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Reaching Families through Social Media: Training Extension Professionals to Implement Technology in Their Work

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Cooperative Extension professionals have a long tradition of helping improve the lives of the families they serve by sharing research-based information. More than ever, families are getting their information online, creating a need for Extension professionals to deliver content via technology. This article describes a training designed to teach Extension professionals ways to increase their reach to families through the use of technology in their work. Extension professionals attended an 8-hour, face-to-face training in which they completed a pre, post, and follow-up survey. Results from the training indicated that this training was effective in changing attitudes about the usefulness of technology and increasing their use of social media to reach families.

Keywords: Extension, education, technology, social media, training

Introduction

For many Americans and global citizens, the Internet, social media and mobile technology are core elements in our way of life. Approximately 81% of American adults (Pew Research Center, 2012a), and 95% of teens use the Internet (Madden, Lenhart, Duggan, Cortesi, & Gasser, 2013). Mobile Internet use is rapidly increasing as well. Eighty-seven percent of Americans have cell phones, and 45% of adults have smartphones with anytime Internet access (Pew Research Center, 2012b). Youth and families are using multiple forms of technology to access information, stay connected with friends and families, and complete work and school assignments. Through the literature documenting the general public's learning preferences, there is some evidence that learners, particularly parents, prefer and are more interested in receiving

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information online in comparison to face-to-face, multi-week program formats (Metzler, Sanders, Rusby, & Crowley, 2012; Radey & Randolph, 2009; Rothbaum, Martland, & Jannsen, 2008).

With this social reality as a backdrop, it is not surprising that more people turned to the Internet to address “common problems” (Rainie & Fox, 2012). Ninety-one percent of today’s learners use the Internet to find information, 71% watch videos, 67% use social networking sites, and 53% look for “how-to” and “do-it-yourself” information (Pew Research Center, 2012a). Learners today seek knowledge and skills, but they also are looking for educational activities that foster collaboration and connection, and provide opportunities to promote social change (Pinder-Grover & Groscurth, 2011). Additionally, they use technology to access information and often see technology as a tool for interaction (Oblinger, 2008). Most Americans now prefer to use technology and the Internet to solve real life problems and for approaches to learning (Howe & Strauss, 2000). These same individuals have heightened expectations and call for information and services that are: J.I.T. (Just-In-Time), J.E., (Just-Enough), and J.F.M. (Just-For-Me).

Recognizing the opportunities that technology and social media, in particular, offer for reaching the public with information, Extension professionals (e.g., state specialists, county directors, agents, technicians, assistants, and volunteers) must find ways to use technology formally and informally in their educational programming. In order to remain relevant, these professionals must learn to use technology as a primary approach to engage or connect with their audience in two-way conversations and to educate their target audience (Diem, Hino, Martin, & Meisenbach, 2011). Social media tools such as blogs, wikis, and podcasts make both synchronous and asynchronous interaction possible (Kinsey, 2010) and have the potential to facilitate an effective constructivist approach to learning (i.e., learners construct knowledge for themselves; Beldarrain, 2006).

In response to the need for technology training, the authors developed and delivered a training for Extension professionals to increase their knowledge, skills, and interest in future uses of technology and social media in their work with youth and families. This paper describes the training, as well as the impacts of the training on participants’ perceptions about the usefulness and ease of use of technology and social media and their subsequent use of technology to engage families.

Literature Review

Social media refers to web-based technology applications that are essential for the creation and sharing of user-generated content (DeBell & Chapman, 2006; Greenhow, 2011b) and includes social networking applications such as Twitter and Facebook; media production tools such as YouTube; and social bookmarking tools such as Pinterest (Greenhow, 2011a). Research clearly

indicates that social networking applications, Facebook in particular with its one billion monthly users, represent the most widely used forms of social media (Brenner, 2013; Greenhow, 2011a). Learners of all ages are getting more of their information and education from online sources including social media (DeBell & Chapman, 2006). Although both the Internet and social media are used by a significant and rapidly growing population, research on user characteristics show differences by generations, as well as by age, gender, socioeconomic status, and so on.

Considering that most consumers today get much of the information they need online, Extension professionals must serve their clients online and be prepared to meet their technological demands (Diem, Gamble, Hino, Martin, & Meisenbach, 2009) and learning preferences. This is no easy task as many professionals report a lack of time, money, and training, and often do not know what technology to use to better reach their clients (Diem et al., 2011). Although perceived barriers to the use of social media in teaching are decreasing, issues of concern include worries about privacy, lack of integration with existing learning systems, amount of time needed to learn or use new technology, and lack of technical support (Moran, Seaman, & Tinti-Kane, 2011). Extension has a strong history and positive reputation for delivering face-to-face programs in local communities. In order to remain viable, however, Extension professionals must maintain their local “off-line” connections while reaching new audiences online (Diem et al., 2011).

Extension Professionals’ Perceptions, Knowledge and Use of Technology

Although little research exists that describes the experiences and perceptions of Extension professionals specifically, there is evidence suggesting that they want and need to know more about this topic (Diem et al., 2011).

Some Extension professionals show interest in using technology in their work. For example, the results of an online survey conducted by the national eXtension Financial Security for All Community of Practice (FSA CoP) suggest that Extension state specialists and county agents are willing to both share their personal social media content for reuse by other community members and post “ready-to-use” messages created by the FSA CoP (O’Neill, Zumwalt, Gutter, & Bechman, 2011).

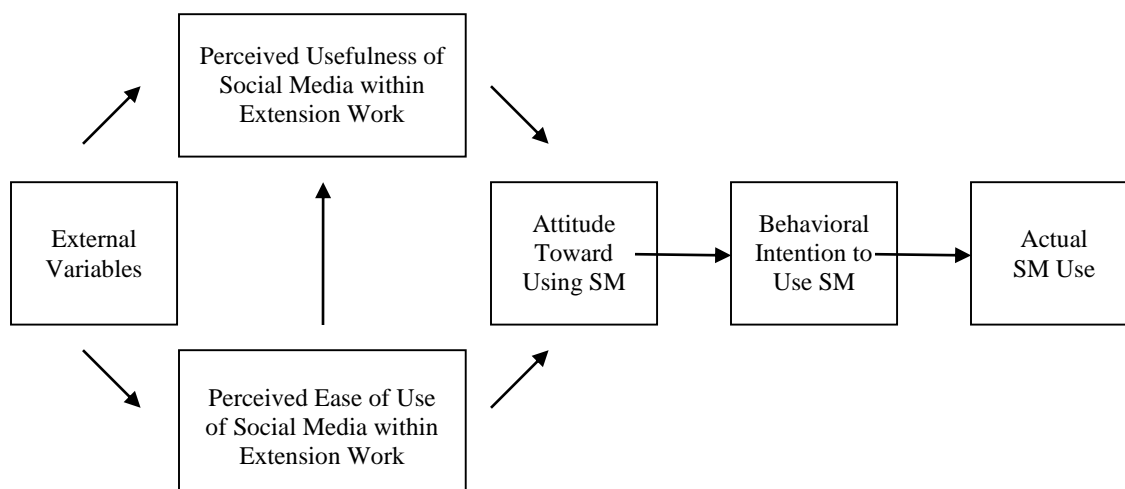
Practical and experiential training can encourage Extension professionals’ adoption of new technologies (Seger, 2011). O’Neill, Zumwalt, and Bechman (2011) suggest that professionals need step-by-step training on social media as well as information about policies and procedures. The authors conducted a 90-minute, virtual training for Extension professionals on using and evaluating social media. Their webinar focused on Twitter and Facebook and included instructions for establishing accounts, evaluating their social media outreach, and shortening URLs. As a result of the overall program, the authors reported an increase in Extension professionals’ social media skills, but did not report how or to what extent these professionals used these acquired skills.

With such a need for more information and skill development on the use of technology to reach families, the authors conducted three 8-hour agent trainings on this topic in different parts of their state. The authors are a team of five Extension specialists from North Carolina who are research-trained university faculty members that provide leadership and technical assistance in program development and evaluation in specific subject matter areas. These trainings were offered as part of an established annual training that focused on educating Family and Consumer Sciences (FCS) and 4-H (Youth Development) Extension professionals in face-to-face sessions. For 2013, the team focused on using social media and technology in their work with families. The *Families and Technology: Applications for Family Life Education* training was designed to demonstrate that using both social media (e.g., Facebook, Twitter, Pinterest) and visual technology (e.g., photography, videography) could be beneficial and easy to use. This paper details the initial efficacy of that training.

Theoretical Underpinning

In planning the training, the authors collected information to determine the social media and technology needs of Extension professionals and also to explore the perceptions and motivation of these learners to increase their use of technology. Research suggests that in predicting a user's acceptance of an innovation, there are two fundamental determinants: (1) the extent to which the user perceives the innovation to be useful in their work and (2) the innovation's perceived ease-of-use (Davis, 1989). The Technology Acceptance Model (TAM; Davis, 1989) theorizes that these factors combine to influence a user's attitude toward, intent to use, and eventual use of the new technology (see Figure 1 for the application of this model using social media [SM]).

Figure 1. Technology Acceptance Model with Social Media (adapted from Davis, 1989)



Bagozzi, Davis, and Warshaw (1992), experts in the area of technology adaptation, described this theory in rather simple terms: “intention to try to learn a system is a function of attitudes toward success, failure, and the process of trying” (p. 682).

Methods

The main purpose of this research was to examine factors that impact the use of technology in Extension professionals’ outreach efforts with families. Following an informal needs assessment designed to gauge topics of social media and technology interest, the authors developed a pre-post survey and a three-week follow-up survey and received approval to proceed from North Carolina State University’s *Institutional Review Board for the Use of Human Subjects in Research*. The surveys were used to evaluate the efficacy of the training on the frequency, ease, and perceived usefulness of social media by North Carolina Extension professionals.

Training Components

The primary goal of the training was to provide information that participants could use to plan, develop, and disseminate programming using social media and technology to reach diverse segments of their target populations. The training also provided strategies for how participants could manage their online professional images while delivering valuable information to Extension clientele. The team understood that attitudes were a major factor in whether Extension professionals utilized social media; therefore, the training began with an open conversation about attitudes and opinions on the use of social media. Participants were allowed to voice their concerns and learn from each other about safeguards and successes.

Practical content for the 8-hour training included lessons on using Facebook, Twitter, Pinterest, eXtension, WordPress, photography, videography, and presentation tools. The training used an interactive and hands-on approach where participants worked individually and in roundtable groups as they completed online and computer-based tasks. Hands-on activities included: taking pictures; creating or updating profiles on Facebook, Twitter, and Pinterest; tightening social media privacy controls; and posting new content on these sites. Five specialists who were onsite circulated among the tables and provided individualized support during small group discussions and hands-on activities. Participants with more experience with social media were invited to mentor peers with less experience.

Based on the literature, presenters’ experiences, and the informal needs assessment, the specialists created one-page “Top 5 Tips” information sheets for each of the subjects covered. These tip sheets were combined, printed, and used as handouts for the training (see Table 1).

Table 1. Top 5 Tip Sheets and Training Topics

<i>“Top 5” Tips Fact Sheets</i>
<i>Available: http://bit.ly/Top5Facts</i>
Twitter
Pinterest
Facebook
eXtension
WordPress
Videography
Photography Tips
Digital Differences
Presentation Tools
Using Videos to Educate
Creating an Online Presence
Improving Your Presentation Skills
Social Media and Generational Trends

Based on comments in the needs assessment and reports in the literature, it was anticipated that a number of participants would have limited interest in learning about social media because they questioned its applicability for Extension work, had concerns about privacy, and/or feared the learning curve (for professionals and their clients) for new technologies. Anticipating these concerns, the authors built in discussions and activities to help participants deal directly with these issues.

Data Collection

Participants were asked to bring a personal computer or tablet with them to the training where free Internet access was provided; additional laptops and tablets were supplied for those without a personal computing device. All professionals in attendance were asked to complete a voluntary, anonymous online survey both immediately before and immediately after training, as well as at a three-week follow-up, in order to discern social media attitudes and behavior change as a result of their participation in the workshop. Inclusion criteria required that the participant attend and participate in one of the three 8-hour trainings. The surveys were housed on the secure Qualtrics online survey platform; IP addresses were not collected. Similar three-week follow-up surveys were distributed via email to all professionals who participated. Results were aggregated and analyzed using SPSS statistical software to provide a better understanding of how to improve learning opportunities, support, and collaboration for professionals during and after face-to-face trainings and workshops.

Measurement

To assess perceived usefulness, perceived ease of use, and user acceptance of social media and technology in the participant's work with families, each participant completed the Perceived Usefulness and Perceived Ease of Use scale (Davis, 1989). The measure allowed for adaptation depending on technology type. For example, when the scale was created, it was intended for use with computers. It has since been applied to online technology tools in scenarios similar to the present research training (e.g., social media use in nonprofit organizations; Curtis et al., 2010). Each subscale contained six individual 5-point Likert-scaled statements to gauge *perceived usefulness* (e.g., *Using social media would improve my Extension efforts*; *Using social media in my Extension work would increase my productivity*) and *perceived ease of use* (e.g., *I would find social media useful in my Extension efforts*; *Learning to operate social media would be easy for me*). The subscales demonstrated high reliability with Cronbach's alpha for *perceived usefulness* at $\alpha = .94$ pretest, $\alpha = .95$ posttest, and *perceived ease of use* at $\alpha = .97$ pretest, $\alpha = .97$ posttest.

Participants

In total, 75 Family and Consumer Sciences (FCS) and 4-H (Youth Development) Extension professionals from across the state attended the three workshops. Surveys from 49 respondents were successfully matched for pre/post responses yielding a response rate of 65%. These 49 participants provided 21 matched surveys in the three-week follow-up for a response rate of 43%. The primary analyses were computed using the pre/post data ($N = 49$). The follow-up survey ($N = 21$) provided qualitative responses that helped to undergird the results. Given the small sample, race/ethnicity and gender-related metrics were not collected in order to preserve the anonymity of the results. The participants were predominantly Caucasian and African-American females, although a few attendees were of Hispanic origin and male. Mean age of participants was 45.31, with 65% of the sample having at least a Master's degree. Over three-fourths of participants were Extension agents; the remaining 22% were other Extension professionals (e.g., associates, support staff).

Table 2 details the participants' prior experience with social media along with the percentage of participants with personal and professional social media accounts prior to the training. Facebook was the most used application, with nearly 92% of participants having at least some experience, whereas blogging applications were the least-used, with 61% of participants having no experience at all.

Table 2. Participants' Prior Experience with Social Media and Account Ownership (N = 49)

Question	Type of Social Media Application					
	Facebook	Twitter	YouTube	Pinterest	Blog	Photo
<i>% Level of Experience</i>						
No Experience	8%	53%	41%	45%	61%	55%
< 6 Months	4%	14%	6%	12%	2%	12%
6 months to 1 year	14%	6%	8%	14%	4%	6%
1 to 2 years	16%	12%	12%	29%	12%	18%
2 to 4 years	57%	14%	33%	0%	20%	8%
<i>% Owning Type of Account</i>						
Pretest Personal Account	90%	22%	39%	51%	22%	39%
Pretest Professional Account	43%	16%	18%	12%	16%	12%

Results

Pre/post comparisons were conducted to gauge user differences and attitude change before and after the training. Specifically, a paired-samples t-test was conducted to compare perceived usefulness and ease-of-use scores before and after the training. Both conditions proved significant. For perceived usefulness, there was a significant difference in the scores from the pretest ($M = 5.41$, $SD = 1.16$) to the posttest ($M = 6.12$, $SD = .83$); $t(48) = -7.703$, $p = .000$. For perceived ease-of-use, there was also a significant difference in the scores from the pretest ($M = 4.95$, $SD = 1.49$) to the posttest ($M = 5.78$, $SD = 1.01$); $t(48) = -5.438$, $p = .000$. These results suggest that for professionals who participated in the *Families and Technology: Applications for Family Life Education* training, perceived usefulness of social media increased, as did perceptions of social media as easier to use in the work they do with families through Extension.

Paired-samples *t*-tests were also conducted to compare the number of participants with social media personal and professional accounts before the training and again at a three-week follow-up for the following online applications: Facebook, Twitter, YouTube, Pinterest, Blog (e.g., Blogger, WordPress, Tumblr), and Photo (e.g., Picasa, Flickr, Instagram). Two professional usage conditions proved to increase significantly: Facebook and Twitter. For professional Facebook use, there was a significant increase in the scores from the pretest ($M = .43$, $SD = .111$) to the follow-up ($M = .62$, $SD = .109$); $t(20) = -2.17$, $p = .042$. Also, for professional Twitter use, there was a significant increase in the scores from the pretest ($M = .10$, $SD = .066$) to the follow-up ($M = .29$, $SD = .101$); $t(20) = -2.17$, $p = .042$. These results suggest that participants' professional use of social media in the work they do with families through Extension increased, specifically for Facebook and Twitter. Table 3 displays the real-time changes in account ownership for participants who completed both the pretest and the three-week follow-up surveys.

Table 3. Participants' Post Experience with Social Media and Account Ownership (N = 21)

% Owning Type of Account	Type of Social Media Application					
	Facebook	Twitter	YouTube	Pinterest	Blog	Photo
Pretest Professional Account	43%	10%	14%	14%	19%	10%
Follow-Up Professional Account	62%	29%	19%	24%	24%	14%

Other quantitative findings that support the efficacy of the training include follow-up questions designed to gauge participant attitudes and behavior change. Of the participants who were successfully matched during the follow-up survey, 90% agreed or strongly agreed that they gained knowledge about how to use the technology tools and social media applications presented during the training. Additionally, 71% agreed or strongly agreed that they increased their skill in using technology tools and social media applications presented during the training; 76% agreed or strongly agreed that their attitude toward using technology and social media improved since attending the training; and 76% agreed or strongly agreed that they can use the knowledge and skills gained from the training to impact their Extension clientele. Since attending the training, 48% of the participants who responded to the follow-up survey reported using social media or technology in their Extension work more than they did before attending the training.

Qualitative questions were asked in the follow-up survey to determine reasons that participants had chosen to use or not use social media or technology in their Extension work since attending the training. Of the 48% who had implemented new social media or technology efforts, the following reasons for use were offered:

- *To capitalize on the increased use of social media by families, including teens*
- *To more easily disseminate information to the public*
- *To increase professional impact*

Furthermore, the following themes showcase ways participants used social media or technology in their Extension work since attending the training:

- *Promoting/marketing Extension events through Twitter and Facebook*
- *Sharing news articles, tips, and educational information on Twitter and Facebook*
- *Uploading pictures from Extension activities to share via Social Media*

Of the 52% that had not used social media or technology since attending the training, the following three reasons were given:

- *Time constraints*
- *Clientele's lack of computer access*
- *Limited by county, government, or other Extension-related restrictions*

Discussion

The results of the study are both illuminating and promising. First, it was determined that a day-long, hands-on training on educational uses of social media and related educational technology can bring about change in the perceptions of the usefulness and ease of use of social media among Extension professionals. Second, there were significant increases in social media use over the three-week period following the training. Third, helpful information was gained from open-ended questions on the survey, as well as in discussions during the training. These findings will help inform the design of future educational programs to address the identified barriers and unmet needs (including those that are county-specific) of both the professionals and their clients.

Results indicated that a significant number of the respondents to this survey increased their *professional* use of Facebook and Twitter after the training. Additionally, a significant number of the three-week survey respondents increased their *personal* use of Pinterest. The successful adoption, or increase in the use, of these three social media likely reflects the emphasis and time that was given to these topics during the training event, but also the multiple ways the professionals engaged with the programs and their peers during the training.

One of the benefits of the Extension model is its position of connectivity and leadership in the community. This connectivity is perfect for Extension professionals to act as a catalyst for community change by implementing a constructivist approach to social media. Not only can Extension professionals distribute new information, but they can also contribute to online community building. Social media is most successful when it is used as a mechanism for connection and growth, and when Extension professionals use social media to begin conversations and engage their public, community development happens.

In the future, this type of training could be refashioned or reworked and presented in partnership with specific audiences such as social workers, community health workers, home health assistants, child welfare workers, military family support professionals, child care providers, teachers, and so on. Additional research could also help to better underscore the long-term components that are most effectively and commonly used by participants. Understanding these factors would also help to determine how to best improve trainings targeted toward improving the efficacy of social media use with Extension professionals.

Given that less than one-third of the participants completed all three surveys, it is premature to conclude that the results are replicable. There are many possible explanations for the positive outcomes including the variety of delivery methods, didactic presentations, hands-on and collaborative small group activities, individualized consultation, fun and comfortable environment, and unique characteristics of the respondents, among others. It is also hard to know the effectiveness of the training for the nonrespondents who participated in all or part of

the training, but did not complete all three surveys. Additional limitations in interpreting the positive results include: the influence of “post purchase rationalization” (the cognitive bias that causes someone to convince themselves that they gained from something because they invested time in it), selection bias (participants with positive effects respond to the survey), and social desirability on participants’ responses (Delgado-Rodriguez & Llorca, 2004).

Additionally, it is clear from the discussion and responses to open-ended questions that a number of barriers remain to implementation of technologies in Extension at the county level. These include limited time to adequately engage clientele via social media, shortage of time to create engaging videos and other new media content, limited funding and support staff availability, and attitudes of administrators and county policies which still do not support use of certain technologies. Even with these barriers, professionals indicated some success using social media to engage their audience. Social media had been used to announce upcoming events, share images, and to recruit clients to family programs. With continued technical support, training, and practice, it is likely that Extension professionals will more successfully use technology to reach families.

Conclusion

This research points to the need for more time to be spent on training and skill building in ways to use new technology as educators. Too few professionals use technology in ways that effectively engage and educate their clientele in the ways clients are coming to expect. To make more meaningful differences in the lives of families today, it is essential that Extension professionals discover how their clients wish to learn, and then actively and creatively engage in those methods. This study suggests that research is needed to further explore the training needs of professionals and the most effective approaches to online and blended education methods for informal education. It also showcases a model for how to train Extension professionals on the use of social media in their work with families.

To stay viable in a rapidly changing culture of information and technology, Extension must perform better than its competitors, many of whom already have a dynamic online presence. A blended approach to programming (i.e., online and face-to-face) might prove beneficial as Extension continues to use and build on its traditional strengths of face-to-face teaching and learning, by using technology to tailor programs for individual, family, and local community needs. Although more research is needed, this study suggests that with hands-on training, Extension professionals do better at using social media to reach the families they serve.

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Dr. Nichole Huff is an Assistant Professor, Extension Specialist, and Certified Family Life Educator whose research focuses on child and youth development, biopsychosocial and neural health, and interpersonal communication, specifically between the parent and child.

Dr. Jenell Kelly is an Assistant Professor at Central Michigan University. Her area of focus is child development within the contexts of families, schools, and communities. She is particularly interested in resilience among children and families with limited resources. Dr. Kelly's previous position was Family Life and Human Development Specialist at North Carolina Agricultural and Technical State University.

Dr. Luci Bearon is an Associate Professor, Adult Development/Aging Extension Specialist, and Certified Family Life Educator. Her focus areas are attitudes and beliefs about aging, positive aging, and family caregiving issues including eldercare and grandparents raising grandchildren.

Dr. Andrew Behnke is an Associate Professor, Human Development Specialist, and Certified Family Life Educator with a programmatic and research agenda working with marginalized (i.e., military, immigrant) families in the areas of parenting, school engagement, and relationship education.