Journal of Extension
www.joe.org

December 2016
Volume 54
Number 6
Article # 6RIB5
Research In Brief

YA4-H! Youth Advocates for Health: Impact of a 4-H Teens-as-Teachers Program

Abstract

This article reports the results of an evaluation of the YA4-H! Youth Advocates for Health—Teens as Teachers program. Consistent with previous research on the impact of teen teaching, the teens participating in the program gained confidence and skill with regard to teaching younger youths. The program also affected the teens' understanding that they are role models for younger youths and their desire to be role models. Additionally, the teens learned the content they taught and adopted new healthful behaviors. These results are promising and add to the growing body of evidence suggesting that teens learn and adopt practices they teach to younger youths.

Mary E. Arnold
Professor and Youth Development Specialist
Oregon State University
Corvallis, Oregon
mary.arnold@oregonstate.edu

Jeffrey M. Flesch
Graduate Student, Human Development and Family Sciences
Oregon State University
Corvallis, Oregon
fleschj@oregonstate.edu

Carolyn Ashton
Associate Professor and 4-H Educator
Oregon State University
Corvallis, Oregon
carolyn.ashton@oregonstate.edu

Lynette Black
Associate Professor and 4-H Educator
Oregon State University
The Dalles, Oregon
lynette.black@oregonstate.edu

Barbara Brody
Professor of Practice and 4-H Educator
Oregon State University
Ontario, Oregon
barb.brody@oregonstate.edu

Maureen Hosty
Professor and 4-H Educator
Oregon State University
Portland, Oregon
maureen.hosty@oregonstate.edu

Shanna Northway
Professor of Practice and 4-H Educator
Oregon State University
John Day, Oregon
shanna.northway@oregonstate.edu

Engaging teens as teachers of younger youths has emerged as a popular strategy in 4-H programs, driven in large part by the "teen health ambassador" model, which grew out of the national 4-H Healthy Living Framework (National 4-H Council, 2009). In recent years, this model has gained popularity across the United States as a method for delivering 4-H programs related to healthful living (Arnold, Flesch, & Lile, 2014). Despite the growing popularity of the teens-as-teachers approach, limited research exists to demonstrate the efficacy of using teens as teachers or the developmental impact that teaching has on the teens. This article addresses the results of an evaluation of a YA4-H! Youth Advocates for Health program that engaged teens in teaching younger youths about whole grains.

Teens as Teachers

The research that does exist suggests that cross-age teaching—having teens teach other youths who are 3 or more years younger—offers many positive developmental outcomes for both the younger children and the teens

(Backett-Milburn & Wilson, 2000; Bird & Subramaniam, 2001; Güldal, Mevsim, Günvar, & Özçakar, 2012; Smith & Enfield, 2002). Successful programs not only provide fun and exciting instruction for younger children but also offer opportunities for adolescents to learn more about the subjects they are teaching (Arnold et al., 2014; Arnold & Nott, 2010; Hammond-Diedrich & Walsh, 2006; Murdock, Lee, & Paterson, 2003; Ripberger & Blalock, 2013; Ripberger, Devitt, & Gore, 2009).

Teens typically describe several reasons for wanting to teach younger children, including wanting to expand their knowledge, gain experience, build their resumes, improve their relationships, and add variety and interest to their lives (Arnold et al., 2014; Güldal et al., 2012).

According to research, the benefits to teens can be summarized in three broad categories:

- *Skill Development.* Teens gain a range of new skills, including those related to knowledge of the program content, team building, leadership, problem solving, teaching, communication, empowerment, competency, work habits, public speaking, and role modeling. High-quality teens-as-teachers programs provide teens with various opportunities to enhance these skills, each of which helps them become better teachers and more fully developed teens.

- *Personal Development.* Teen teaching programs also provide opportunities for personal development, especially in the areas of self-confidence, responsibility, authenticity, enthusiasm, ability to overcome prejudices, achievement, goal setting, fulfillment, career exploration, and a sense of making a contribution to others.

- *New Relationships and Friendships.* Forming new friendships through a teen teaching program enhances a young person's social connections, expands his or her network, and provides connections and resources that may be valuable in the teen's future.

Opportunities for skill, personal, and relational development reflect core principles of positive youth development programs.

YA4-H! Youth Advocates for Health

In response to the growing need for additional resources to prepare teen teachers, the YA4-H! Advocates for Health—Teens as Teachers training curriculum was developed (Arnold, Gifford, Deen, & Edwards, 2015). The curriculum provides activity-based training to teens in the areas of child development, learning styles, diversity, classroom management, and professionalism. Toward the end of the curriculum development, a pilot opportunity became available through the Oregon State University Moore Family Center Healthy Communities Outreach Project, in partnership with Bob's Red Mill, which funded regional grants to Extension programs in Oregon. Five regions (of 12) chose to use the funding to build their YA4-H! Advocates for Health—Teens as Teachers programs and engage teens to teach younger children about whole grains.

Participant Demographics and Methods

As a result of the grant program, 68 teens were trained as teen teachers. The age of the participants ranged from 13 to 18, with a mean age of 15.69. Sixty-nine percent of the participants were female, which is consistent with 4-H enrollment in Oregon. Participants were somewhat diverse, with 71.9% being White; 17.5%, Asian; 7.0%, Black or African American; and 3.5%, American Indian or Alaskan Native.

© 2016 Extension Journal Inc.

The teens worked with local 4-H agents to learn about teaching and to develop competence in teaching the selected curriculum on whole grains. Following the training, the teens taught the curriculum to younger youths in a variety of program settings. The teen teachers taught the whole grains curriculum to the youths over a series of several sessions. The number of sessions varied from region to region.

At the end of the program, the teens were asked to complete a written survey evaluation about their experience in the program. The first part of the evaluation involved a retrospective pretest design and consisted of eight items related to various elements of the teen teaching experience. The teens rated their agreement with each item on the basis of how they had felt prior to the program (preprogram) and how they felt at the end of the program (postprogram). The response set for each item was a 4-point scale (1 = *strongly disagree*, 2 = *disagree*, 3 = *agree*, 4 = *strongly agree*). The evaluation also included items addressing skills the teens learned, the teens' feelings about being able to mentor younger youths, changes in the teens' knowledge and practices related to whole-grain foods, and effects on the teens' eating habits and physical activity levels. For each item addressing changes in knowledge and practices related to whole-grain foods, the response set was a 5-point scale (1 = *increased a lot*, 2 = *increased a little*, 3 = *about the same*, 4 = *decreased a little*, 5 = *decreased a lot*).

Results

For analysis of the first eight items on the evaluation, the "agree" and "strongly agree" categories were combined. For each item, the frequencies (percentages) of teens who reported agreeing or strongly agreeing relative to how they had felt prior to the program and teens who reported agreeing or strongly agreeing relative to how they felt at the end of the program were calculated. Then the difference in preprogram and postprogram percentages for each item was analyzed through the use of McNemar's (1947) statistical test of proportions that is conducted on paired data before and after an event. As shown in Table 1, teens' responses indicated significant changes from before the program to after the program for all items.

Table 1.

Percentages of Teens Agreeing or Strongly Agreeing About Elements of the Teen Teaching Experience

Item	Preprogram	Postprogram	Difference
I was a role model for younger youth	63.2	85.3	22.1*
I desire to be a role model	73.5	88.2	14.7*
I am comfortable teaching younger youth	53.0	86.4	33.4*
I have the skills I need to teach younger youth	45.4	73.3	27.9*
I am good at teaching younger youth	40.9	71.2	30.3*
I experience a successful youth-adult partnership	53.0	86.1	33.1*
I want to contribute my skills to help others	81.8	95.4	13.6*
I want to contribute my skills to help my community	80.3	93.9	13.6*

© 2016 Extension Journal Inc.

*$p < .001$ for all items.

Most Important Skills Developed

The teens also responded to an open-ended question regarding the most important skill they developed. Fifty-eight participants (85%) provided answers, resulting in four major themes:

- Of those who responded, 40% reported that learning how to interact and build quality relationships with children and adults was the most important skill they developed.
- The answers given by 25% of the respondents centered on having the opportunity to increase personal skills. These participants reported experiencing development in a range of skill areas, such as leadership, confidence, safety, teamwork, handling the unexpected, and lesson planning.
- Another group of respondents (20%) reported that public speaking was the most important skill developed, stating that having the opportunity to speak in front of small groups and larger crowds was positive for their development.
- A final group of participants (14.5%) reported that learning and practicing effective teaching strategies was the most important skill developed. These participants reported enjoying learning how to teach children effectively while incorporating lessons about health and nutrition.

Teen Feelings on Mentoring Younger Youths

The teens were asked whether they felt differently about their personal development related to their ability to mentor younger youths as a result of the program. Fifty-two teens (76%) responded to this question, indicating that their confidence had increased dramatically since participating in the program. Participants reported feeling inspired by their increased levels of confidence, especially in speaking to, listening to, relating to, and interacting with younger youths. The teens also reported being more outgoing and patient as a result of the program. In addition to experiencing development of these personal skills, the teens reported that participating in the program improved their ability to teach and mentor younger youths. Furthermore, they reported feeling prepared and ready to teach youths as a result of the program.

Teens as Teachers, Teens as Learners

Evaluations of teen teaching programs consistently show that teens who participate as teachers also learn the content they are teaching and frequently adopt practices related to that learning (Arnold et al., 2014; Arnold & Nott, 2010). The teen teachers involved in the YA4-H! program were asked whether participating in the program increased their knowledge relative to the following aspects of the lessons they taught on whole grains:

- knowing the characteristics of whole- and refined-grain foods,
- identifying common grains,
- describing the three parts of a grain kernel,

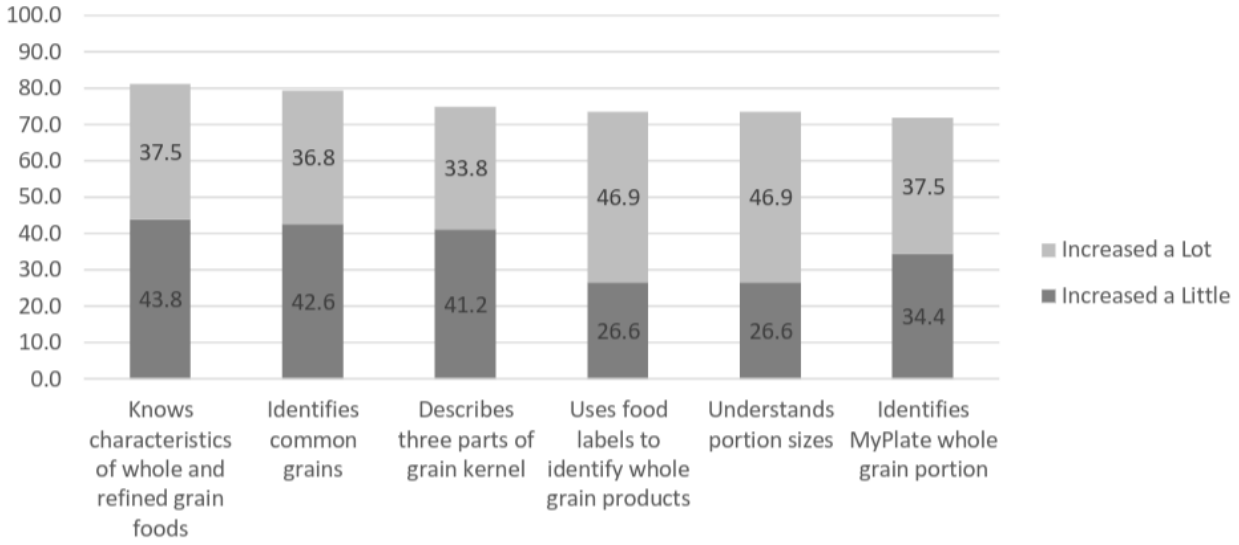
© 2016 Extension Journal Inc.

- using food labels to identify whole-grain products,
- identifying the MyPlate whole-grain portion, and
- understanding portion sizes.

For the associated items, the teens rated the changes in their knowledge by using the 5-point scale mentioned previously (1 = *increased a lot*, 2 = *increased a little*, 3 = *about the same*, 4 = *decreased a little*, 5 = *decreased a lot*). Figure 1 shows the percentage of teens who reported that participating in the program increased their knowledge relative to each item.

Figure 1.

Percentages of Teens Reporting Increases in Knowledge



The teens also were asked to use the same rating scale to indicate whether participation in the program had increased their use of the following skills or practices:

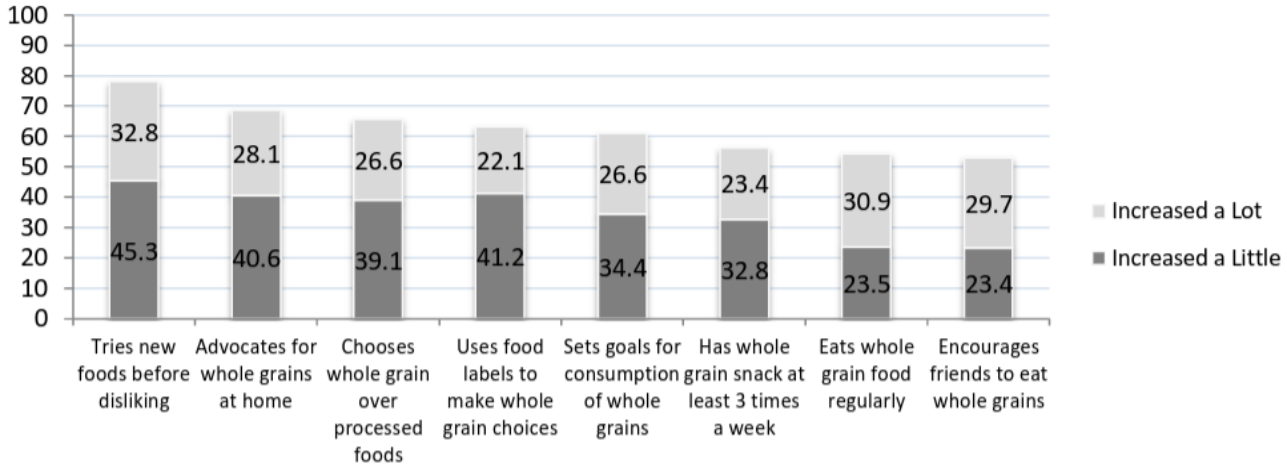
- trying new foods before disliking,
- advocating for whole grains at home,
- choosing a whole grain over processed foods,
- using food labels to make choices about eating whole grains,
- setting goals for consumption of whole grains,
- having a whole-grain snack at least three times a week,
- eating whole-grain foods regularly, and
- encouraging friends to eat whole grains.

© 2016 Extension Journal Inc.

Figure 2 shows the percentage of teens who reported that their behaviors had "increased a little" or "increased a lot" relative to each item.

Figure 2.

Percentages of Teens Reporting Changes in Behavior



The teens also were asked a short-answer question about the effects of the program on their eating habits and physical activity levels. Fifty-five teens (81%) provided answers. Of these, 42% reported that the program increased their knowledge about healthful foods. Their responses clustered around four main topics:

- knowledge about the importance of eating healthfully,
- access to information about healthful foods and overall health,
- awareness of healthful food options, and
- knowledge about food labels and sugar content in foods.

A second set of responses related to making personal changes, with 36% of the participants providing answers in this area. Some reported incorporating more healthful eating habits into their daily lives since participating in the program; this group included those who reported increasing their consumption of whole grains and trying new recipes. A few participants reported increasing their levels of physical activity as a direct result of the program. Participants also reported that the information they learned in the program helped them become "a better person" and increased their motivation.

Discussion and Conclusions

The results of the evaluation described here indicate that teens participating as teachers gained confidence and skill with regard to teaching younger youths. The teens-as-teachers program also affected teens' understanding that they are role models for younger youths and their desire to be role models. In addition, the teens had a positive youth-adult partnership experience, which is one of the key principles in positive youth development programming. Although the teens came to the program with fairly well-developed senses of wanting to contribute their skills to help others, they came away from the program with even greater levels of commitment and desire

© 2016 Extension Journal Inc.

to contribute to others and their communities.

The results also showed that participating in the program had an impact on the health-related knowledge and practices of the teen teachers. Consistent with the limited research on the impact of teen teaching, the teens in the program described here reported learning about the content they were teaching and adopting some new behaviors related to that knowledge. These results are promising and add to the growing body of evidence suggesting that teens learn and adopt the practices they teach to younger youths. Additional research is being conducted to assess the impact that teen teachers have on the younger youths they teach.

Overall, the impact of the experience of the teen teachers in the YA4-H! Advocates for Health—Teens as Teachers program is consistent with similar impacts documented in other studies. This report contributes further evidence to the growing body of research indicating that high-quality teens-as-teachers programs are an effective positive youth development strategy.

Acknowledgments

The authors wish to acknowledge Susan Hunt, Maggie Livesay, and Judi Peters, 4-H youth development faculty members who trained teen teachers and contributed data for the project. We also are grateful for the financial support for the project from the Moore Family Center Healthy Communities Outreach Project at Oregon State University.

References

Arnold, M. E., Flesch, J. M., & Lile, J. (2014). *An implementation evaluation of the 4-H Food Smart Families Pilot Program: Recommendations for bringing the program to scale*. Corvallis, OR: 4-H Youth Development Program, Oregon State University.

Arnold, M. E., Gifford, L., Deen, M. K., & Edwards, J. (Eds.) (2015). *YA4-H! Youth Advocates for Health Teens as Teachers training curriculum*. Chevy Chase, MD: National 4-H Council. Retrieved from http://www.4-hmall.org/Category/youth-adult-partnerships-health.aspx?_ga=1.183514213.2132164151.1445377983

Arnold, M. E., & Nott, B. D. (2010*). 4-H Youth Voice: Youth Choice: Wal-Mart healthy living program evaluation final report.* Corvallis, OR: 4-H Youth Development Program, Oregon State University.

Backett-Milburn, K., & Wilson, S. (2000). Understanding peer education: Insights from a process evaluation. *Health Education Research*, *15*(1), 85–96.

Bird, M., & Subramaniam, A. (2001). Teens as teachers enhance environmental education and personal skills through service learning. *Advances in youth development: Research and evaluation from the University of California Cooperative Extension*, *2010*, 32–40.

Güldal, D., Mevsim, V., Günvar, T., & Özçakar, N. (2012). The perspective of peer educators: What are their experiences, feelings, and thoughts? *Health*, *4*(7), 349–356.

Hammond-Diedrich, K. C., & Walsh, D. (2006). Empowering youth through a responsibility-based cross-age teacher program: An investigation into impact and possibilities. *Physical Educator*, *63*(3), 134–142.

McNemar, Q. (1947). Note on the sampling error of the difference between correlated proportions or percentages. *Pyschometrika*, *12*, 153–157.

© 2016 Extension Journal Inc.

Murdock, S. W., Lee, F. C. H., & Paterson, C. A. (2003). *The role of cross-age teaching in supporting adolescent development*. Davis, CA: University of California, 4-H Youth Development Program.

National 4-H Council (2009). *4-H Healthy Living strategic framework for program planning and evaluation*. Chevy Chase, MD: Author. Retrieved from http://www.4-h.org/youth-development-programs/kids-health/framework-evaluation/

Ripberger, C., & Blalock, L. B. (2013). Training teens to teach agricultural biotechnology: A national 4-H science demonstration project. *Journal of Youth Development*, *8* (3), 46–66. Retrieved from http://www.nae4ha.com/assets/documents/jyd/jyd_130803.pdf

Ripberger, C., Devitt, A., & Gore, S. (2009). Training teenagers as food and fitness ambassadors for out-of-school programs. *Journal of Extension*, *47*(5) Article 5IAW5. Available at: http://www.joe.org/joe/2009october/iw5.php

Smith, M. H., & Enfield, R. P. (2002). Training 4-H teen facilitators in inquiry-based science methods: The evaluation of a "step-up" incremental training model. *Journal of Extension*, *40*(6) Article 6FEA3. Available at: http://www.joe.org/joe/2002december/a3.php

---

Copyright © *by Extension Journal, Inc.* ISSN 1077-5315. Articles appearing in the Journal become the property of the Journal. Single copies of articles may be reproduced in electronic or print form for use in educational or training activities. Inclusion of articles in other publications, electronic sources, or systematic large-scale distribution may be done only with prior electronic or written permission of the *Journal Editorial Office*, *joe-ed@joe.org*.

If you have difficulties viewing or printing this page, please contact *JOE* Technical Support