

Inclusion of Youths with Disabilities in 4-H: A Scoping Literature Review

Abstract

The *Journal of Extension* serves as a conduit for the dissemination of current research and practices within Extension and 4-H. We conducted a review of *Journal of Extension* articles published since passage of the Americans with Disabilities Act of 1990. Our purpose was to determine what practices, programs, and studies have occurred regarding inclusion in 4-H of youths with disabilities or special health care needs. The review resulted in detailed examination of 16 articles and revealed information about Extension professionals' attitudes toward inclusion, strategies and program approaches related to inclusion, and specific areas that need to be addressed further to increase inclusion.

Keywords: [inclusion](#), [youths with disabilities](#), [staff](#), [attitudes](#)

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Providing youth development opportunities to all youths is a core value of 4-H (National 4-H Council, n.d.). As the demographic nature of the United States has changed, 4-H has needed to diversify its activities and emphases to accommodate this change. Youths who have disabilities or special health care needs are an increasingly visible group in schools and communities. As is noted in the Americans with Disabilities Act of 1990 (ADA), federal legislation for free and appropriate education for children with disabilities was first passed in 1975 and since then has had a dramatic and positive impact on the lives of millions of children and their families (Americans with Disabilities Act of 1990). Passage of the ADA further strengthened opportunities for people with disabilities by prohibiting discrimination against individuals with disabilities in all areas of public life and in private places that are open to the general public. It guarantees "equal opportunity for individuals with disabilities in public accommodations, employment, transportation, State and local government services, and telecommunications," requiring that entities make reasonable accommodations to allow equal opportunities to participate (Americans with Disabilities Act of 1990).

About 19% of youths have disabilities or special health care needs, and 6% of youths experience developmental, emotional, or behavioral needs (National Survey of Children's Health, 2016). Despite the benefit of afterschool

programs and protections of the ADA, these young people are not participating in afterschool programs at equal rates as their nondisabled peers. In 2016, a national survey of children showed that 20% of youths do not participate in an afterschool activity, but for youths with developmental, emotional, or behavioral needs, the rate of nonparticipation is 32% (National Survey of Children's Health, 2016).

In 2015, the National Institute of Food and Agriculture (NIFA) launched the Vulnerable Populations Program. In this program, six distinct groups of diverse youths are identified for targeted inclusion in 4-H. Two of these groups are youths with disabilities and youths with mental health needs. Since 2016, the NIFA work group on youths with disabilities has been striving to meet the charge given to them by NIFA by identifying resources available to 4-H professionals and gaps in resources. As members of the work group, we undertook the task of identifying what literature is available to inform and support the group's charge.

Previously, a number of authors have advocated for greater focus on welcoming and preparing for diverse participants in services offered by Extension (e.g., McBreen, 1994; Peterson et al., 2012). With this article, we extend that earlier work by systematically identifying and discussing relevant *Journal of Extension* articles. To identify relevant publications, we conducted a scoping review using procedures typical of systematic literature reviews. Our purpose was to determine what practices, programs, and studies related to inclusion of youths with disabilities in 4-H/Extension had been addressed by articles published in the *Journal of Extension* during a specified period following passage of the ADA.

Method

The period reviewed was January 1990 through June 2017. This time period captures the era following passage of the ADA in 1990 to the time at which we initiated our review. We performed a systematic search of all articles published in the *Journal of Extension* through use of the keyword search function, applying the following search terms: "youth with disabilities in 4-H," "youth with special needs in 4-H," "children with disabilities in 4-H," and "children with special needs in 4-H." We reviewed all identified items to eliminate duplicates and nonarticle entries (e.g., job announcements, search result pages). We then reviewed the abstracts of all articles to exclude those not published within the specified time period, those not mentioning 4-H, those for which the focus did not include disabilities or special needs, and those for which the focus did not relate to youths aged 6–18 years. For articles retained through abstract review, we reviewed the full-length versions, using the same process to identify articles that met inclusion criteria. At both the abstract review and full-paper review steps, at least two reviewers reviewed each article and needed to reach agreement about inclusion in or exclusion from the literature review. As a final step, we reviewed the references sections of all included articles to identify additional potential articles and then reviewed those publications in the same manner to determine whether they met the criteria for inclusion.

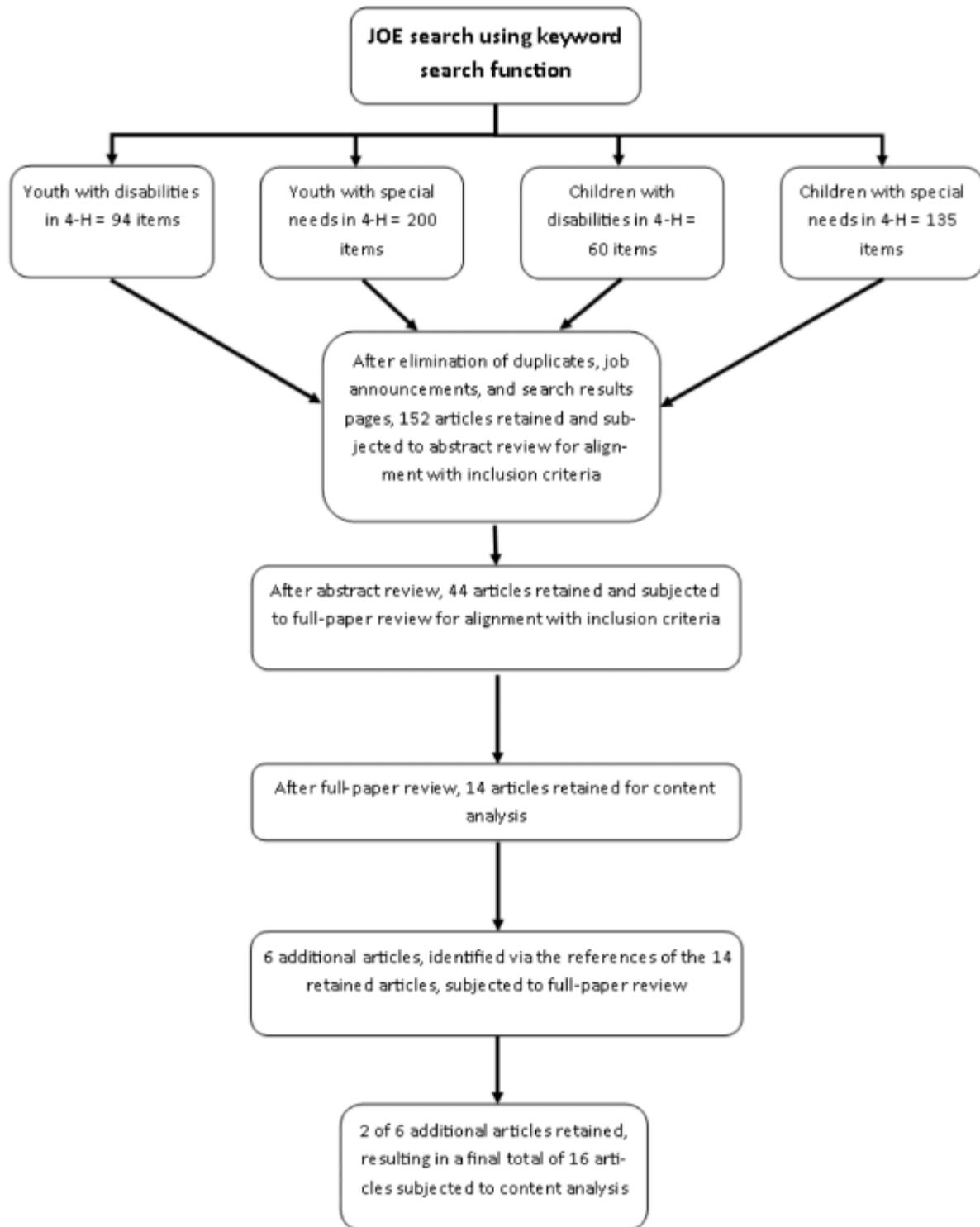
Results

Through searching the journal and reviewing abstracts and/or full articles, we identified articles on which to conduct content analysis. The stages of our process and resulting numbers of articles associated with those stages are illustrated in Figure 1. We conducted content analysis on 16 articles. Of the 16 articles we reviewed, three were published in the 1990s, six were published from 2000 to 2009, and seven were published from 2010 to 2017. Figure 2 presents number of publications by year of publication. There appears to be a slight upward trend over the 27 years considered. The reviewed articles are organized in Table 1, according to the *Journal of Extension* article categories in which they were published. Eight were published as Feature articles, followed by

four published as Ideas at Work articles, three as Tools of the Trade articles, and one as a Research in Brief article. All articles were descriptive in nature, and only one included national comparative data from other youth development programs (Mouton & Bruce, 2013). After our content review of the 16 articles, we were able to categorize the articles according to concentration on one of six topics: (a) strategies and accommodations, (b) attitudes toward inclusion, (c) training for inclusion, (d) curriculum development, (e) Extension professionals' needs, and (f) use of technology.

Figure 1.

Flow Chart of Article Inclusion



Note: JOE = *Journal of Extension*.

Figure 2.
Scatter Plot of Articles Published by Year

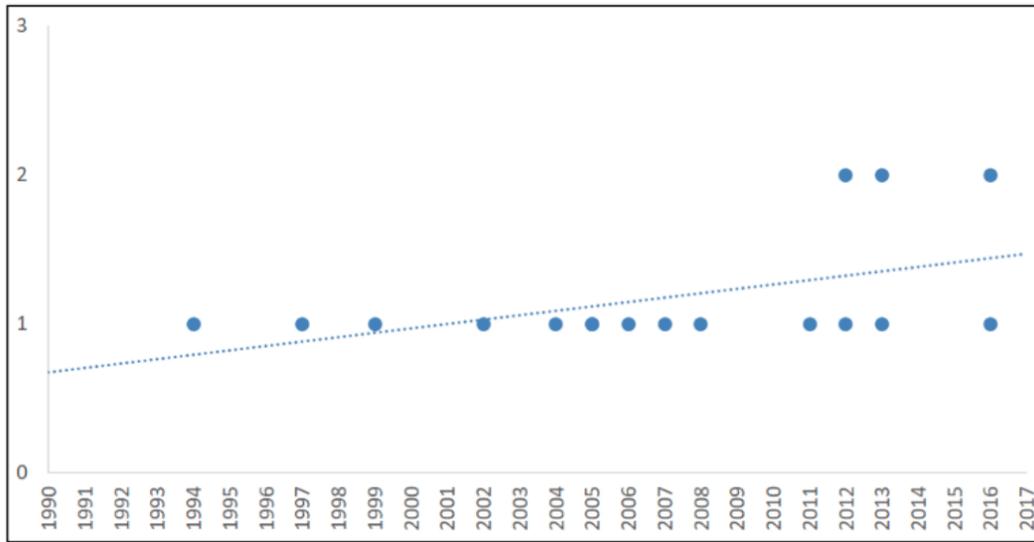


Table 1.

Articles Included in Review Ordered by *Journal of Extension* Article Type

Identifier:

**Publication date,
volume, issue
number, article
code**

	Author(s)	First author affiliation	Purpose of study	Type(s) of disability examined	Data reported	Was there training?
December 2006, Vol. 44, No. 6, 6FEA4	Boone, Boone, Reed, Woloshuk, & Gartin	West Virginia University	To determine the attitudes of Extension agents in West Virginia toward the involvement of youths with special needs in 4-H programs	Autism, behavioral, general special needs, hearing impairment, intellectual, physical, vision impairment	Yes	No
February 1999, Vol. 37, No. 1, 1FEA3	Ingram	Pennsylvania State University	To examine the attitudes of Extension professionals toward diversity education in 4-H programs	Not specified	Yes	No
August 2013, Vol. 51, No. 4, 4FEA1	LaVergne	West Virginia University	To analyze West Virginia 4-H youth professionals' perceptions toward diversity inclusion in 4-H youth programs	Not specified	Yes	No
December 2012, Vol. 50, No. 6, 6FEA7	Peterson, Grenwelge, Benz, Zhang, Resch,	Texas A&M University	To analyze the perceptions of Texas Extension personnel regarding participation by individuals with disabilities in Extension-related activities/programs	Not specified	Yes	No

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and identify ways Extension might better connect with and serve individuals with disabilities and their families

June 1994, Vol. 32, No. 1, 1FEA4 Tormoehlen & Field Purdue University To summarize a project underway at Purdue University for ensuring that all youths have the opportunity to participate in meaningful activities Intellectual, physical No Yes

August 2004, Vol. 42, No. 4, 4FEA1 Stumpf-Downing, Henderson, Luken, & Bialeschki North Carolina State University To describe a program intended to create intentional inclusive 4-H environments and engage communities to address the needs of people with disabilities Developmental, physical, psychiatric No Yes

April 2002, Vol. 40, No. 2, 2FEA4 Stumpf, Henderson, Luken, Bialeschki, & Casey North Carolina State University To describe the rationale for inclusive 4-H programs Developmental, physical, psychiatric No Yes

August 2016, Vol. 54, No. 4, 4FEA3 Angima, Etuk, & Maddy Oregon State University To develop an understanding of the prevalence of Extension clients who face language, vision, or hearing challenges and the strategies used to serve them Hearing impairment, vision impairment Yes No

Research in Brief

February 2013, Vol. 51, No. 1, 1RIB4 Mouton & Bruce North Carolina State University To describe differences in existing practices for training staff on service to youths with special health care needs in 4-H and formally accredited American Camp Association camping programs Behavioral, developmental, emotional, physical Yes No

Ideas at Work

June 1997, Vol. 35, No. 3, 3IAW2 Williams University of Idaho To describe programs/projects in community development and health N/A No Yes

February 2012, Vol. 50, No. 1, 1IAW4 Green Oregon State University To propose a new method for delivery of 4-H educational material designed to create a more inclusive and accessible environment for youths in need of literacy support Learning No No

December 2008, Vol. 46, No. 6, 6IAW2 Goble & Eyre Ohio State University To describe the Winning 4-H Plan and how it can be used to promote inclusion of youths with disabilities in 4-H programs N/A No Yes

April 2005, Vol. 43, No. 2, 2IAW6 Brady & McKee Purdue University To discuss how inclusion of youths with disabilities in educational programs benefits youths with and without disabilities and strategies that are Not specified No Yes

successful for increasing the accessibility of 4-H horse programs to youths with disabilities

Tools of the Trade

August 2016, Vol. 54, No. 4, 4TOT2	Angima, Etuk, & Maddy	Oregon State University	To discuss findings and implications from a study that documented approaches used by Extension professionals to accommodate clients who face hearing, language, or vision challenges	Hearing impairment, vision impairment	Yes	No
October 2011, Vol. 49, No. 5, 5TOT4	Brill	Rutgers University	To describe the importance of using software and other visual tools in 4-H and Extension programs to make communication and educational content accessible for everyone	Developmental	No	No
June 2007, Vol. 45, No. 3, 3TOT3	Blalock & Strieter	Rutgers University	To explain how to use the 4-H skillathon as a method of program evaluation	N/A	No	No

Strategies and Accommodations

Subject matter in the 10 articles that specifically focused on strategies and accommodations fit into three general categories: programs (Brady & Mckee, 2005; Goble & Eyre, 2008; Stumpf-Downing, Henderson, Luken, & Bialeschki, 2004; Williams, 1997), tools (Blalock & Strieter, 2007; Brill, 2011; Green, 2012), and general strategies (Angima, Etuk, & Maddy, 2016a, 2016b; Tormoehlen & Field, 1994).

Programs

Williams (1997) provided a description of a number of programming approaches for the implementation of the Decisions for Health initiative. This brief article includes examples of projects that were created through the initiative. One of the identified projects was Bustin' the Barriers, which focused on disability education from a youth education perspective and was designed to educate youths about disabilities and encourage youths with disabilities to enter 4-H. Goble and Eyre (2008) described The Winning 4-H Plan program designed to provide Extension professionals, volunteers, parents, and youths with hands-on activities for increasing their awareness and promoting inclusion of youths with disabilities in 4-H programs. Stumpf-Downing et al. (2004) discussed a 4-year 4-H inclusion project that involved creation of an experiential curriculum, Shine Up and Step Out, designed to promote inclusive environments. The authors discussed findings from the project and gave examples of how the curriculum was adapted to the specific needs of counties. Finally, the program-related article by Brady and McKee (2005) focuses on including youths with disabilities in horse and pony programs in Indiana. The authors identified steps program developers can use to prepare volunteers and Extension staff in horse programs as well as criteria for accommodation strategies for inclusion. They provided specific examples of accommodations related to both planning and performance and presented suggestions for how to address potential concerns regarding the idea "unfair advantage" gained through accommodation.

Tools

Blalock and Strieter (2007) described in their article how the 4-H skillathon can be adapted and used as an assessment tool for documenting skill change in youths with disabilities. The authors provided step-by-step directions for creating and administering the assessment (including sample assessment sheets) and analyzing the data. Brill (2011) described how the use of visual tools such as Boardmaker may be effective in communicating with youths who have challenges with verbal communication. The author provided screenshots of a variety of communication boards from Boardmaker. The third article in the category of "tools" introduced a new method for delivery of 4-H program materials to create a more inclusive and accessible environment for youths in need of literacy support (Green, 2012). The author proposed converting text to speech through an Internet-based platform. The purpose of this tool was not to teach youths to read but rather to make information more accessible for those who have challenges with reading.

General Strategies

Tormoehlen and Field (1994) discussed the benefits of inclusion of youths with disabilities in 4-H, identifying specific examples of accommodations that can be made to help them be successful. The authors described a joint project between the Department of 4-H Youth and the Breaking New Ground Resource Center at Purdue University that resulted in the creation of resource materials that would provide all youths with the opportunity to participate in 4-H. Angima et al. (2016a) conducted a survey-based study to determine the prevalence of Extension clients who have language, vision, or hearing challenges and the approaches used to serve these individuals. Results indicated a gap between accommodations that are provided by clients and those provided by Extension for both clients who experience language barriers (15%) and those who experience visual impairments (10%). As a result of the accommodation gaps, clients were not participating in programming and were likely to complain to the Extension office. The authors described the most reported strategies and the most common resources used for accommodating clients with language, vision, or hearing challenges.

Attitudes Toward Inclusion

In conducting our content analysis, we reviewed findings for commonalities and differences in Extension professionals' attitudes toward inclusion. Overall, Extension professionals and 4-H program leaders reported having positive attitudes toward inclusion of youths with disabilities and special needs in 4-H and reported believing that youths with disabilities can be productive members of society (Boone, Boone, Reed, Woloshuk, & Gartin, 2006) and that 4-H can help them improve in other areas, such as academics (LaVergne, 2013). Further, they reported believing that inclusion of youths with disabilities or special needs in programs is beneficial to youths without disabilities (Boone et al., 2006; LaVergne, 2013), can improve relationships among diverse youths (Boone et al., 2006; LaVergne, 2013), and can benefit entire community and statewide programs (Ingram, 1999). A significant number of professionals did not perceive peer rejection or stereotypes as barriers to inclusion (LaVergne, 2013).

Although the large majority of Extension and 4-H professionals viewed disability inclusion positively, these views were not held universally. Taking time away from other members and directing too much effort toward inclusion approaches at the expense of other members were identified as concerns (Boone et al., 2006, Ingram, 1999). Barriers to inclusion included lack of information about 4-H programs or lack of knowledge and training on disability inclusion strategies (LaVergne, 2013; Mouton & Bruce, 2013; Peterson et al., 2012).

Training for Inclusion

Mouton and Bruce (2013) explored differences in precamp preparation of staff according to American Camping Association (ACA) topic guidelines. The researchers surveyed directors who represented 4-H camps, ACA-accredited camps, and ACA-accredited camps that primarily served campers with special health care needs. The survey included questions about how likely camps were to safely serve youths having specific disabilities, how much time was spent in training before camps started, and how much time was spent on specified topics during the precamp training. The authors found that camps were most likely to accommodate campers with asthma or diabetes and least likely to safely accommodate campers with spina bifida or those who require the use of a dialysis machine. Substantial variation in the time spent on training for inclusion was evident. Representatives of 4-H camps reported much less likelihood (34.8%) of providing in-depth training (5 days or more) than the other two groups (71.8% for special needs camps, 92.3% for nonspecific camps) and reported spending less time on specific topics than the other two groups. The authors provided recommendations for improvement.

Curriculum Development

One article addresses a multiyear project on curriculum design and implementation (Stumpf, Henderson, Luken, Bialeschki, & Casey, 2002). This 4-year pilot project, Intentionally Inclusive 4-H Club Programs, involved collaboration with key stakeholders on development of the experiential curriculum "Shine up, Step out." The goal of the curriculum was to raise awareness among 9- to 12-year-old youths about people with disabilities and disabling conditions. The curriculum included 12 lessons with a variety of hands-on activities.

Extension Professionals' Needs

The work of Peterson et al. (2012) was the only article in the review to address specifically the needs of Extension agents regarding inclusion. Study participants reported barriers to inclusive programming, including lack of knowledge related to disability and lack of resources (marketing material, training, appropriate curricula, funding, and transportation). The participant needs related to serving individuals with disabilities were primarily aligned with training and resources. Participants identified the need for training related to inclusive strategies and the need for more educational materials, better marketing strategies, funds to support accommodations, and a directory of community resources for individuals with disabilities.

Use of Technology

Only two of the reviewed articles specifically address technology and its application in work with youths with disabilities and special needs (Brill, 2011; Green, 2012). Two other articles describe use of technology for converting audio to text and text to audio, increasing font sizes, and converting written text to braille (Angima et al., 2016a, 2016b). However, the latter articles do not identify what programs or software products were used to make the accommodations.

Discussion

Since passage of the ADA in 1990, only 16 articles have been published in the *Journal of Extension* that specifically focus on inclusion of youths with disabilities in 4-H programs. This low number stands in contrast to the prevalence of youths in this country who live with a disability or special need (19%) and the 6 million youths 4-H serves (National 4-H Council, n.d.). The slight upward trend in the number of articles published across time since the passing of the ADA may be an indication of potentially greater attention around inclusion. Recent

efforts, such as the national Vulnerable Populations Program, provide further promise for increased awareness about the need for and potential benefits of inclusion of youths with disabilities and special needs in 4-H. This increased awareness could in turn lead to increased dissemination of effective inclusion-related strategies and programming.

The articles presented in this review provide a variety of suggestions, strategies, and program ideas related to increasing the inclusion of youths with disabilities in 4-H programs, but three omissions are notable.

- First is the dearth of research designs involving comparison groups. The one exception is the Mouton and Bruce (2013) study, in which the authors used national data and employed a comparison group design. Future use of comparison groups would be beneficial in helping 4-H professionals better understand effective training methods for program personnel or strategies for including youths with disabilities or special needs.
- Second is the lack of data on youths with disabilities who participate in 4-H programs and camps. Although many of the reviewed articles present strategies on how to accommodate youths with disabilities based on experiences with youths in the authors' programs, not a single article reports on the number of youths with disabilities in the pertinent programs or the nature of participating youths' disabilities. A possible reason for this lack of reporting may be a lack of expectations or procedures for collecting disability status information at the national and state levels. Further exploration in this realm is warranted. Having data regarding youths with disabilities and their accommodation needs would allow states and counties to prepare their staff and volunteers and use training and resources identified in the articles reviewed herein. Collaborations specific to the needs of youths across programs and counties would support a proactive approach to including youths with disabilities and special needs in 4-H.
- Third is the relative underutilization of technology, at both the individual level and the program level. Only two articles address the use of assistive technology. Identifying specific technology being used to make accommodations would provide 4-H professionals with ideas and an initial resource for determining how to make accommodations for individuals with disabilities and special needs in their programs.

A circumstance identified across the articles we reviewed is the need for resources. A number of articles in our review identified the need for training (Boone et al., 2006; Ingram, 1999; LaVergne, 2013; Mouton & Bruce, 2013; Peterson et al., 2012; Stumpf et al., 2002; Stumpf-Downing et al., 2004). Peterson et al. (2012) provided the most extensive exploration of resource needs. They identified the need for funding sources to pay for additional supports, professional development, up-to-date resources (curricula, community collaborators), marketing campaigns, and programming structures that embrace universal design strategies. Many of these recommendations echo those presented in other articles we reviewed.

Conclusion

Through the review described herein, we found that Extension agents generally have positive attitudes about the inclusion of youths with disabilities and special needs in 4-H, though some concerns were identified. There are program personnel currently working to develop adaptations and strategies for including youths with disabilities and special needs in 4-H programming. There is a need for more data on how many youths with disabilities are participating in 4-H and what disability populations are represented in 4-H memberships. The use of comparison groups in future research could lead to quality data on the effectiveness of inclusion strategies and programs, and researchers should explore how technology may be used in making needed accommodations. Our review also

emphasized the need for resources to help 4-H staff and volunteers succeed in including youths with disabilities and special needs. Articles mainly identified training, money, time for making accommodations, and community collaboration as needs.

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