for young people to learn life skills. As many Communicator readers are aware, the UI program in FCS teacher education was eliminated several years ago, primarily due to low enrollments. I am happy to report that for the last couple of years I have worked with Dr. John Cannon, College of Education Curriculum and Instruction CTE program, to develop a program for UI students wanting teacher certification in FCS. It will not be a degree in FCS, rather it will be a secondary education degree with an FCS endorsement. We still have a great deal of work ahead of us to receive full approval for this program. Our plan is to receive approval at all levels by the first of 2017.

I see this as an opportunity for Extension positions as well. In the past many county FCS positions were filled by individuals with FCS teacher education degrees. In fact it was something I seriously considered when I completed my undergraduate degree in the early 70s. FCS Extension in many states is facing the same issue of vacant positions going unfilled due to lack of qualified candidates. In many cases “unqualified” refers to someone with a general FCS background as opposed to specialized. Federally the pendulum swung toward specializations at the county level for several years.

For many that was the right thing to do at the time. Federally the primary focus for FCS became health and wellness with a strong emphasis on food and nutrition. Do not get me wrong, those are extremely important to the health and well-being of individuals, families and communities. However somewhere along the way we seemed to have lost what FCS has always done better than any other discipline, the holistic approach based on systems theory.

Each specialization serves an important role in improving the quality of life for individuals, families and communities. If we want healthy families and healthy communities we need to return to our holistic approach. How healthy is it really for a family stressed about finances, or poor parenting skills, or living in housing with environmental health issues?

I plan to spend my next couple of months in contemplation in how we in the Margaret Ritchie School of Family and Consumer Sciences and FCS
University of Idaho Extension can better address the concerns of individuals and families in Idaho and the Pacific Northwest. My summer reading list includes Healthy Food Systems, Healthy People and the North Central Region Extension’s Battelle report. Look for my responses in our September Communicator.

Whatever is on your list for summer, make it wonderful!
Modified Atmosphere Packaging

Modified Atmosphere Packaging (MAP) is a technique used for prolonging the shelf-life of fresh or minimally processed foods. In this preservation technique the air surrounding the food in the package is changed to another composition. This way the initial fresh state of the product may be prolonged. It is the shelf-life of perishable products like meat, fish, fruits and vegetables that will be prolonged with MAP since it slows the natural deterioration of the product. MAP is used with various types of products. The mixture of gases in the package depends on the type of product, packaging materials and storage temperature. Meat, fish and cheese are non-respiring products needing very low gas permeability films and so-called high barrier films are used. The initial flushed gas-mixture will be maintained inside the MA package.

Principle of Modified Atmosphere Packaging

Conversely, fruits and vegetables are respiring products where the interaction of the packaging material with the product is important and so low barrier or so-called high permeability films are used for these. So long as the permeability (for oxygen and carbon dioxide) of the packaging film is adapted to the product's level of respiration, an equilibrium modified atmosphere will be established in the package and the shelf-life of the product will increase. As food companies use fewer preservatives and trans fats, and storage temperatures continue to be costly to control, MAP offers a solution.

Using MAP to Extend Shelf Life of Produce

Although the biochemical and physiological basis for the deterioration of fruits and vegetables varies, respiration rates and microbial growth largely dictate the minimum carbon dioxide and oxygen tolerances of fruits and vegetables within MAP. Respiration rates vary as a function of factors such as product surface area, agricultural variety, growing season, and environment. These rate ranges have long been established for certain vegetables and fruits: In general, reduced oxygen levels retard ripening, but some vegetables cannot tolerate low oxygen levels. For example, oxygen levels lower than 3 percent are not tolerated well by avocados, tomatoes, and cucumber while oxygen levels below 1 percent are not tolerated well by apples, broccoli, and mushrooms. For carbon dioxide levels greater than 1 percent, the ripening of some produce slows and extends its shelf life. The efficacy of carbon dioxide in delaying the ripening of fruits and vegetables increases as temperatures rise. This is important since many fruits and vegetables are exposed to higher than desired temperatures during
transport. Although levels of carbon dioxide greater than 10 percent reduce mold growth, some fruits and vegetables — in particular, apples, tomatoes, and mangoes — do not tolerate carbon dioxide levels higher than 10 percent.

**Inhibiting Pathogen Growth in Meats with MAP**

Concerns over bacterial growth govern most packaging protocols to extend shelf life in meats and seafood. Non-commercially sterilized meat and seafood are prone to growth of *Clostridium botulinum*, *Escherichia coli* O157:H7, *Salmonella*, *Listeria*, *Vibrio*, and other pathogens. Meats are shipped frozen at low oxygen levels and then displayed in retail packaging that has a high oxygen transmission rate to facilitate redness and the appearance of freshness. For seafood, *C. botulinum* is of high concern, so anaerobic and aerobic packaging are controlled. An anaerobic environment must be used in conjunction with time-temperature indicators (TTIs) and temperatures cannot exceed 38°F. The potential for botulism keeps the volume of MAP, unpasteurized, refrigerated fish far lower than frozen. Industry shies away from TTIs, but for now, TTIs are the principal hurdle to enable the fresh market.

**Stalling Oxidation in Snack Foods**

The trend toward reformulating foods to contain more unsaturated fats than saturated fats has increased the propensity for many foods to undergo lipid oxidation. Commonly used for nuts and chips, MAP with low oxygen transmission rates is now becoming more prevalent for other snack-food packaging. Lower levels of oxygen are needed to stop oxidation and increase the shelf life of reformulated products. Superior oxygen barriers can be achieved with metalized film, high-barrier multilayer structures, or rigid structures. Oxygen scavenging sachets that sequester oxygen are available from many commercial companies. A metallized packaging material offers a barrier to reduce light-induced oxidation and a barrier for oxygen. This package structure and others with a layer of ethylene vinyl alcohol (EVOH) are not recyclable. Recyclable/reusable polyethylene terephthalate (PET) canisters that incorporate low concentrations of EVOH offer the same barrier properties as alternative flexible non-recyclable structures. There is also research on developing packages that incorporate palladium, sodium ascorbate, and plant-derived gallic acid within polymers.

**Reducing Microbial Growth in Other Products**

Certain cheeses, preservative-free and gluten-free breads, and other products require MAP so that they remain free of deteriorative molds. When carbon dioxide is absorbed in the liquid phase of products, their pH drops, and their volume of headspace decreases. For cheese, absorption of carbon dioxide after the packaging operation results in pulling packaging to conform to the shape of the cheese. Chunk and slice films for cheese are evolving from traditional three-layer laminations with ethylene vinyl acetate extrusion coated sealants to two-layer structures with extrusion or adhesive laminated sealants. For bakery products that will squish with too much pressure, carbon dioxide levels less than 75 percent with the remainder nitrogen are more common. This reduces mold growth since carbon dioxide absorbs into the product’s open-cell structure and removes the oxygen it needs to grow. High-barrier multilayer packaging (often with oxygen scavengers) composed of EVOH or thick-gauge PET with secure seals coupled with frozen or refrigerated distribution dominate MAP for cheese and preservative-free and gluten-free baked goods.

**Changing the MAP Industry**

Measuring volatile and deteriorative gases is evolving with portable high attenuation instruments becoming more common. Integrated systems that monitor oxygen levels when packages are filled are critical to food safety and quality programs. The gas mixture entering the packaging line can be continuously optimized. As research in MAP continues to progress, packaging solutions that address the microbial risk and sustainability are needed. Research underway includes the development of bio-switches that activate in the presence of bacteria, encapsulation of antimicrobial plant extracts, the development of tolerances for toxin production and permeable packaging, and the development of antimicrobial biofilms.


Keywords: bacteria, pathogen, fruits, vegetables, snack.
Who Cares for the Elderly?

Images of an aging parent being cared for by a doting daughter are universal. But there’s more to the caregiving picture.

Although many see caregiving responsibilities as the domain of women, it turns out slightly more working men than working women provided some sort of elder care in the last five years, according to a study released today by Families and Work Institute.

*The Older Adult Caregiver Study*, which provides a snapshot of the caregiving issues facing both working and non-working individuals, found that two-thirds (66%) of family caregivers reported being employed while providing care in the past five years; and, among those providing care, 51 percent were men and 49 percent were women. Overall, including those who are employed and unemployed, more women in the study (65%) provided care than men (56%), but the percentage of caregivers who are working is slightly more male in this study.

“Though the difference is small, the fact that 51 percent of employed caregivers in the study were men is a potent reminder that providing care and a steady income is a workforce issue, not a women’s issue,” said Kenneth Matos, Senior Director of Research at the Institute.

No matter the gender, caregiving responsibilities take up a lot of time for employees who are currently providing such care.

The study, which surveyed 1,050 U.S. adults found that respondents employed full-time reported a median of:

- 16 hours per week providing hands-on older adult care (i.e., housework, meal preparation, physical care and transportation); and
- 6 hours per week performing other, indirect responsibilities (i.e., arranging services and providing assistance with finances).

And, unfortunately, employees don’t really turn to their employers for help when family caregiving becomes too onerous.

Most respondents would turn to health care professionals, family or friends for information about how to provide elder care:

- 71% elder’s doctor or health care professional;
- 52% caregiver’s doctor or health care professional; and
- 50% family or friends.

But few would turn to their place of work:

- 7% Human Resource department (HR);
- Employee Assistance Program (EAP); and
- 6% coworkers/supervisors.

“Employees can feel very isolated and may be afraid to let others know about what is going on in their home life. Some may find themselves in a caregiving closet, trying to hide their care responsibilities; the complex adjustments they make to provide care for loved ones and be successful at work; and the emotions — both good and sad — that these experiences foster,” Matos explained.

“Employees are better able to succeed at work when employers work with them to create solutions — like adjusted hours or break schedules — that integrate and fulfill both their work and personal responsibilities,” he continued. “Not every situation will have a great mutually beneficial solution, but so many more become possible when employers and employees reinvent work together. Indeed, employees in the study found a host of ways to adapt:
• 50% changed their work schedules while working the same number of hours (e.g., arriving and leaving work later or changing shifts).
• 41% worked fewer hours overall (e.g., worked fewer overtime or regular hours than they ordinarily wanted to work).
• 33% worked from home or some other remote location.
• 29% took a block of time off work intending to return to the same job (a “leave”).
• 13% changed jobs or positions at their current employer.
• 11% quit their jobs to provide full-time elder care.
• 9% changed employers.

Today’s family caregivers overall — whether employed or not — provide a complex level of care, including helping to manage a host of health conditions. More than three-fourths of caregivers responded that their elder had two or more chronic health conditions. And, the top chronic health conditions they manage include hearing problems (32%); diabetes (32%); memory problems, including dementia, Alzheimer’s, etc. (29%); and at 28 percent each, vision problems, stroke or hypertension, and heart disease.

While about half (49%) of the caregivers are caring for an ailing parent, others are looking after grandparents (18%), a neighbor or community member (13%) or a parent-in-law (12%), among other extended family members. Most caregivers are providing nutrition care for their elder, including 86 percent going grocery shopping, 74 percent cooking and preparing meals, and 38 percent providing oral nutrition supplements. Over three-quarters (79%) of all respondents believe proper nutrition is very important for achieving positive health outcomes for older adults.


Keywords: work and family, caregiving, senior.

U.S. Children in Poverty

The rate of child poverty rate in the U.S. remained frozen at one child in five in 2014, according to data released by the U.S. Census Bureau in the fall of 2015. This follows a two percentage drop in poverty between 2012 and 2013. In 2014, 21.1 percent of all American children — 15.5 million children — lived in poverty. The nation’s child poverty rate remains the highest among the world’s high-income countries, according to other studies.

While poverty rates remained unchanged for children in all major racial and ethnic groups in 2014, the likelihood of being poor still varied widely by race and ethnicity in America. The poverty rate for black children in 2014 was 37.1 percent, compared to 31.9 percent for Hispanics, 14.0 percent for Asians, and 12.3 percent for non-Hispanic white children. Other key points from the 2014 data:
• Forty three percent of American children (31.5 million) live in low income families — with incomes less than twice the poverty level.
• More than 9 percent of children (6.8 million) live in deep poverty, with family incomes less than half the poverty line. Eighteen percent of black children (2 million) and 12.9 percent of Hispanic children (2.3 million) live in deep poverty.
• Rates of economic stress remain far higher for families since the start of the Great Recession. The number of children in the U.S. has grown by less than one percent since 2007, but the number of children in poverty has grown by 23%.
• Children of single moms are much more likely to be poor than children in households with two parents present. About 46 percent of children in families with a female householder are poor, compared to about 11 percent of children in families with married parents.
• 29% of children in poverty have at least one parent employed full time, year round.

The Census Bureau also released its annual supplemental poverty measure, which takes into account the impact of income supports and assistance designed to help low-income families. The supplemental poverty measure demonstrates the power of government programs to shield children from poverty. For example, refundable tax credits such as the Earned Income Tax Credit lifted more than 5 million children out of poverty in 2014.


Keywords: children at risk, poverty.
Will Strength Training Help You Live Longer?

There are two large scale studies that describe how strength training increases longevity. The first study was conducted by researchers at the University of California. They studied the relationship between body composition and mortality in 6,400 individuals with heart disease. They collected dual x-ray absorptiometry data, which determines muscle and fat composition, and found that subjects fell into one of the following categories:

1. low muscle/high fat mass
2. low muscle/low fat mass
3. high muscle/low fat mass
4. high muscle/high fat mass

The results, published in *the American Journal of Cardiology*, showed individuals with higher amounts of muscle were significantly less likely to die from heart problems. The lowest mortality occurred in individuals who had high muscle mass and low fat mass. But individuals with high muscle/high fat mass had a lower mortality than individuals with low muscle mass. Lead researcher, Dr. Srikanthan, speculated that the protective effect of muscle mass may explain the “obesity paradox” where people with a higher BMI (and usually a higher percent body fat) have lower death rates.

The second study was conducted by researchers at Penn State College of Medicine and Columbia University. They collected strength training and mortality data on 30,000 older individuals (65 years or older), over a 15 year period.

The results, published in the journal *Preventive Health*, showed a very small percentage — just 9.6 percent — of participants participated in strength training exercises. Those who strength trained at least twice a week had significant benefits. They had a 46 percent lower chance of dying from anything, a 41 percent lower chance of dying from heart disease, and 19 percent lower chance of dying from cancer.

These results indicate that strength training goes beyond improving muscle strength and physical function. Lead author Dr. Janet Krashniewski stated, “We need to identify more ways that we can help get people engaged in strength training so we can increase the number from just under 10 percent to a much higher percentage of our older adults who are engaged in these activities.”

The results from these studies suggest that individuals should include strength training as part of a healthy lifestyle.


Keywords: Strength training.

2.7% of Americans Meet Four “Healthy Lifestyle” Criteria

Three universities — Oregon State, Mississippi, and Tennessee — analyzed data from approximately 5,000 adults Americans who completed the National Health and Nutrition Examination Survey (NHANES) from 2003-2006. They determined what percentage
of individuals met the criteria for a “healthy lifestyle.” The four criteria they used were:
1. consuming an appropriate balanced diet
2. being physically active (accumulating 150 minutes of activity per week)
3. meeting the recommended criteria for body fat percentage, and
4. not smoking

Researchers used different assessment strategies to collect the data: (1) Dietary intake was measured over a 7 day period using a standardized interactive dietary interview and coding system; (2) Physical activity was measured for 7 days by having participants wear accelerometers which track movement; (3) Body fat index was measured using dual energy X-ray absorptiometry; and (4) smoking status was measured using blood work.

The results, published in the 2016 Mayo Proceedings, were very disappointing. Listed below are the percentages of individuals who met the recommendations for each criteria and the percentage who met 0-4 criteria.

Percentage of individuals who met each criteria:
- Consuming an appropriate diet: 37.9%
- Being physically active: 46.5%
- Having the recommended percent body fat: 9.6%
- Not smoking: 71.5%

Percentage of individuals who met 0-4 criteria:
- Zero criteria: 11.1%
- One criteria: 33.5%
- Two criteria: 36.8%
- Three criteria: 16%
- Four criteria: 2.7%

A very small percentage, 2.7 percent, met all four criteria for a healthy lifestyle. The criteria that people had the hardest time meeting was having the recommended percent body fat.

The researchers stated that meeting all four criteria is important because these factors are related to increased risk of heart disease and other medical conditions. Future work should focus on strategies to help individuals meet these criteria.

Keyword: healthy lifestyle.

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What Does “Healthy” on a Food Package Mean?

Which of the following foods can put the word “healthy” on their package — a sugary fortified cereal or a package of almonds? If you selected almonds, you’re wrong.

According to the Food and Drug Administration (FDA), foods labeled as “healthy” must be low in fat, saturated fat, sodium, cholesterol and contain beneficial nutrients like vitamin C or calcium. In addition, snack items can’t have more than 3 grams of fat per serving. Most nuts contain more than this amount.

In 1994 when the FDA defined “healthy,” many healthcare professionals promoted low fat foods, and sugar content wasn’t considered. While recent nutrition research has proven the benefits of consuming healthy fats, getting the FDA regulations to change occurs very slowly.

Changing the definition of healthy requires the FDA to first propose updating the definition of “healthy.” This is followed by a comment period during which food makers and the public can submit their ideas and suggestions on what the definition of “healthy” should be. Look at the Nutrition Facts label and the ingredient list to determine if foods labeled as “healthy” are healthy.

Source: [www.wsj.com/articles/fda-seeks-to-redefine-healthy-1462872601](http://www.wsj.com/articles/fda-seeks-to-redefine-healthy-1462872601);
Keyword: healthy.
Retirement and Parenting

The U.S. Department of Agriculture estimates that the cost to raise a child born in 2013 to the age of 18 is slightly over $245,000. Other sources report that figure is an average of costs across the country and actual costs could range up to $340,000 in different locations. These estimates include the cost of housing, food, transportation, clothing, health care, education, child care and miscellaneous expenses like haircuts and cell phones. Unfortunately, the figure does not include the cost of college.

“Our kids are often the people we love most in life. They are literally a piece of us. Why wouldn’t we want to give them everything they ever need?” One very important reason would be our own retirement. An additional quarter of a million dollars would go a long way to bolster anyone’s retirement account and that is the cost for only one child. It is very important for people to plan and prepare for retirement while your children are growing up. If you do not, “…you’re actually doing yourself and your children a disservice in the long run because you won’t have the ability to provide for yourself in old age.”

Your children do not need to live an austere life, but it is important to achieve balance. Storjohann suggests four ways to balance raising well-rounded children while still accumulating retirement savings at various stages of life:

1. Consider how much baby equipment you really need and will use before you give it away or sell it at a yard sale for pennies on the dollar.
2. Wisely consider your child’s number of extracurricular activities. The cost for lessons, equipment, travel and even injuries can add up quickly. “Determine how much you can spend only after you’ve put aside savings for retirement to ensure you remain on track with your financial goals.”
3. Teach your children about money. Discussing money early and encouraging practice of managing money will improve financial literacy and skills. “They may ask to tap the bank of mom and dad less frequently.”
4. Prioritize retirement over college savings. There are no loans to fund your retirement, but there are many options for funding your child’s education. Consider the long-term implications for your retirement that might last 20 or more years.


Keywords: Retirement, parenting, financial management.
Financial Coaching

Many of us are familiar with football and other sports coaches, but we may not know as much about the newer fields of life coaches and financial coaches. “Financial coaching is an application of coaching techniques designed to develop an individual’s capability to manage their finances in accordance with their self-defined goals.” In existence for about ten years, the field of financial coaching is growing but until recently little data has been available on the size of the field, how coaching is being implemented and how success is being measured. To fill this void, the Center for Financial Security (CFS) and Asset Funders Network (AFN) created a Financial Coaching Census with support from the Annie E. Casey Foundation.

An electronic survey with three different tracks targeted 1) practicing coaches, 2) managers of coaching programs and 3) funders of financial coaching was distributed in the fall of 2015. A total of 601 responses were received from individuals from 358 unique organizations (17 funding organizations and 341 social service organizations) located in 231 cities across 47 states including Idaho. Half of the respondents (50%) identified themselves as financial coaches while forty-two percent were program managers who supervise coaching programs and eight percent were funders of financial coaching programs.

“Based on respondent averages, the census data captures at least 1,705 coaches delivering financial coaching…” who estimated that they personally coach an average of 25.2 clients per month. The median was 14.5 clients per month.

“Estimates show that approximately 10,230 clients receive financial coaching services per month…” from mostly paid staff and to a lesser degree, from volunteers. The coaching can be voluntary or mandatory and is primarily delivered as a bundled service including telephone, in-person, group and online coaching. “Ninety-five percent of funders chose in-person coaching as the most used method, but group coaching was cited by 51 percent as a common delivery method as well.”

The training of financial coaches was reported as primarily nontraditional or internal trainings. When asked to identify trainings attended by themselves or coaches, “Fifty-four percent of managers selected ‘other,’ including internal trainings, and NeighborWorks America came in as the second-most attended training.”

How is the field measuring their success of financial coaching? The census reports credit, debt and savings as the highest ranking requirements by funders as indicators of success and were also cited by both managers and coaches. “However, managers and coaches consistently chose ‘client’s personal financial goals’ and ‘budgeting’ as the most commonly tracked indicators at 80% or above across the board.”

“The vast majority of funders (72%), managers (65%), and coaches (66%) believe that financial coaching improves their clients’ financial situations.” A few respondents felt it was too soon to evaluate success and fewer reported that they did not know if they were being successful. Barriers to success included “lack of interest or buy-in” from clients (52%) and “lack of funding” (42%). Funders reported that lack of standardization and best practices in the field (51%) were the most substantial barriers to funding. This census provides insights into a new field that offers career opportunities for educators and students. The importance of more formal training for coaches and program evaluation is evident from the census.


Keywords: Financial coaching, financial capability, training.