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**Journal of National Extension Association of
Family and Consumer Sciences
President's Message**

It is my pleasure to present you with the 2016 edition of the *Journal of National Extension of Family and Consumer Sciences (JNEAFCS)*. This refereed journal is an excellent way for members to inform others in our profession and related fields about our scholarly Family and Consumer Sciences (FCS) work. The Journal highlights research, best practices, and program impacts for Extension Family and Consumer Sciences and can also help members stay current with programming, research, and methodology.

British pioneer molecular scientist Rosalind Franklin wrote that "Science and everyday life cannot and should not be separated." As you read through Volume 11 of *JNEAFCS*, you will discover how innovative and life-changing FCS programming and research breathes new life into Franklin's words. This edition includes articles that range from strengthening communities through community-based service-learning projects to assessing physical activity determinants in urban settings to using virtual focus groups in Extension research.

Make it a professional goal to submit an article for a future Journal issue or to volunteer to be a peer reviewer. Forward *JNEAFCS* along with a personal note to administrators, local and state policymakers, advisory groups, and peers, denoting how Extension work makes a difference in your community and beyond. For instance, you can share how FCS diabetes prevention and management programs help individuals learn the importance of adapting healthy lifestyles for a better quality of life.

Many thanks to Co-Editors Lauren Weatherford of West Virginia University Extension and Sarah Ransom of University of Tennessee Extension and to Copy Editor Chris Kniep of the University of Wisconsin Extension for all their hard work and dedication. Sincere appreciation also goes out to the Journal sub-committee, peer reviewers, and Vice President of Member Resources Margie Memmott of Utah State University Extension, for producing a quality, peer-reviewed, professional publication that preserves our valuable research and resources for current and future readers.

Get ready to plant the seeds for innovative program development, grow professional networks with trusted Extension colleagues, and harvest the knowledge that will help improve the lives of individuals, families and communities across this country by absorbing then sharing the contents of this journal and being a future contributor.

Sincerely,

Theresa C. Mayhew, President 2016-2017

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Journal of National Extension Association of Family and Consumer Sciences

From the Editors

Here is your 2016 edition of the *Journal of National Extension Association of Family and Consumer Sciences* (JNEAFCS). JNEAFCS is a refereed journal. We appreciate the opportunity we have had to edit the journal this year and have learned a lot throughout the process. We look forward to serving you in 2017.

Please consider submitting a manuscript for the 2017 edition of JNEAFCS to promote yourself or one of your programs. The submission deadline is March 1, 2017. Choose a program where you can demonstrate impact. Have your colleagues read your manuscript to get input before submitting it to ensure it is of high quality.

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RESEARCH

Strengthening Communities through Community-Based Service-Learning Projects

Shannon Cromwell and Matthew Palmer

The incorporation of community-based service-learning projects into afterschool programs empowers youth to become actively engaged in their communities by participating in activities that foster life-skills development. During the 2015-2016 school year, 4-H Afterschool youth participated in monthly service-learning projects that positively affected over 1,000 low-income individuals and families. Survey results indicated that youth care about making a difference in their community and learned valuable skills, which helped them make a difference in the community.

Service-learning projects provide youth with opportunities to learn valuable life-skills. Community-based service-learning projects focus on addressing real community needs through short-term projects (Kackar-Cam & Schmidt, 2014). Extension professionals have the opportunity to address community needs and issues through collective action by implementing youth-driven service-learning projects. 4-H and other youth development organizations, faith-based organizations, and afterschool programs may provide opportunities for youth to become involved in community-based service-learning projects.

Successful service-learning programs instill community engagement concepts while enriching learning among youth. Additional components of service-learning programs include useful, intentional learning goals that focus on community needs, youth input on projects, and analytic reflection to explore the effect of the project on both youth participants and the community (Scott & Graham, 2015; Stafford, Boyd, & Lindner, 2003).

Research suggests that the incorporation of community-based service-learning projects in youth activities has a profound effect on personal development. By introducing meaningful activities in childhood, youth have the opportunity to gain skills crucial for positive youth development (Scott & Graham, 2015). Youth involved in service-learning projects have been shown to have higher levels of empathy and sympathy, more community and civic engagement, and lower levels of delinquency. Service-learning activities also promote leadership skills development and teamwork among participants. By collaborating with community partners, youth gain insights into the importance of valuing diversity (Kackar-Cam & Schmidt, 2014; Schmidt, Shuman, & Kackar, 2007). Furthermore, service-learning projects allow youth to attain a deeper knowledge and a clearer concept of community needs by providing opportunities to witness how service can ameliorate local issues (Scott & Graham, 2015).

Service-Learning and 4-H

Positive effects on life-skills development can be provided for youth by including 4-H Service-Learning projects into community-based programs (Boyd, Herring, & Briers, 1992; Ferrari, Hogue, and Scheer, 2004). Service is a foundational concept of the 4-H

program as evidenced by the phrase: “My hands to larger service,” which is part of the 4-H pledge and is recited during 4-H club meetings (Hennessey, Ball, & Moncheski, 2013). Furthermore, the 4-H program focuses on experiential learning model components that encourage a “learn by doing” approach, which allows youth participants with opportunities to do a project or activity, reflect upon and share their experiences, and apply their experiences to similar or different situations (Diem, 2001).

The reflection component of the 4-H experiential learning model is especially important because it allows for youth participants to understand the effects service activities have had on their personal development as well as their community’s well-being (Kackar-Cam & Schmidt, 2014). Reflection promotes identity exploration and development as youth explore their membership within the community (Flanagan, Kim, Collura, & Kopish, 2014; Kackar-Cam & Schmidt, 2014). Additionally, reflection periods aid youth in developing the knowledge and understanding that they are making a difference in their community (Dworkin, Larson, & Hansen, 2003; Schmidt, Shumow, & Kackar, 2012).

Objective

4-H Afterschool participants were introduced to service-learning concepts, recognizing that youth-driven service projects can assist Extension professionals in creating programs that address community needs (Hennessey, Ball, Moncheski, 2013). Therefore, the objectives of 4-H Afterschool service-learning projects were to 1) instill concern and gratitude among youth participants towards their communities; and 2)

provide opportunities for youth to complete hands-on community projects in partnership with adult mentors.

Method

Sanpete County's 4-H Afterschool program focused on strengthening local communities by engaging elementary-aged youth participants in monthly, hands-on service projects. The monthly service projects were implemented during the 2015-2016 school year at eight elementary schools. Two hundred and sixty 4-H Afterschool members in grades kindergarten through fifth participated in the projects.

Service-Learning Project Procedures

4-H Afterschool service-learning projects were implemented through collaborative partnerships between Extension faculty, 4-H Afterschool staff, school administrators, and local interagency council members. In addition, 4-H Afterschool staff established partnerships with a variety of community agencies serving low-income populations.

Each service-learning project lasted two hours and was dedicated to a specific population within the community. Funding for service projects was provided through a Temporary Assistance for Needy Families (TANF) grant from Utah's Department of Workforce Services.

Service projects varied, based on the population and needs of the community agency. Projects ranged in degree of difficulty, thus providing opportunities for peer mentoring between older and younger youth. Examples of projects included collecting

food for the local pantry, assembling kits for children in crisis, creating placemats for senior citizen meals, and presenting thank-you cards to local veterans.

4-H Afterschool leaders introduced service-learning projects to youth participants once a month during club meetings. Each project incorporated experiential learning model concepts by allowing youth to do the service activity, reflect upon the activity, and apply the skills and knowledge gained to real-world examples (Diem, 2001).

Based on research surrounding the importance of the reflection component and in order to give youth participants the opportunity to understand how the project aids in their development and their communities' well-being (Kackar-Cam & Schmidt, 2014), 4-H Afterschool staff engaged youth in periods of reflection for each project. The reflection process encouraged participants to share experiences and feelings about their efforts by allowing them to explain what they did, what they learned, and why the activity was important to themselves and their community.

An Institutional Review Board (IRB) approved Qualtrics survey was emailed to the 86 families who had youth enrolled in the afterschool program. Each 4-H Afterschool family had an average of three youth involved in the program. The purpose of the survey was to gauge youth participants' understanding and knowledge about providing service to others, as well as their feelings toward completing service-learning projects in their communities. Parents were asked to assist their children in filling out one survey per family to determine if youth-driven service-learning projects supported the program objectives.

Results

Two hundred and sixty youth from 86 families throughout Sanpete County participated in monthly service-learning projects, which affected more than 1,000 community residents of all ages. Youth were asked to assess their 4-H service-learning experience by indicating how much they agreed with five statements using a Likert scale ranking their understanding, knowledge, and feelings based on the following options: 1=Strongly Agree, 2=Agree, 3= Disagree, 4=Strongly Disagree.

The survey statements included: 1) It is really important to me to try and make a difference in the world; 2) I care about contributing to make the world a better place for everyone; 3) I really care about my community; 4) I have helped with a project that made a difference in my community; and 5) I learned skills that helped me make a difference in my community.

4-H Afterschool Service-Learning Survey Results

Fifty-one youth from the 86 afterschool families completed the online survey, resulting in a 59% response rate. According to survey responses, 4-H community-based service-learning projects met the program objectives as youth indicated feelings of concern for their communities and reported having completed projects that benefited their communities (See Figure 1.). Survey results indicated:

- 53% of youth **strongly agreed** that it was important to try and make a difference in the world.
- 57% of youth **strongly agreed** that they care about contributing to make the world a better place for everyone.
- 73% of youth **strongly agreed** that they really care about their community.

- 53% of youth **strongly agreed** that they have helped with a project that made a difference in their community.
- 57% of youth **strongly agreed** that they learned skills that helped them make a difference in their community.

Summary

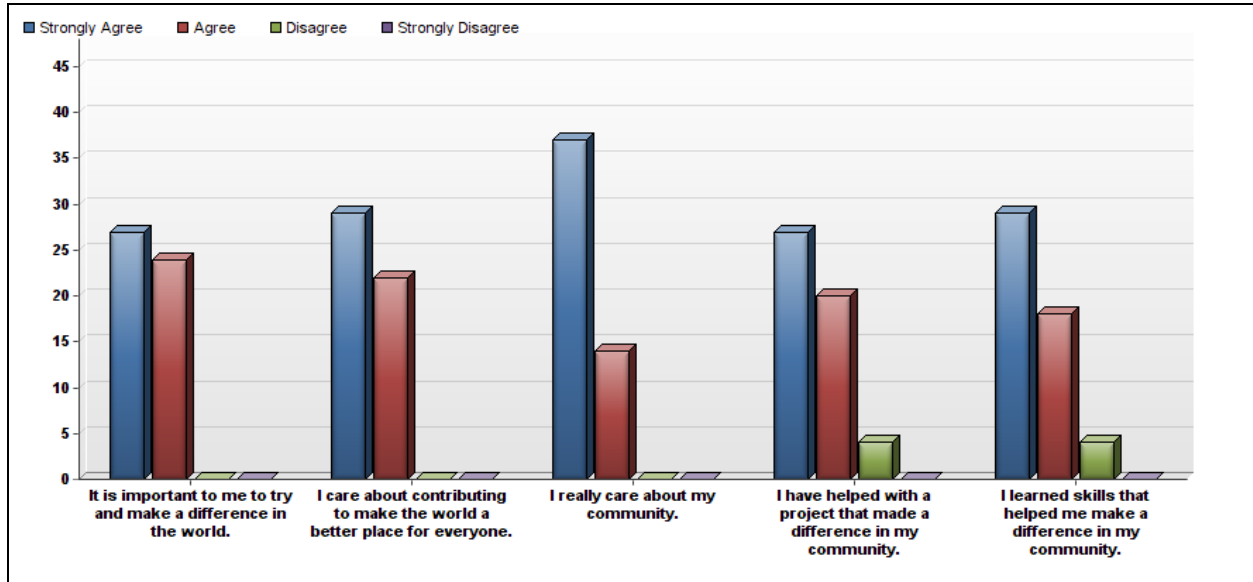
Community-based service-learning projects were introduced to 4-H Afterschool youth to foster life-skills development. Based on survey results, youth participants felt they were making a difference in their communities by completing service-learning projects that benefited residents throughout the county. The addition of experiential learning model concepts into the program gave youth opportunities to reflect upon the service activities by sharing their experiences and expressing their feelings about the projects. The incorporation of community-based service-learning projects into Sanpete County's 4-H Afterschool program has proven to be a beneficial technique for empowering youth by creating opportunities for them to get involved in their communities through hands-on activities.

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Table 1. Youth Responses to Community-Based Service-Learning Projects



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RESEARCH

Survey Explores Educators' Knowledge and Use of Dry Edible Beans and Preferred Educational Materials

Dr. Julie-Garden Robinson

Through an online survey, this study determined the knowledge of dry edible beans and consumption behavior among nutrition educators employed in Extension and public health programs, their perceptions of bean knowledge and use among their clients, and preferred educational tools and methods of acquiring new information about legumes.

Educators indicated significantly greater awareness of nutritional attributes and positive health impacts associated with beans compared with their clients; however, gaps in knowledge also were determined among educators. Results were used to guide the creation of materials for professional educators and the clients they serve.

Dry edible beans, such as pinto, navy, kidney, pink, cranberry, and black beans, are members of the legume family. A legume is a plant that produces seeds in a pod; dry beans are the mature seeds within these pods. Other members of the legume family include lentils, peas, peanuts, and soybeans (Asif, Rooney, Ali, & Riaz, 2013).

From a commodity group standpoint, lentils, chickpeas, and peas also are known as “pulses” in the United States, while dry edible beans are represented by separate commodity groups. Worldwide, dry edible beans are considered pulses, and 2016 was declared the International Year of Pulses by the United Nations General Assembly. This declaration placed a global spotlight on foods that may help with sustainable food production and worldwide food security (Food and Agriculture Organization (FAO), 2016).

As with previous editions, the 2015 Dietary Guidelines for Americans promotes increased vegetable consumption. According to MyPlate, the symbol representing the Dietary Guidelines, legumes can be classified either as a protein food or a vegetable because of their nutritional composition; legumes are included in the bean and pea vegetable subgroup. On average, the recommended consumption of foods from the bean and pea vegetable subgroup is one to two cups per week among women and men, depending on age (U.S. Department of Health and Human Services and U.S. Department of Agriculture, 2015).

Beans are low in fat and rich in protein, complex carbohydrates, fiber (both insoluble and soluble), vitamins, and minerals. On average, one-half cup of cooked beans has at least 7.5 grams of fiber. Beans also are an inexpensive addition to menus and can be used to stretch the protein budget. One-half cup of cooked dry edible beans costs less than 10 cents per serving compared with extra-lean ground beef (\$1.42 per 4-ounce portion) and chicken breast (\$0.81 per 4-ounce portion) (U.S. Department of Agriculture Economic Research Service, 2016). About 14 percent of the U.S. population consumes beans on any given day, but beans are more popular in the

southwestern part of the U.S. (U.S. Department of Agriculture Economic Research Service, 2016).

Many studies have linked bean consumption to their role in reducing risk for chronic diseases, including heart disease, cancer, and diabetes (Kolonel et al., 2000; Lanza et al., 2006; Luhovyy, Cho, & Anderson, 2014; Mollard, Wong, Papanikolaou & Fulgoni, 2008; Winham, Hutchins, & Johnston, 2007). Bean consumption has been associated with promoting a healthy weight (Williams, Grafenauer, & O'Shea, 2008). As a result of their low glycemic index, legumes may also help with blood sugar management and appetite control. In a study conducted by Mollard et al. (2014), healthy men ages 18 to 35 consumed chickpeas, lentils, navy beans, yellow peas, and white bread, all served with tomato sauce. Although all pulses were better at lowering postprandial glycemia (post-eating blood sugar) compared with white bread, chickpeas and lentils were more effective in reducing appetite in the "second-meal effect."

According to the Food Habits in Later Life study conducted under guidance of the Union of Nutritional Sciences and the World Health Organization, legume consumption may be linked to a longer lifespan (Darmadi-Blackberry, et al., 2004). The researchers examined consumption of individual food groups, including vegetables, legumes, fruits and nuts, cereals, dairy, meat, and fish; the researchers also studied alcohol consumption and monounsaturated/saturated fat ratios in the diets. Of all the food groups, legumes alone had consistent and statistically significant results. Among the cultures studied, including Japanese, Greeks, Anglo-Celtic Australians, and Swedes, the results showed that for every 20-gram increase in daily legume intake, there was an

8 percent reduction in the risk of death. The legumes consumed included soy, tofu and miso in Japan, brown beans and peas in Sweden, and lentils, chickpeas, and white beans in the Mediterranean region.

Despite their health benefits and U.S. production, the consumption of beans and other pulse foods traditionally has been lower in Western societies, primarily because of the perception they cause flatulence and/or gastrointestinal (GI) upset. Researchers used three feeding studies to examine the perception of increased flatulence and GI distress among participants who consumed ½ cup of beans daily for two to three months. The results showed that 11% or fewer of the participants reported increased flatulence, despite their increased intake of beans. Further, some of the participants reporting flatulence were on control diets without beans (Winham & Hutchins, 2011).

Objective

The objectives of this study were to 1) determine the knowledge and consumption behavior related to dry edible bean use among nutrition educators employed in Extension and public health programs, 2) determine educators' perceptions of bean knowledge and use among their clients, and 3) determine preferred educational tools and methods of acquiring new information about legumes.

Method

Survey questions were developed with expert review by nutrition professionals and survey development specialists. After acceptance of the protocol by the university's Institutional Review Board (IRB), the online survey was pilot-tested with people in the

target population. Using the SurveyMonkey.com online platform, the final survey was disseminated through individual contacts with Extension specialists and their networks following a “snowball sampling” or referral sampling method. The specialists were asked to forward the email with the survey link to other nutrition educators in their state through email list-servs. Those educators were asked to refer the survey to others in similar professions. Respondents were allowed to skip any questions they did not choose to answer. Upon completion of the survey, respondents could type their names into a separate survey to be eligible for random prize drawings for various small gifts (bean recipe books, etc.).

Data Analysis

SAS V9.3 (SAS Institute, Inc., Cary, NC) was used for the analysis. T-tests were run to test for differences.

Results

Survey respondents (n = 733, 99% female) were Extension agents/assistants/associates (57%), Extension specialists/coordinators/university faculty (14%), public health educators (12%), school/childcare foodservice consultants (9%), and clinical or consulting dietitians (8%) from 43 states. Respondents/educators indicated frequent bean use, with 47% serving beans one to two times per week in their homes, and 20% serving beans three or more times per week. Canned beans (92%) were most widely used, following by cooked dry edible beans (62%) and frozen (27%). About 40% indicated that they or members of their family ordered beans in restaurants one to two times per month.

As shown in Table 1, kidney beans (81%), black beans (78%), and pinto beans (73%) were the most commonly served beans in the homes of the survey respondents. The perceived usage among the educators' clients was significantly lower, with pinto (44%) and kidney beans (41%) cited as most popular. Most respondents served beans as a side dish (92%), main dish (71%), as an ingredient in salads (55%), or as snacks/appetizers (42%). Tables 2 and 3 summarize the results of questions related to the nutritional attributes and health benefits of beans. Educators were aware of the main components of beans that are linked to health benefits, including protein (98%), fiber (97%), and low fat content (94%). They were less aware of the content of the B vitamin folate (58%) and antioxidant nutrients in beans (41%). The respondents also indicated knowledge of the role of beans and chronic disease, with heart health (92%), weight management (87%), and blood sugar management (69%) identified most commonly from the list of survey options. In addition, their comments indicated awareness of beans as a source of minerals (iron, manganese, calcium) and as a source of prebiotics linked to digestive health.

As shown in Table 4, significant differences were shown between respondents' ratings of themselves vs. ratings of their clients ($p < .05$). On a 6-point scale (6 = strongly agree), the respondents assigned themselves higher ratings on the positively worded attributes of beans (are affordable, taste good, have appealing aroma, children like beans). They rated the negatively worded statements (beans cause intestinal discomfort, have an unappealing texture) lower for themselves compared to their perceptions of their clients.

Respondents indicated interest in educational materials about beans and provided input about preferred types of materials, as Table 5 shows. The respondents were most interested in brochures with recipes (76%), step-by-step recipes with photos (68%), lesson plans for adults (67%), tips to reduce intestinal comfort (63%), and lesson plans for children (54%). The least popular resources were Facebook pages (16%) and blogs (7%).

Discussion

Dry edible beans are among the most versatile and commonly eaten foods throughout the world, and many varieties are grown in the United States. With heightened awareness created during the International Year of Pulses, these fiber- and protein-rich foods have the potential to improve the diet quality and long-term health among those who consume them regularly (FAO, 2016; Darmadi-Blackberry, et al., 2004). Beans and other legumes are unique in that they can be considered either in the vegetable group or as protein foods. Beans also are lower in cost than most other foods in the protein group (U.S. Department of Agriculture Economic Research Service, 2016).

Results of a nationwide survey of nutrition educators showed that the respondents were aware of many health benefits linked with beans, such as reducing risk of heart disease; however, they perceived their clients to be significantly less aware of the health-promoting attributes of beans. The educators also rated themselves as consuming significantly more beans and a greater variety of beans than their clients. By becoming more aware of bean varieties and cooking methods, educators may be more likely to introduce them to their clients in educational sessions. Although the

respondents were aware of the fiber and protein content of beans, they were much less aware of folate and antioxidant content.

The respondents expressed interest in additional educational materials, especially traditional types of materials such as lesson plans and brochures, to assist them in their educational efforts. The respondents showed less interest in materials such as social media and online interfaces; however, age-related information was not collected and therefore could not be assessed as a factor. Further research is needed to determine if the educators' perceptions of their clients' use and knowledge of beans is accurate.

Summary

This survey shows how data-gathering techniques using surveys can help identify gaps in knowledge, which can be used to conduct additional training for professionals as well as the audiences they reach. In addition to guiding the creation of educational materials, results such as these can help increase communication for “field to table” approaches to nutrition education. These results were provided in a presentation to plant breeders in the agricultural research sector and to the food industry. Following analysis of the survey information, a website was created to house many educational materials, including an evidence-based technical bulletin for professional educators, a lesson plan, PowerPoint presentation, several fact sheets, recipe cards, and food preparation videos showing how to make a variety of recipes. To access the materials for educational purposes, visit <https://www.ag.ndsu.edu/food/bean-resources-1>.

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Table 1. Responses to “What types of beans/pulses are served in your or your clients’ homes? Mark all that apply.”

Response options	Self-rating (<i>n</i> = 733)		Rating of clients (<i>n</i> = 728)	
	Frequency	%	Frequency	%
Kidney beans	591	81	302	41
Black beans	570	78	185	25
Pinto beans	537	73	320	44
Garbanzo beans/chickpeas	411	56	82	11
Great Northern beans	410	56	122	17
Navy beans	309	42	89	12
Lentils	263	36	53	7
Lima beans	263	36	84	12
Soybeans/edamame	231	32	32	4
Other*	41	6	29	4

*“Other” responses included cannellini beans (most frequent), adzuki, black-eyes peas, pink, red and cranberry varieties.

Table 2: Responses to “Which of the following describe(s) beans? Mark all that apply.” (n = 733)

Response options	Frequency	%
Good source of protein	722	98
Source of fiber	711	97
Low in fat	687	94
Source of the B vitamin folate	425	58
Source of natural antioxidants	301	41
Source of vitamin C*	56	8
Other**	32	4
High in cholesterol*	12	2
Source of trans fat*	2	0

*Note: these are not attributes of dry edible beans.

**“Other” responses included beans are a source of minerals (iron, manganese, calcium, potassium mentioned), phytochemicals, GI cleanser, vegetable source, taste good and satisfying, low-sodium, and a good source of prebiotics.

Table 3: Responses to “Which health benefits are associated with beans? Mark all that apply.” (n = 724)

Response options	Frequency	%
Heart health	666	92
Weight management	629	87
Blood sugar control	500	69
Skin health	150	21
Bone health	129	18
Other*	30	4
None of these	4	1

* “Other” responses included digestive health (19 comments) and reduces cancer risk (7 comments).

Table 4: Responses to “Please rate these statements on a 1 to 6 scale (1 = strongly disagree; 2 = disagree; 3 = somewhat disagree; 4 = somewhat agree; 5 = agree; 6 = strongly agree). By beans we are referring to cooked or canned dry edible beans (such as kidney beans, pinto beans).”

Response Options	Self-rating Mean Scores (n = 733)	Client Rating Mean Scores (n = 727)
Beans are a healthy food	6	5*
Beans are affordable	6	5*
Beans taste good	5	4*
The aroma of beans is appealing	4	4*
Children like beans	4	3*
Beans cause intestinal discomfort	4	5*
Beans have an unappealing texture	2	4*

*Paired *t*-tests showed significant difference between self-ratings and client ratings.

Table 5: Responses to “What resources would be especially helpful in promoting bean health benefits? Mark all that apply.” (n = 726)

Response Options	Frequency	%
Brochure with recipes	553	76
How to prepare dry beans showing step-by-step photos with recipes	493	68
Lesson plans for use with adults	483	67
Tips on how to reduce intestinal comfort (including gas) after eating beans	456	63
Lesson plans for use in schools with children	392	54
Online video on dry bean preparation (how to soak, etc.)	372	51
Brochure with health benefits of bean consumption	362	50
Online videos showing various recipes	314	43
Spreadsheet with different bean varieties and information on how to prepare	259	36
Newsletters about beans	243	33
Facebook page with updates	113	16
Blog with bean benefits	49	7
Other*	12	2

*“Other” responses included offering free samples, consumer recipes, and quantity recipes for schools.

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RESEARCH

Live Healthy Live Well Challenge and Six-Month Follow-Up Research Study

Patricia Brinkman, Cindy Shuster, Michelle Treber and Lisa Barlage

The Centers for Disease Control and Prevention (September 2015) reports more than one-third of U.S. adults (34.9%) are obese. Educators have observed many consumers lacking time to attend face-to-face programs but would like to receive educational information. Thus, online, technology-based programming could provide a venue for consumers to obtain research-based nutrition, health and fitness information. The goal of the Live Healthy Live Well Challenge was development of an effective technology-based, nutrition, health and fitness program using email messages to help consumers develop healthier lifestyles. Six month follow-up surveys found many participants adopted practices to reduce their risk of chronic diseases.

Extension educators have used demonstrations, publications, face-to-face meetings, newsletters and other methods to deliver programs for more than 100 years. Increased use of technology is vital due to Educator's time, money and staff constraints requiring them to look for new ways to reach both established and new audiences.

Throughout the United States, there is a high incidence of overweight and obesity among adults. The Centers for Disease Control and Prevention (September 2015) reports more than one-third of U.S. adults (34.9%) are obese. Educators have observed consumers lack time to attend face-to-face programs. Online, technology-based programming can provide a convenient and motivating venue for consumers to obtain research-based education about nutrition, health and fitness. For this team of educators online, technology-based programming has increased.

According to Purcell (2012), mobile connectivity and social networking are changing the manner in which the general public and consumers access information. According to a 2014 Pew Report, 72% of adults who use the Internet look for health or medical information (Fox, 2014). Sixty-five percent of the population used social media sites (Perrin, 2015). Fifty-two percent of online adults now use two or more social media sites, a significant increase from 2013 (Duggan, et al, 2014). Duggan (2015) also reports 62% of all American adults are Facebook users, with 70% logging on daily. As statistics continue to show social media as part of our lives, it is imperative organizations use it to engage and communicate with the public. “We don’t have a choice on whether we DO social media; the question is how well we DO it” (Qualman 2014).

Objective

The overall goal of the Live Healthy Live Well Challenge was the development of a technology-based, nutrition, health and fitness program using email messaging to help consumers develop and sustain key healthy lifestyle behaviors.

The objective of the six-month, follow-up research study was to assess whether using a six-week technology-based health and wellness program would have long-term impacts on participants. The six-month, follow-up study assessed participants' sustained behavior change through an online survey. The study findings would be used to inform and improve the six-week, nutrition, health, and fitness email challenges.

Method

The authors' hypothesized that participants would utilize the knowledge gained from participation in the six-week online challenge to adopt behavior change(s) to reduce their risk of chronic diseases.

Since participants were not contacted during the six-months following the online challenge, the following question remained: was a six-week email challenge intervention enough time for participants to adopt and continue to sustain new behaviors?

Upon Institutional Review Board approval, a self-assessment online survey was sent to individuals who had participated in the Live Healthy Live Well email challenge six months before. This survey was almost identical to the online survey the participants had completed at the beginning and the end of the six-week challenge. The differences were due to seeing if the participants had changed or maintained the same health behaviors or habits they reported at the end of the six week challenge. Participants were asked whether they adopted recommended practices to reduce their risk of chronic disease, if their level of commitment changed for managing their weight, eating healthy and being physically active. Participants were also asked to identify how they felt they had benefitted from the program. This six-month online follow-up study

completed by 188 participants used the post assessment from the six-week challenge and additional questions to determine program impact for the self-reporting of knowledge gained and behavior(s) changed. Pre-and post-online assessments of the Live Healthy Live Well six-week email challenge showed participants increased their knowledge and changed some of their behaviors to reduce their risk of chronic diseases.

Results

Table 1 describes the 188 participants' self-reported adoption of recommended practices to reduce their risk of developing chronic disease (Participants could check many items.). Key findings include:

- 55.1% got 7-8 hours of sleep nightly
- 71% limited fast foods
- 73.9% limited intake of high fat/greasy foods
- 59.1% limited intake of high sugar foods
- 58% participated in daily physical activity for at least 30 minutes
- 51.1% reduced intake of salt or high sodium food

Regarding change in one's level of commitment (Table 2.), the key findings were:

- 75.5% reported improved weight management
- 76.1% improved dietary intake
- 68.5% increased willingness to adapt/modify recipes
- 67.8% increased physical activity.

Benefits gained from program participation included (Table 3.)

- 69.9% were encouraged to try new healthy foods

- 67% gained exercise tips and ideas
- 59.3% gained weight management suggestions
- 57.7% received motivation and support from others
- 51.6% received food preparation tips
- 44% received resource materials
- 21.4% got answers to their question

Seventy-six percent of program participants reported increased knowledge of nutrition and dietary intake; 59% increased their knowledge of health issues; and 51.8% increased fitness knowledge.

Sixty-four percent of participants completing the follow-up survey reported improved overall health and well-being, 51.4% improved exercise habits, and 72.6% improved nutrition habits, while 52% reported improved weight management skills.

Study results suggest participants gained increased knowledge of nutrition, health and fitness topics. More importantly, they reported making strides towards lifestyle changes and adoption of healthy habits.

Follow-up study participants reported an improvement in their overall health and well-being. This is documented in their responses to level of commitment in improved dietary intake and willingness to adapt/modify recipes along with an increase toward physical activity. Participants reported an increase in knowledge of fitness through exercise tips and ideas and have improved exercise habits and fitness routines.

Participants attributed behavior change of nutrition habits to the encouragement they received to try new healthy foods and food preparation tips. Reporting change in

one's commitment showed a large increase in improved dietary intake and willingness to adapt/modify recipes.

Participants reported an increase in weight management skills. The 95% of the study participants self-reported they had maintained or lost weight throughout the six-month time period. Participants also reported a change in commitment which resulted in better weight management.

The results of this follow-up study indicate consumers need and want timely and relevant information regarding nutrition health and fitness education. These results suggest consumers will utilize the information to change their behaviors to improve their health status provided they received motivation and support from others.

As we move into the next 100 years of Cooperative Extension, it is important for educators to utilize technology and technology-based programs to reach a broader base while reducing the barriers of access, transportation, geographic area, time and proximity.

The information from this follow-up survey will impact current and future nutrition, health and fitness programming efforts giving direction to the development and implementation of strategies designed to meet the ever-changing culture of program delivery. We will continue to offer email challenges and address the areas which contained lower scores.

While researchers' disagree and/or have varying views on the amount of time it takes to change or form a new health habit, they do agree it takes time, discipline, and a commitment for the change to become a habit.

The results of this study are limited and may not be generalizable to the overall U.S. adult population. Efforts were made to recruit a diverse group of participants. The demographics of study participants were 89% females with above average income however only 46% of program participants shared their annual income. Sixteen percent reported an annual income under \$25,000; 24% with an annual income of \$25,000 to \$39,999; 33% reported \$40,000 to \$54,999; and 27% reported \$55,000 to \$69,999. The largest age range of participants, 34% being 45 to 54 years old, with 26% in ages 55-64, 16% in ages 35-44, 15% in ages 25-34, 8% age 65 or over, and 1% in ages 18-24.

Summary

Our study aimed to encourage healthier lifestyles through online programming efforts. With 95% self-reporting maintaining or losing weight, it is likely that sustained lifestyle changes occurred. These results concur with the findings of (Nyquist, Rhee, Brunt, & Garden-Robinson, 2011), reinforcing the notion that online messages can contribute to an increase in healthy food consumption and level of physical activity. Furthermore, online education appears to be a desirable intervention strategy for Extension nutrition and health practitioners.

By maintaining and/or losing weight, participants potentially saved themselves and their employer's health insurance costs, as well as reduced their risks of chronic diseases. Other reported factors show behavior changes were maintained over the six-months validating online email challenges as a way to impact and maintain behavior change. The potential long-term health benefits are yet to be realized, although numerous participants self-reported improved health outcomes.

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http://media.wix.com/ugd//c8fe6e_b76adb64a98bf75ad776f476e1e85495.pdf,

Table 1. Adoption of Recommended Practices to Reduce Risk of Developing Chronic Diseases

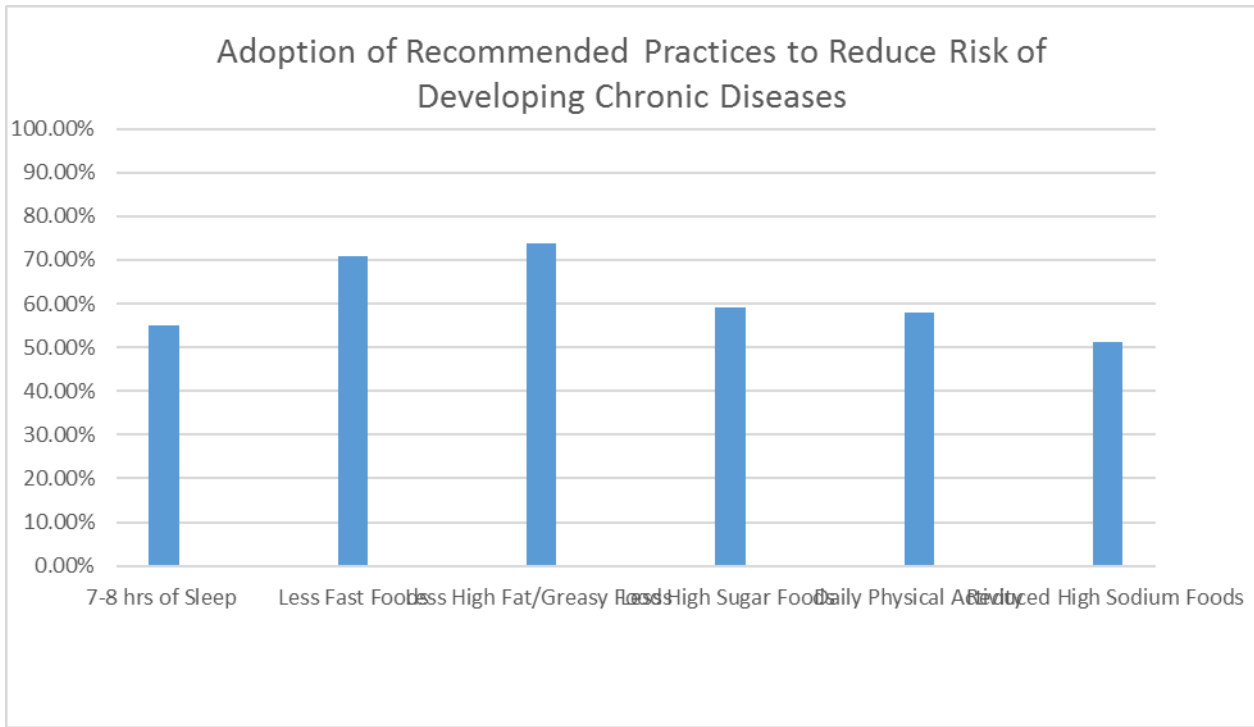


Table 2: Increased Change in Level of Commitment

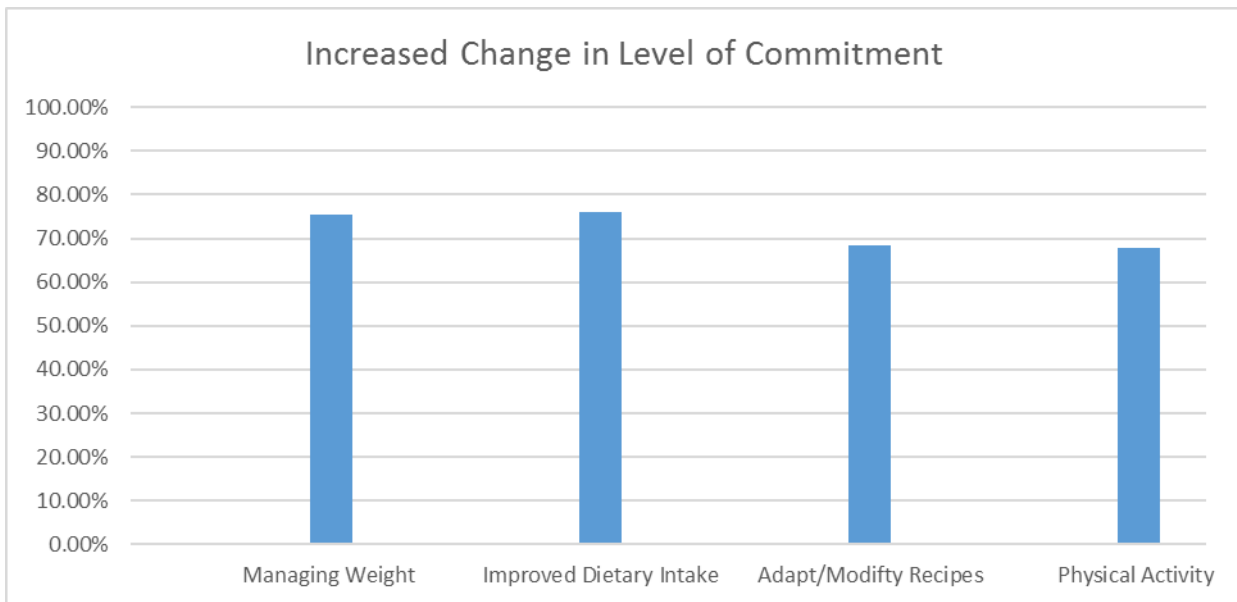
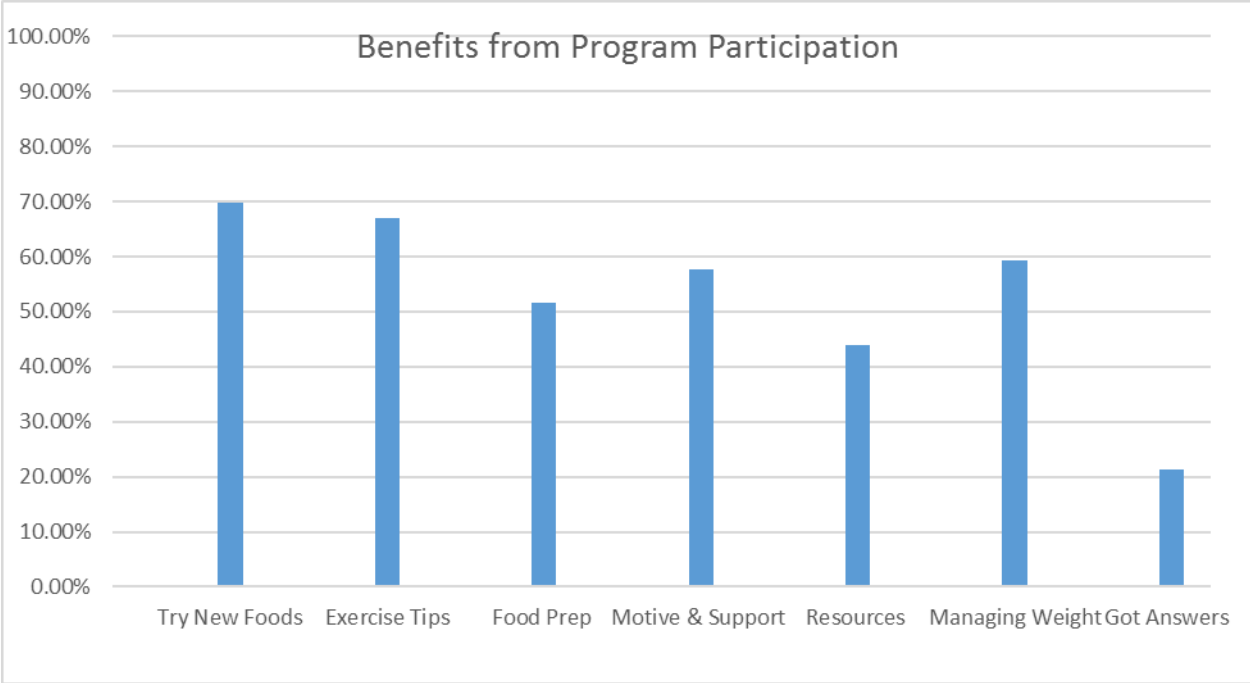


Table 3: Benefits from Program Participation



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IMPLICATIONS FOR EXTENSION

Personal Financial Management Tools: What You Need to Know

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While traditional financial education includes workshops and printed materials, online and mobile tools, games, and applications have become increasingly available. Web-based and mobile applications, such as personal financial management (PFM) tools, offer an engaging way to encourage financial awareness, improve money management skills, and stimulate financial competency. As supported by social learning and behavioral economics theory, technology integration can help individuals stay motivated and change their behaviors, leading to improved financial decisions. This article includes a review of current personal financial management tools, evaluation criteria, and recommendations for use in financial education programs by family and consumer sciences professionals.

Many Americans live beyond their means, incur excessive debt, and lack adequate savings (Koonce et al, 2008; Lusardi & Mitchell, 2009; Lusardi & Mitchell, 2014; Way, 2014). Financial education is designed to help adults increase their understanding, skills, and confidence to manage personal finances thereby overcoming

these challenges (Hira, 2012; Lusardi & Mitchell, 2014; Prawitz & Cohart, 2014). While traditional financial education includes workshops and printed materials, online and mobile tools, games, and other applications have become increasingly available (Collins & Holden, 2014; Way, 2014). The widespread use of Internet-enabled devices, such as smartphones, is changing the way consumers access financial services and make financial decisions (Federal Reserve, 2015). More recent research has found web-based and mobile programs to be effective educational tools (Mayer et al, 2014; Noemí & Máximo, 2014).

The rise of the software and application industry has led to a number of accessible, consumer-friendly tools that individuals can use to improve their financial literacy (Pew Research Center, 2015). Personal financial management (PFM) tools offer an engaging way to encourage financial awareness and stimulate financial competency by giving consumers an array of options to learn how to manage their money and improve their financial knowledge. Adults seek information when the need arises; as such, PFM tools offer readily available money management information (Cercone, 2008; Fernandes et al, 2014).

The purpose of this article is to review current personal financial management tools – what they are and how they work – and evaluate them for educational objectives, as well as offer recommendations for family and consumer science educators. This article will discuss how PFM tools may be a way to advance the financial capability of adults as well as suggest implications for use in financial education programs by family and consumer sciences (FCS) professionals.

Overview of Personal Financial Management Tools

Personal financial management (PFM) tools are software applications (apps) or programs used to manage personal financial resources using a computer, tablet, phone or other device. These apps or programs provide real-time financial information in an accessible format (Ahmed, 2010; Cercone, 2008). PFM tools are designed to increase awareness of personal finances and assist individuals as they gain new skills and knowledge, which can complement traditional financial education and offer after class support (Hathaway & Khatiwada, 2008; Rehm et al, 2013; Volery & Lord, 2000). In addition to the educational purpose, many personal financial management tools feature reminders, immediate feedback, and responses that can be used to keep individuals engaged and motivated to change financial behaviors. Behavioral economics suggest that individuals are influenced by personal and emotional biases (Karlan et al, 2016; Thaler & Bernartzi, 2004); therefore, prompt feedback and reminders help to improve their financial behaviors (Thaler & Sunstein, 2008). Once individuals have an increased awareness, action is the next logical step but support is still required in order to make good financial decisions. Additionally, these tools can help reduce or limit the number of day-to-day money management decisions by automating decisions such as debt payments or savings. Alerts and reminders can encourage engagement and help consumers overcome procrastination and inaction (Karlan et al, 2016; Thaler & Bernartzi, 2004). In these ways, PFM tools can support increased awareness and action while reducing day-to-day money management decisions (Thaler & Bernartzi, 2004).

Personal financial management tools meet a variety of needs and purposes; in Table 1, common tools along with descriptions and primary features are listed. Many PFM tools allow users to aggregate account activity and instantaneously track multiple financial accounts such as checking and savings, credit cards, investments, loans, and retirement. In addition to tracking income and expense activity, these tools can be used to create budgets as well as track financial goals, income, and expenses. Many programs automatically categorize spending and create allocations based on average spending. These tools provide simple financial analyses such as net worth and cash flow. Features such as alerts and reminders of bill due dates, pending payments, and warnings for atypical spending may help users better manage personal finances in the present as well as meet future goals (Karlan et al, 2016). PFM tools offer a easy to use and readily accessible platform that can help consumers meet financial goals and objectives.

Currently, PFM users report checking account balances or recent transactions as the most common use of banking apps (Federal Reserve, 2015). A recent Pew Research Center (2015) study found that 57% of American adults use mobile apps for banking and 30% use apps to access educational information. As educationally inspired games, tools, and applications and tools improve problem-solving and goal achievement (Geurts, Duke & Vermeulen, 2007; Preschl et al, 2011), properly designed and appropriately used PFM tools may meet the money management needs of consumers (Ahmed, 2010; Cercone, 2008; Fernandes et al, 2014; Greenagel, 2002).

Personal financial management tools provide a unique opportunity for FCS educators to help consumers identify financial challenges and tools that may support

areas of financial weakness or improvement. PFM tools can allow consumers to build or practice money management skills, develop and monitor savings goals, track income and expenses, and identify wasteful spending, among others. FCS educators can share tools, as listed in Table 1, with class participants or include similar information in classes when discussing money management practices, such as setting financial goals, budgeting, and tracking expenses.

Although positioned to offer many benefits, there is limited research on the effectiveness of PFM tools on financial behaviors. Furthermore, there are a couple of limitations of PFMs. While some people may think PFM tools can provide solutions to their money problems, these innovations are tools that may help consumers better understand and manage their money situation (assuming all information is entered accurately). As such, PFM tools are not intended to help individuals determine what they should do with their money; nor do they replace the importance of financial literacy and sound financial management practices. However, if properly used, these tools can help increase awareness and promote positive action in achieving individuals' financial goals, such as displaying net worth and offering alerts for due dates, low balances and atypical spending.

Another important concern for many consumers is the security and privacy of the technology (Federal Reserve, 2015). Many apps access and aggregate personal financial account data; therefore, concerns about cybersecurity are natural. Although many PFM programs utilize mobile security controls, as suggested by the Center for Internet Security (CIS), and application security standards, as recommended by the Open Web Application Security Project (OWASP), consumers must still practice

vigilance by protecting personal information and using secure internet connections (Federal Reserve, 2015). Monitoring apps and access to personal data, which include camera, microphone, contacts and email access, can help avoid potential breaches or tampering (CIS, 2014). In addition to accessing information through devices, malicious apps may also create nuisance issues like draining the battery without user knowledge. It is recommended that individuals consider these implications and read product reviews. Basic security steps to protect devices and personal information include: installing a lock code, not “jailbreaking” or rooting devices, downloading legitimate and current apps directly from the Apple or Google Play store, and being wary of any installation prompts to install a profile (CIS, 2014). Although these steps may seem cumbersome, the potential vulnerabilities of data theft or code tampering could lead to jeopardizing personal information or unauthorized transfer of money or credit from any number of accounts – both of which are real and significant issues (Arxan, 2016). Consumers need to understand and weigh the perceived benefits and potential risks to their security and privacy presented by the use of this evolving technology.

Objective Evaluation

As PFM platforms further develop and become more popular, applications should be evaluated to ensure the tool aligns with individual needs (Issac, Rajendran, & Anantharaman, 2003; Li et al, 2014). In addition to helping consumers identify areas for financial improvement, FCS educators can help consumers choose the best program or application, by considering which supports are needed to help them achieve their

financial goals. By reviewing the common financial apps, FCS educators can also help consumers understand the purpose and characteristics of each tool.

Although no PFM tool will match individual preferences perfectly, if selected appropriately, these tools can help encourage users to stay motivated and engaged. As there is limited research on personal finance applications, educational tool research suggests there are common characteristics that users find helpful and useful. These characteristics include goal alignment, user friendliness, cost, and security. These tools can offer an opportunity to practice money management and build financial skills. For example, if a consumer is challenged with tracking their income and expenses, using a PFM tool that offers real-time aggregated tracking may be most helpful. Or, if joint financial decisions need to be made, individuals may want to choose a tool that accommodates and aggregates information from multiple users. On the other hand, if tracking income and expenses is important but privacy and security concerns are an issue, individuals may want to select a tracking tool that does not actually link to personal accounts.

Although this evaluation process will require a significant time investment, users may find it more manageable to thoroughly evaluate a limited number of options. To help narrow the options, consulting online reviews or speaking with friends and colleagues may be useful. Once narrowed (optimally to three choices) it is essential to align one's decision with personal financial goals, strengths, and interests based on the information and analysis available from the program.

Implications

Technological advances have provided a vast array of tools that may spur positive financial action (Lusardi & Mitchell, 2014). As many Americans are intrigued by mobile technology and web-based software, this article has summarized personal financial management tools as well as their potential benefits and challenges.

While not designed to replace financial education, PFM tools can be used to complement and supplement traditional financial education methods. FCS educators can use PFM tools to encourage awareness and action; thereby advancing the field of financial literacy and education. Financial tools have several implications for the advancement of financial education; first, continued, or after class, engagement encourages participants to remain aware of their financial situation. In this way, FCS educators can suggest PFM tools based on clientele needs and as a means to offer “just in time” education and resources (Fernandes et al, 2014). Additionally, PFM tools can support face-to-face educational programs by providing participants with additional opportunities to gain education and information on various financial topics, such as record organization, tracking income and expenses, cash management, debt management and savings goals. Using the evaluation criteria, consumers can select the tool that best aligns with their goals. By selecting well-aligned and supportive tools, individuals may increase their financial awareness, knowledge, skills, and engagement. Although it is too soon to say whether PFM tools empower users to improve their financial situation or make better decisions about their money, these tools have the potential to motivate users when they are seeking financial education and information or engaging in specific financial activities.

While the impact of personal financial management tools have yet to be fully measured, research suggests that online tools may help expand access, increase engagement, and enhance education (Volery & Lord, 2000). Specifically, PFM tools may increase awareness of personal finances and assist users as they gain new skills and knowledge; therefore, FCS practitioners are encouraged to learn more about PFM tools – and even try a few – to maintain connections with participants after the educational encounter. As supported by social learning and behavioral economics theory, technology integration can help users stay motivated and change their behaviors, leading to improved and informed financial decisions and actions, therefore, fulfilling the mission of family and consumer sciences.

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Table 1. Summary of Personal Financial Management Tools and Apps

Application Name	Description	Website
Budget Simple	Personal budget software that designs a realistic budget, categorizes expenses, and detects unnecessary expenses. Can be automatically linked or downloaded manually. (Free)	budgetsimple.com
Buxfer	Online finance tracking app that manages expenses; can be shared with others to track and report group expenses for rent, grocery bills, trips, utilities are more. Access with Blackberry, iPhone, SMS, email, Twitter, Facebook, iGoogle, Netvibes. (Free)	buxfer.com
Mint	Automatically aggregates all banking, investment, retirement, credit card, and other financial accounts to provide a comprehensive financial picture. Add-on available to pay bills using app. Online and mobile access. (Free)	mint.com
Money Trackin'	Online money management tool that tracks expenses and identifies expenses to take control of finances. (Free)	moneytrackin.com
Mvelopes	Online personal finance and spending management system that applies technology to the traditional envelope method of budgeting, to help manage finances, while living within budget. (Free and paid options available)	mvelopes.com
Ready For Zero	Aggregated account management (student loans, credit cards, mortgages) to make a personalized payoff plan, track progress, and monitor credit. (Free and paid options available)	www.readyforzero.com
Smarty Pig	Online tool and FDIC Insured savings account designed to achieve specific financial goals.	smartypig.com/
Yodlee	Aggregates investment, retirement, checking, savings, credit card, mortgage, reward program accounts into one place for comprehensive perspective. (Free)	yodleemoneycenter.com
You Need A Budget (YNAB)	Cloud based budget software showing immediate spending and financial goals designed to facilitate good spending decisions. Available for computer/Mac, iPhone, Android. (Fees apply)	youneedabudget.com

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Implications for Extension

Assessing Physical Activity Determinants in Urban Settings: Comparison of Perceptions and Environmental Audit Findings

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Sedentary lifestyles are a contributor to obesity and urban adolescents are less physically active than rural adolescents. Supportive physical activity environments, understood as the geography, observations, and perceptions of features such as recreational facilities, sidewalks, bike lanes, traffic patterns, etc., have been positively associated with adolescent physical activity behaviors within urban settings. As part of a Socio-Ecological intervention to improve physical activity behavior, the Physical Activity Resource Assessment (PARA), the Active Neighborhood Checklist (ANC), and focus groups were used to assess the physical activity influences within an urban middle school and surrounding community. The assessments suggested that lack of parks, lack of walkability in the streets, perceptions of crime, lack of school programs, parental and peer influences were barriers to physical activity opportunities. The ANC, PARA, and focus groups each added valuable

information for program planning to improve adolescent physical activity behavior.

Obesity is a multifaceted, complex problem, but a sedentary lifestyle is a major contributor to this national health issue (Weinsier, Hunter, Heini, Goran, & Sell, 1998). Approximately one-third of children nationwide are overweight or obese, and low-socioeconomic status (SES) and minority children have the highest prevalence rates (Ogden, Carroll, Kit, & Flegal, 2012). While the percentage of children aged 6–11 years in the United States who were obese tripled from 1980 to 2012, the percentage of adolescents aged 12–19 years who were obese quadrupled from 5% to nearly 21% during the same time frame (Ogden, Carroll, Kit, & Flegal, 2014). Obese adolescents are more likely to have prediabetes, than any other age group that is obese (Ogden et al., 2014). Aligning with obesity rates, previous research on adolescents has suggested that low-income, urban, African-American and Hispanic ethnic socio-economic factors were each associated with physical inactivity (Gordon-Larsen, McMurray & Popkin, 1996; Joens-matre et al., 2008; Liu, Bennett, Harun, & Probst, 2008; Sallis, Prochaska, & Taylor, 2000). A review of health education interventions suggests that interventions aimed specifically at targeting only physical activity within adolescent populations have been more effective improving physical activity behavior than interventions targeting multiple health behaviors, including physical activity (Hadley, Mbwana, & Hair, 2010).

According to the socio-ecological theory (SET), an individual's health behavior, including physical activity, is influenced by intrapersonal (knowledge, skills, motivations), interpersonal (friends, families), organizational, communal, and policy factors (McLeroy, Bibeau, Steckler, & Glanz, 1988; Sallis et al., 2000). Recently, there

is a growing interest in the idea that physical activity environments influence adolescents' physical activity patterns in addition to inter and intrapersonal influences (Anderson & Butcher, 2006; Rose & Bodor, 2010; Sallis & Glanz, 2006). The idea of the physical activity environment has been conceptualized as the geography, observations, and perceptions of features that might influence physical activity such as recreational facilities, sidewalks, bike lanes, traffic patterns, etc. (Brownson, Hoehner, Day, Forsyth, & Sallis, 2009; Saelens & Glanz, 2009). Measuring community features that support or inhibit physical activity is an important activity for public health obesity interventions targeting multiple levels of the socio-ecological model (Brownson et al., 2009; Ohri-Vachaspati & Leviton, 2010). Socio-ecological theory has guided interventions aimed at improving physical activity in adolescents. One recent study demonstrated that by targeting interventions within schools, homes and communities, significant improvements in physical activity, reductions in sedentary behaviors, and weight reductions can be achieved (Simon et al., 2014).

Socio-ecological theory could be applied within the urban context to understand influences on adolescent physical activity behavior. Urban adolescents (living in a city of 50,000 or more people found within a metropolitan statistical area) are more physically active if they perceive community parks to be of higher quality, available, and widely used by friends (Giles-Corti & Donovan, 2002; Prins, Oenema, van der Horst, & Brug, 2009). Prins et al (2009) found that perceptions of park availability were more associated with physical activity than objective measures of physical activity such as an analysis of the distance to parks, and recreational facilities using Geographic Information Systems (GIS). Perceptions of crime within a community have been shown

to contribute to physical inactivity in urban areas as well (Molnar, Gortmaker, Bull, & Buka, 2004).

Objective

Using baseline data of a multi-state project targeting obesity in 6th-8th graders entitled “Ignite: Sparking Youth to Create Healthy Communities” in Ohio, Kansas, and South Dakota, this manuscript describes several methods that assess physical activity influences at one urban middle school in Ohio, compares their findings and finally discusses their implications for planning interventions to promote physical activity by addressing socio-ecological influences (increasing opportunities, changing perceptions, etc.) within urban settings which could be expanded to future Extension programming.

Method

Our target community was a low-income, urban Jr. High school and surrounding community (est. 20,000) embedded within a medium size Midwestern City (pop. 65,000). Almost all students (98.5%) qualified for free and reduced priced lunch. The school has 175 enrolled students and is predominately 72% African-American.

Measuring the Physical Activity Environment

A physical activity environmental audit was conducted within a one mile radius of the school. The one mile radius was chosen to capture where students might recreate and is within a reasonable walking distance from the school. Previous research suggests that a ½-1 mile radius is a reasonable walking distance within urban communities (Rundle et al., 2009; Ver Ploeg et al., n.d.) . Key leaders in the community also verified that the one mile radius was adequate for the assessment.

One Extension professional conducted the assessments following training by the multi-state research coordinator during an annual face-to-face meeting. The assessment instruments were found at the “Built Environment Assessment Training Institute” (BEAT) website developed by the Pennsylvania Prevention Research Center (Pennsylvania, 2016). The instruments were chosen because they were free, appropriate for both rural and urban settings, and aligned with the multi-state projects research objectives. The multi-state project coordinator learned how to train others by taking an on-line course offered by the website.

The Physical Activity Resource Assessment (PARA) was one of the instruments used in the assessment and is a reliable and valid way to measure the built environment within urban low-income areas (Lee, Booth, Reese-Smith, Regan, & Howard, 2005). The PARA identifies any public or private setting or equipment that promotes exercise, recreation, or physical activity (i.e. parks, community centers). The PARA may be used for indoor and outdoor facilities and examines the availability, accessibility, safety, and quality of resources; resources are rated based on their features (ball fields, sidewalks, etc), amenities (bathrooms, benches, drinking fountains, etc.), and incivilities (litter, graffiti, maintenance issues, etc.). Higher scores indicate greater number and quality of features and amenities and fewer incivilities. The trained Extension professional identified parks and recreational facilities within the community by speaking with public health officials, community leaders, and by looking at maps. The Extension professional walked through the identified parks and facilities and completed the PARA scoresheet (paper and pencil) which was later entered into a spreadsheet for the analysis.

The physical activity environment was also assessed using the Active Neighborhood Checklist (ANC) (Hoehner, Ivy, Brennan Ramirez, Handy, & Brownson, 2007). The ANC examines street-level features that may be conducive to physical activity. These features include land use, public transportation, street characteristics, environmental quality for pedestrians, and walkability/ bikeability of the streets. Street segments within the radius were identified and numbered. If the segment was not fully included in the radius (i.e., intersection-to-intersection), it was not included in the analysis. All segment numbers were entered into a random number generator and randomized to include 23 (1/3 of total in defined community) segments for analysis. The trained Extension professional walked down each identified street and completed the ANC scoresheet (paper and pencil) which was later entered into a spreadsheet for the analysis.

Measuring Perceptions of Physical Activity

Perceptions of the physical activity environment as well as other socio-ecological influences were assessed using focus groups of adults and students. Following a review of the literature, the focus group questions were developed by the multi-state project team and content experts using a SET framework. Questions asked perceptions of behaviors, personal characteristics, and environmental factors that influence physical activity among students. More specifically, individual influences (physical activity preferences), interpersonal influences (e.g., parent and peer influences), and environmental influences (e.g., school) on adolescent health were assessed. A separate moderator's guide was created for the adults to guide discussion of their

perceptions regarding students' physical activity behaviors. Focus groups continued until a saturation of themes was reached.

Six focus groups, two consisting of parents, one consisting of teachers, and three consisting of students were conducted by trained moderators and all conversations were recorded and transcribed. The focus groups were conducted following the PARA and ANC assessments. Participants were recruited via flyers that were sent home and also distributed within the school as well by word of mouth. The school principal, nurse, after school program leader, and county Extension Educator were highly involved in the recruitment process. Youth focus groups were conducted at the middle school; they lasted one hour, whereas adult focus groups lasted one and half hours. All adult participants received \$25 cash and student participants received a \$15 gift card. The (state) State University IRB approved this study.

The verbatim transcripts were analyzed by three researchers using Grounded Theory (Corbin & Strauss, 1990). Grounded theory provides procedures and canons for qualitative researchers to understand phenomena and minimizing bias. Theories are generated by identifying reoccurring discussion of themes which are agreed upon by more than one researcher. In the analysis, code words were identified by recurring themes and were coded by NVivo (version 10, QSR International, Doncaster, Victoria, Australia). After open coding, axial coding was used to identify subthemes within the original themes. An iterative process was used to identify how the transcripts were to be coded. Each researcher independently read the focus group transcripts and identified themes. The researchers then convened to agree upon a common set of themes. The

transcripts again were recoded independently by the researchers using the agreed upon themes. Finally, the group reconvened and coded to consensus.

Results

Physical Activity Environment Assessments

The environmental assessments suggested that the surrounding community was not supportive of physical activity. Only one park within the delineated area was found for audit with the PARA. The park had only a few features (for example 3 out of 13 possible, such as a couple of baseball fields) to accommodate different types of physical activities. However, the park was in relatively good condition, having several amenities including lighting, sidewalks, benches, drinking fountains, bathrooms, etc. (8 out of 12 possible) that were of high quality (all scored at the highest possible rating), and there was only one incivility (some graffiti on the bathroom walls). For the ANC, the mean score for the street segment sample was 24.55 (range 0-59, with 59 representing the highest score for physical activity). Thus the streets that were sampled scored on average very low in terms of walkability as determined by the researchers.

Perceptions of Physical Activity

Demographics of the two parent, three students (6th – 8th grade), and teacher focus groups are detailed in Table 1. The focus group themes are provided in Table 2. Focus group themes that emerged in the analysis were “Barriers to Adolescent Physical Activity, Supports to Physical Activity, Common Adolescent Physical Activities.”

Barriers to physical activity subthemes were more commonly perceived by coders as “inter/intrapersonal” or “organizational” within SET. For example, when asked why it is easy or hard for students to be physically active, adults cited “laziness” and not

being able to deal with “discomfort” as reasons. Adults and students mentioned that it was “easier” and “more fun” to be sedentary, especially with smart phones and video games. Students and parents also reported being inactive due to “interpersonal” social influences from friends or family. For example, adolescents suggested that they often would not play outside because their friends would rather play video games or watch TV. Other barriers related to “organizations” were discussed as well. A general lack of opportunities at the school was often cited as limiting physical activity. Minimal sports teams and other activities especially for those not athletically inclined were suggested as key factors in preventing children from being more physically active. Adolescents also felt that even in gym class there was a lack of opportunity for activity. Some perceived barriers related to the “community.” For example, there was consensus in the focus groups that the neighborhood was unsafe to be outside and be physically active.

However, parents, adolescents and teachers also mentioned supportive influences within the community. Community centers, classes such as dance, and events such as Relay for Life were several examples that were offered by focus groups. However, cost and transportation to these opportunities were also brought up as barriers for some students.

Discussion

Focus group perceptions contributed insights beyond the PARA and ANC. Although objective assessments demonstrated low access to physical activity, crime was the major concern among focus group participants. Although the built environment has been shown to be associated with participation in physical activity, (Kaczynski &

Henderson, 2008) again it is important to consider residents' perceptions of their neighborhood. Perceptions of crime and safety have been shown to be predictive of physical inactivity in previous studies (Molnar et al., 2004). Focus groups also suggested that there was a lack of non-competitive opportunities sponsored by the school, such as dance. Previous research has suggested that participation in organized activities was predictive of overall physical activity rates (Sallis et al., 2000).

The focus groups and environmental assessments both contributed valuable information for understanding physical activity influences and for program planning using a socio-ecological approach. At the community level, building or improving parks and sidewalks might be an important and sustainable goal for the community; yet it could be costly in the long-term. Also, none of the focus group themes related to the idea that lack of walkable streets or parks could negatively influence physical activity, possibly suggesting a need for building awareness around this topic. Addressing crime or perceptions of crime might also be needed prior to any expensive long-range plans. Safe Routes to School, or Walk to School Day events might raise awareness and action around these topics. Other less costly and achievable goals for the school and community might be improving gym class, sponsoring scholarships and/ or offering transportation to community centers (YMCA), events or dance classes. Social marketing campaigns that address intrapersonal barriers identified by the focus groups might also be effective and less costly as well. For the purposes of discussion, the researchers had identified the above recommendations but ultimately, the community needs to identify both the issues and solutions that best work for them.

The study has some limitations. For one, being a mostly qualitative, mixed-methods study, the results (focus group themes, etc.) should not be generalized to other urban communities. The focus groups had mostly female participants, so much of the male viewpoint might have been missed. If conducting focus groups or interviews for program planning in the future, Extension professionals might intend to have more balance in terms of gender representation.

Finally, from the initial experiences, environmental audits and focus groups are relatively easy to conduct by Extension professionals, working in partnership with a school and community and support a socio-ecological approach to improving physical activity within an urban setting. Although the PARA and ANC were easy to use in an urban setting, other tools can be found as well in the literature (Saelens and Glanz, 2009) or on non-profit websites such as Active Living Research (University of California, 2016) . Safe Routes To School for example, also has a several community walking and biking assessment tools (Center, 2016).

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Table 1. Demographics of Focus Groups

Focus group	Gender	Ethnicity	Number
Focus group 1- teachers	80% Female	40% African-American; 60% African American	5
Focus group 2- parents	75% female	75% African-American, 25% Hispanic	4
Focus group 3- parents	69% female	78% African-American, 8% Hispanic, 15% Caucasian	13
Youth focus group 1	60% female	90% African-American, 10% Hispanic	10
Youth focus group 2	100% female	80% African-American, 20% Non-Hispanic White	5
Youth focus group 3	100% female	100% African-American	4

Table 2: Focus group themes and socio-ecological sub-themes

Theme related to physical activity	Teacher and parent socio-ecological subthemes	Student socio-ecological subthemes
Barriers to Adolescent Physical Activity	<p>Intrapersonal: Adolescents aren't able to understand risk</p> <p>Intrapersonal: Easier and more desirable for kids to be sedentary</p> <p>Organizational: Not enough sports, and other activities especially for those not athletically inclined</p> <p>Communal: Expense and transportation</p> <p>Communal: Concerns about crime in neighborhood</p>	<p>Intrapersonal: Concerns about crime in neighborhood</p> <p>Interpersonal: Friends and family prefer sedentary activities</p> <p>Organizational: Gym class is perceived as too academic, not fun</p>
Supports to Physical Activity	<p>Organizational: After school activities that encourage physical activity</p> <p>Communal: Opportunities outside of school governance such as dance classes</p> <p>Communal: Events that encourage physical activity such as Relay for Life</p>	Communal: Community centers or YMCAs
Common Adolescent Physical Activities	<p>Communal: Unstructured activities such as playing outside</p> <p>Communal: Extracurricular activities including dance, and organized sports.</p>	<p>Organizational: Extracurricular activities including volleyball, basketball, football.</p> <p>Communal: Unstructured activities such as jump rope, dancing</p>

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Best Practices

Are You Overlooking the Power of Email Newsletters?

Alice Henneman, Dr. Lisa Franzen-Castle, Cami Wells and Kayla Colgrove

In searching for the “next big thing” in communications and technology, Extension professionals may be overlooking a powerful form of outreach that has been around for quite a while: Email newsletters. The purpose of this article is to show why email newsletters are an effective form of outreach and engagement and how our Extension team utilized them to build consistent, accessible, and regular communication with subscribers.

In searching for the “next big thing” in communications and technology, many may be overlooking a powerful form of outreach that has been around for quite a while. The email newsletter, although often thought to be an antiquated form of communication (Carr, 2014), is being used by marketers and companies as a way to create stable and consistent communication with customers. Major universities, communication specialists, and business consultants demonstrate the usefulness and effectiveness of e-mail newsletters. Aufreiter, Boudet, and Weng (2014) cite how email is a more effective way for marketers to acquire customers than social media—nearly 40 times more successful than Facebook and Twitter combined. According to Aarons-Mele (2015), email newsletters can build influence with target audiences by providing content

that is easily digestible, provides links to more in-depth information, and arrives with regularity. Cobben (2016) also highlighted reader engagement may be better achieved through email newsletters as opposed to social media platforms because newsletters are not as overwhelming, subscribers are loyal readers, they offer direct communication, and are easily accessible.

Unique Characteristics of Email Newsletters

Email newsletters offer attributes not available in other forms of outreach. A description of these characteristics follows.

Email newsletters are delivered directly to a person's inbox. Unlike many forms of social media where you have to access a certain social networking platform, email is delivered directly to a subscriber's inbox. Email is used on all types of devices with mobile device use catching up with desktop and laptop computer use. Some 88% of smartphone users used email in a Pew Research Center study (Smith, 2015), making it a more widely used feature than social networking, watching videos, and using navigation systems on a smartphone.

More people may read an email newsletter vs. social media. The email marketing company MailChimp (2016) surveyed open rates (how many people actually opened an email newsletter) among different industries. Open rates ranged from about 15% to 25%. The general consensus for emails newsletters is anything above a 20% open rate is good (MailJet, n.d.; Balinas, 2015). While this may not seem high, consider even if you only have 200 subscribers, 40 people will have seen your content. This may be much higher and provide more in-depth exposure to your information than to a tweet or a Facebook post.

People understand email. People already know how to use email and have email accounts. “Email is a technology everyone has and understands, you don’t have to download an app or allow push notifications,” states Pontus Jeppsson, business developer (Fagerlund, 2015, p. 5).

Objective

In an initial experience of evaluating an Extension food and nutrition-related email newsletter, 83% of survey respondents (n=1,035) made positive changes after visiting website content through links in the newsletter (Henneman & Franzen-Castle, 2014). Based on this favorable outcome, our Extension team decided to initiate email newsletters on other topics. About two years ago additional email newsletters were established, with the purpose of engaging more people in a regular and in-depth way, while at the same time providing material that could promote knowledge and behavior change.

Method

Six food and health email newsletters are now used to address a variety of topics and audiences:

- *Cook It Quick* offers tips and delicious, quick-to-prepare, inexpensive recipes to help increase consumption of fruits and vegetables, whole grains and low-fat dairy products plus reduce sodium, solid fats, and calories. Food safety tips are included.

- *Food Fun for Young Children* serves up quick, healthy meal and snack ideas, and recipes for younger children.
- *Family Fun on the Run* is designed to help people achieve a healthier lifestyle by making walking an important part of their personal fitness program.
- *Healthy Bites* focuses on a different food, nutrition, and/or health theme each month.
- *The Food Calendar* provides subscribers monthly updates of resources for selected national food-themed days, weeks, and months. The goal is to provide inspiration for blogs, tweets, programs, and articles.
- *Food Reflections* provides a "how-to" message on a current food, nutrition, or food safety topic for health professionals, educators, and consumers.

Target Audience

For each newsletter, the target audience is the consumer plus multiplier groups such as health professionals, educators, and media who work with consumers.

Distribution of Newsletters and Signup of Subscribers

The newsletters are distributed through a commercial email newsletter service. The email newsletter provides basic information and a link back to the complete newsletter on the website. There also are several commercial services for creating electronic mailing lists and distributing email newsletters; some are free for a limited number of subscribers. Use your favorite search engine and search for "email newsletter services" to find some of the available options.

Subscribers are obtained through two signup methods. An individual signup form for each newsletter is included on our website. Or, people may give their email addresses to one of the authors for newsletter signup at a community event.

Promoting the Newsletters

Several methods are used to promote the newsletters:

- A short description and photo from the most current newsletter is posted on our Extension food website homepage. A link to the article is included. Within the article is a link to the subscription page for the newsletter.
- Social media (Twitter, Facebook, LinkedIn, and Google+) are used to announce when the latest newsletter is posted online.

A subscription link for the newsletter is included in each email newsletter and subscribers are encouraged to forward it to others.

Results

There are approximately 15,000 subscribers to our newsletters and the number continues to grow. To date, subscriber surveys have been conducted with three of the newsletters. Results from the first survey have been published, which indicated 83% of survey respondents made positive changes. The methods for conducting the email survey also have been described (Henneman & Franzen-Castle, 2014). There were similar findings in the surveys of the other two newsletters. Approximately 80% of survey respondents (n=96), for one of the newsletters reported the newsletters were “helpful” to “extremely helpful;” 75% of respondents (n=88) generated new ideas for programming from the other email newsletter.

Qualitative comments from the three surveys indicated richer, more specific behavior changes than could be obtained from simply posting material on a website or utilizing social media. Examples included:

- “I really appreciate the ideas and topics and use them often.”
- “I am a Nutrition Educator and use your material consistently in my classes.

What GREAT creative materials and how well thought out...I can really tell there is a team of professionals invested in these newsletters! The ideas have been well tested at home with 3 grandchildren. They are much appreciated! THANKS for all of your hard work!”

“Thank you for the great information that makes meal planning easy, affordable, and healthy! Very consumer friendly!”

Summary

While there is much interest in the pursuit of the newest trends in technology and social media, Extension professionals also should explore email newsletters as a method of reaching out to and interacting with clientele. As Tim Cigelske (2016) says in the title of his article, “You’ve Got Mail–Again: Rethinking the Role of Email Newsletters,” it may be time for you to reconsider starting an email newsletter.

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Best Practices

Using Virtual Focus Groups in Extension Research

Dr. Carrie L. Johnson, Dr. David A. Evans, Dr. Sheri Lokken Worthy, and Dr. Barbara O'Neill

Electronic learning technology and web-based survey sampling were used to conduct two virtual focus groups designed to investigate how student loan borrowers make decisions regarding their financial aid. Participants were recruited nationally by Survey Sampling International and separately at six land-grant universities. Most respondents claimed to have used their financial aid for school-related purposes, while a minority admitted to alternate uses of excess student loan amounts (e.g. entertainment and travel expenses). Best practices for using this innovative virtual focus group approach and lessons learned from working with multiple universities are described. Implications for replication of this project and recommendations for Cooperative Extension professionals are also discussed.

Cooperative Extension System (Extension) researchers and educators have used focus groups for various reasons including identifying needs and evaluating programs (Duncan & Marotz-Baden, 1999; Foote, Clark, & Recker, 2004; Galloway, Peterson, Dalton, 2006; Malek, 2002). The authors define a focus group as a guided

informal discussion among a group of selected individuals about a particular topic (Wilkinson, 2004). The primary aim of a focus group is to describe and understand meanings of interpretations of a select group of people to gain an understanding of a specific issue from the perspective of the participants of the group (Liamputtong, 2011). Gaining an understanding of clients and/or potential clients can inform Extension research and programming.

Extension system staffing models vary considerably depending on local needs and available funding (Franz & Townson, 2008). In recent years, funding and subsequently staffing has decreased (Braverman, Franz, & Rennekamp, 2012; Tondl, 1991). With these decreases, Extension professionals have had to learn to adapt by doing more with fewer resources, collaborating with colleagues in other states or counties, and using new technologies.

Virtual Focus Groups

Virtual focus groups can help address staff and funding constraints when conducting research in Extension by including participants and researchers from multiple locations. Warner (2014) discusses the fact that virtual focus groups can be useful in Extension as a way to connect individuals who are geographically distant from one another, unable to travel to a meeting site, or unavailable to meet the time constraints associated with using a public facility.

Internet use as a research medium for the collection of primary data has become popular and is now part of the mainstream canon of methodological choices (Stewart & Williams, 2005). There are two main types of virtual focus groups: Synchronous and asynchronous. Synchronous is when all participants are online responding at the same

time, like a chat room or Twitter chat, while asynchronous is when participants are allowed to respond at their convenience (Sweet, 2001). Both have their benefits and limitations (Hrastinski, 2008). This study aimed to extend the literature by studying the use of asynchronous virtual focus groups in Extension research.

Professional Development

Individuals working within Extension know the importance of integrating research into programming. Webb (1998) discussed the value of research-Extension linkages and noted that, when they happen, there is a dynamic which occurs through the flow of information that enriches the research process and the use of research findings to serve the public.

Some states require Extension educators to have a bachelor's degree, while others require a master's degree (Scheer, Ferrari, Earnest, & Connors, 2006). Educators frequently encounter research projects throughout their careers, but not all academic programs provide formal training in research methods. Focus group research is one research method used in Extension; however, Allen, Grudents-Schuck, and Larson (2004) found its use can be inappropriate, incorrect, or excessive. They also found that Extension professionals are often placed into focus groups as moderators, transcribers, or analysts with no prior training.

Objective

The purpose of this manuscript is to describe the method used by a group of multistate researchers who conducted virtual focus groups. The focus group study described in this article was conducted online to obtain a broad sample of student loan borrowers from a variety of universities and to minimize errors and inconsistencies in

moderation and transcription. A full description of the results of the study are available in Johnson, O'Neill, Worthy, Lown, and Bowen (2016).

Method

The study was designed to obtain qualitative data from a sample of virtual focus groups comprising of student loan borrowers to discover relevant themes related to their college and student loan decision making. Two samples were used in an attempt to reach a large number of participants. The two samples consisted of a randomly selected set of participants supplied by Survey Sampling International (SSI), an online survey company, and by participating universities through flyers, email, and other forms of campus-wide communication. The universities that participated in the study are part of a multistate research group. The group's primary focus is to observe and report the behaviors of U.S. households as they pertain to personal financial management.

Institutional Review Board (IRB) protocol was completed at each of the participating universities. SSI was used to generate a nationally representative sample because the other participants were from land-grant universities and the researchers wanted to see if there were any similarities/differences in the type of institution a borrower attended.

Each respondent was given access to an online forum in which s/he was able to interact with other focus group members. Ultimately, recruiting participants was unproblematic at some locations, resulting in multiple respondents, and more difficult in other areas. However, the size of the student population and the geographic location of the university did not correlate with the ultimate response rates. At one university, for example, the request for volunteers to participate in an online focus group for a \$25 e-

gift card was met with great interest with over 40 students emailing their interest in the first 24 hours. In other locations, it was more difficult to recruit volunteers for a variety of reasons, including, but not limited to the requirements of one particular institution where recruiting was only allowed to be conducted in the classroom by an authorized third party assistant (e.g. graduate student) who was not connected to the study and required to read from a pre-authorized script.

Once participants indicated their interest, they were given directions to self-register through an online “course” using the Desire2Learn (D2L) course management system. Prior to being added to an online discussion group within the course, participants were required to provide informed consent using the survey tool in D2L. This ensured that participants were informed of IRB protocols before participating in the study.

Participants were then asked to fill out a demographic survey and questions on student loan-based decision-making with 8 items such as “How do you feel about borrowing money for college?” and “What factors influenced your decision to accept the type of financial assistance you are using?”. In addition to the demographic survey and discussion questions, participants were required to leave a response for at least one of the other participants’ answers within their discussion group. Participants could see, but could not edit others’ responses to the focus group questions. Each sample (SSI and on campus) was given three weeks to complete the survey and participate in the discussion forums.

After the deadline, the forums were closed and those respondents who completed the entire task were awarded a \$25 gift card. The demographic survey

provided some basic information about the two samples. The discussion threads were analyzed by two researchers to determine themes and then the themes were reviewed and a consensus was made.

Results

Some obvious advantages and disadvantages of using virtual focus groups emerged throughout this study.

Advantages

One of the main advantages of using virtual focus groups was the ease of participant identification for the researchers. This is a strength noted by Prandy, Norris, Lester, and Hoch (2001). Additionally, as noted by Stewart and Williams (2005), the online registration process allows researchers greater control of the composition of the research sample and ease in gathering background information. Participants who were grouped together could not be anonymous to one another. Because D2L was used, if participants were allowed to make anonymous posts there would not have been a way to determine who actually answered the questions.

Another advantage of using an online approach to the focus groups rather than a face-to-face scheduled block of time was that the discussions were asynchronous, allowing respondents to participate at their convenience within a three-week period. Organizing and scheduling a focus group can be difficult. Additionally, the online focus group format allowed inclusion of participants from across the U.S. through SSI.

A third major advantage to the online environment was that transcription is not needed. Since participants typed in their comments, downloading the discussion was simple. This saved time that would otherwise have been spent listening to or watching

recordings and transcribing the discussion. It also alleviated the need to hire a transcriber, in-turn eliminating costs associated with doing this.

Disadvantages

Turning to the downside of virtual focus groups, online respondents may not have been as forthcoming about information. For example, only one student said s/he used their student loan money for non-school related activities. This student was subsequently chastised by two other students.

It is possible respondents may not have contributed as much information as they would have in a live focus group setting. The majority of respondents did the minimum necessary to get the incentive and no more, leaving the discussion less insightful and in-depth than it might have been had they been in an in-person, relaxed, and focused setting. A synchronous virtual focus group might also assist in increased interaction if everyone is involved in the discussion at the same time. In this study the researchers were not involved in and did not facilitate the discussions. The additional interaction from researchers may have increased interaction between respondents.

Coordinating a research endeavor between multiple universities was also challenging. Detecting regional differences among student loan borrowers would not have been possible without this critical aspect of the study. Large differences were found in the level of difficulty to work with IRB administrators at the various universities. At the onset of the project, IRB approval was awarded to a host university. This approval led to the quick execution of the focus groups using the SSI sample. However, each university involved in the multi-state sample had its own way of approving the focus group research protocol. While some universities were satisfied with the IRB

approval from the host university, others required a separate and independent review. It should be noted by those who intend to duplicate the results of this study that such practices must be taken into consideration.

Technological issues were another weakness of this form of focus group. Deggs, Grover, and Kacirek (2010) found that participation in online focus groups was highest during the first two weeks. However, due to some technology and user errors during the data collection for this study, an extra week needed to be added to the completion deadline. Typically, with online research, participants are asked to quickly complete simple surveys. This study was more in-depth and required multiple visits to D2L. Researchers had to follow up with participants via email multiple times throughout the study to let them know what they still needed to complete.

A final issue to consider is sample diversity. This sample was comprised of 70.5% females. It is unclear whether the focus group format was part of the reason for under representation of men. A key take-away, however, is to “cast a wide net” in online focus group marketing efforts through face-to-face recruitment, social media, e-mails, and other methods.

Summary

This study was conducted to understand the decision-making processes used by college students as they borrowed money to finance their education. In addition to providing findings about students' college selection criteria, student loan knowledge, misperceptions, and mindset, this project is noteworthy for the pilot testing and replication potential of its virtual focus group methodology.

Below are implications for Extension researchers and educators:

- Team research projects, such as this one, promote accountability and collegiality. Various steps in the project (development of research questions, IRB approvals, survey marketing, data collection and analysis, and publications and presentations) progressed in a timely manner because group deadlines were set and adhered to. No one on the research team wanted to disappoint their colleagues.
- Virtual focus groups are an inexpensive way to collect qualitative data. Assuming that researchers have free access to an online course platform such as D2L, there is no cost beyond that of staff time to develop and process the questions and marketing expenses (e.g., incentives).
- Online focus groups provide the potential to study a large and diverse pool of respondents, regardless of geographic location and time constraints. This study was asynchronous and respondents were able to participate at their convenience within the time parameters set for survey administration.
- Ongoing marketing and reminders are necessary to get the desired level of engagement that a traditional face-to-face focus group has. In this study, discussion between participants was limited and the number of participants in the assigned discussion groups varied based on their level of participation.
- If an online course platform is not available to conduct an online focus group, other viable options include web conferencing (e.g., Google+ Hangouts, Blab, and Skype), webinar delivery platforms (e.g., Adobe Connect, Eluminate, Go to Webinar), and Twitter chats at a set day and time with a unique hashtag to link together researchers' questions and participants' responses. The technologies mentioned above work best for a synchronous virtual focus group.

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