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Recommended Citation

Goldman, S. E.; Goscicki, B. L. ; Burke, M. M. ; and Hodapp, R. M. (2020). Developing Special Education Advocates: What Changes during an Advocacy Training Program?. *Journal of Policy and Practice in Intellectual Disabilities* 17(4): 308-317. <https://doi.org/10.1111/jppi.12345>

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Developing Special Education Advocates:
What Changes During an Advocacy Training Program?

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Acknowledgements:

Grant support for the second author is provided by OSEP Leadership Grant (H325D170004) and to the fourth author by AIDD (90DD0825). Grant support for projects utilizing REDCap is provided by the National Institutes of Health (NIH/NCATS UL1 TR000445). Funding to support the first author in writing this manuscript was provided by an Assumption College Faculty Development Grant.

We would like to thank Maria Mello for her help collecting the data used in this study. Additionally, we thank Elise McMillan for her ongoing support of the Volunteer Advocacy Project.

Abstract

Background: Special education advocacy trainings, such as the Volunteer Advocacy Project (VAP), have the goal of training advocates who can eventually support families in accessing needed services for students with disabilities. In addition to the training goal of increasing participants' special education knowledge and advocacy comfort, it is unknown if the VAP improves other participant outcomes related to later advocacy.

Specific Aims: In this study, we asked: (1) Do VAP participants improve from pre- to post-test on knowledge and advocacy comfort, as well as on role identity, involvement in the disability community, and empowerment?; (2) Do participants' roles and levels of education moderate improvements in these outcomes?; and (3) Do participants who are differentially higher or lower on any of these variables at the pre-test show greater improvement from pre- to post-test on one or all other variables?

Method: Participants included 70 graduates of the VAP from 2014 - 2016. These participants completed pre-test and post-test assessments with measures on: special education knowledge, advocacy comfort, role identity, involvement, and empowerment.

Findings: Results showed significant change in knowledge, comfort, involvement and empowerment from pre-test to post-test. Only level of education significantly moderated the change in role identity from pre-test to post-test, with those with high school education increasing their role identity compared to those with a college degree or more. Empowerment was closely related to pre-test levels and to change scores for all other variables.

Discussion: Implications for future research and practice are discussed, including the need to better understand moderators of treatment effect and mechanisms of change for advocacy trainings.

Keywords: advocacy, training, parents, empowerment, intellectual disabilities

Developing Special Education Advocates:

What Changes During an Advocacy Training Program?

Globally, parent advocacy has been heralded as a method to improve access to services for individuals with disabilities (Cohen, 2013). To hold schools accountable for the appropriate education of students with disabilities, American federal special education law provides parents specific rights and access to certain processes. Parents must, for example, be invited to individualized education program (IEP) meetings and provide consent for evaluations; they may also utilize a range of dispute resolution procedures to address disagreements with the school (IDEA, 2004). In addition, many of the individualized, special education services provided to students with disabilities under IDEA and other federal laws are aided by parent advocacy (Phillips, 2008). Although parent advocacy is critical to acquiring needed services for students with intellectual and developmental disabilities (IDD; Trainor, 2010), parents continue to face many challenges to successful advocacy. Some barriers include: a power imbalance between school personnel and parents; a view of teachers—not parents—as experts; and logistical challenges such as scheduling and access to translators (Bacon & Causton-Theoharis, 2013; Wright & Taylor, 2014).

To address these challenges, some parents utilize a special education advocate—a trained person with specialized knowledge who can help families navigate the complex special education process. Advocates support families through a range of activities such as attending meetings, having conversations with parents to help them understand their rights, and helping parents review formal documents such as IEPs and assessment reports (Goldman et al., 2017; Goldman et al., 2020). Although the advocacy process does not always result in parents attaining

desired services, most caregivers who utilize an advocate are satisfied with both the advocate and the school services provided for children with IDD (Goldman et al., 2020).

Despite the persistent demand for non-attorney advocates (Phillips, 2008), there is a shortage of trained special educational advocates who are available to support families (Burke, 2013). In an effort to train greater numbers of special education advocates, one advocacy training, the Volunteer Advocacy Project (VAP), was developed in the United States in 2008 (Burke, 2013; Burke, Goldman, et al., 2016). The VAP is a 12-week, 36-hr training that covers content related to special education law and non-adversarial advocacy skills, with the goal that all attendees will advocate for four or more families after program completion.

From the start, the VAP emphasized the development of special education knowledge and advocacy skills (Burke, 2013; Burke, Goldman, et al., 2016). At its most basic level, effective advocates must understand the special education process and special education law. According to Wakelin (2008), an advocate must "...have knowledge of special education law, due process protections, and education of students with disabilities" (p. 285). In addition to being knowledgeable about the complexities of special education, advocates must also feel confident in their ability to collaborate with, and also challenge, school professionals as needed. In a preliminary study, Burke, Goldman, and colleagues (2016) demonstrated that, from the start of the training to training completion, VAP program attendees increased in their knowledge of special education and in their comfort in performing advocacy.

But while completing an advocacy training may be related to these outcomes, increased knowledge and comfort may not, by themselves, be sufficient to ensure continued advocacy. In fact, only about two-thirds of VAP program graduates reported advocating for other families after completing the training (Burke & Goldman, 2017). Those who advocated post-training

reported a higher role identity as an advocate, which refers to seeing oneself as an advocate and incorporating this identity into one's self-concept (Penner, 2002). The highest possible level of advocacy role identity was noted in over a quarter of trainees who advocated after training completion, compared to almost none (3.4%) of those who did not engage in post-training advocacy (Burke & Goldman, 2017). In addition, greater amounts of post-training advocacy were positively correlated with the extent to which graduates reported being involved in the disability community at follow-up (Burke & Goldman, 2017; see also, Balcazar, Keys, Bertram, & Rizzo, 1996). For both role identity and disability involvement, however, it remains unclear whether these correlates to post-training advocacy reflect participant differences already present before the training or if they were affected by the training itself.

Along with these critical traits, empowerment is another characteristic that may be related to advocacy training and post-training advocacy. Research on parent advocacy suggests that special education advocacy, both for one's child and other children more generally, can increase empowerment (Wright & Taylor, 2014). Highlighting this "developmental process of empowerment" that includes advocacy (Koren, DeChillo, & Friesen, 1992), empowerment has been defined as an outcome "...evidenced by enhanced autonomy, communication, decision-making ability, and advocacy skills" (Carr, 2011, p. 2). But, similar to role identity and involvement, levels of empowerment might constitute a pre-existing attribute (Wright & Taylor, 2014), might be developed during advocacy training as participants' knowledge and confidence increase (Hess, Molina, & Kozleski, 2006; Taylor, Hodapp, Burke, Waitz-Kudla, & Rabideau, 2017a), or may not be fully developed until participants are actively advocating in the field, developing first-hand the necessary autonomy, confidence, and skills (Koren et al., 1992).

Although special education advocacy and empowerment are likely linked, little is currently known about their concurrent development (Balcazar et al., 1996; Wright & Taylor, 2014).

Other individual experiences and characteristics may also account for differences in the effectiveness of an advocacy training for certain subsets of trainees. Specifically, those who enter training with existing advocacy experience may have less opportunity for growth and learning due to a high “baseline” (Balcazar et al., 1996). For example, those VAP participants who were parents (vs. professionals) started the training with higher advocacy comfort scores, and therefore had less room for improvement (Burke, Goldman, et al., 2016). Though, on average, program participants became more comfortable with advocacy tasks from pre-test to post-test assessments, professionals scored lower than parents on their pre-test advocacy comfort but higher at post-test. In contrast, those who begin the training with more formal education, understanding of the special education process, and experience with advocacy may more easily learn the complex training content and become even more comfortable advocating, thereby excelling during post-training advocacy (Balcazar et al., 1996). It is therefore important to assess baseline levels of key characteristics to identify whether there is room for growth within subgroups (e.g., parent vs. professionals) and to determine whether membership in a specific subgroup moderates change in key post-training characteristics of advocates.

This study, then, extends the study of advocacy training by focusing on a wider set of outcomes and on moderators of intervention effects. We endeavored to answer the following research questions: (1) Do participants in an advocacy training program improve from pre- to post-test on both our original outcome measures—special education knowledge and advocacy comfort—as well as on role identity, involvement in the disability community, and empowerment?; (2) Do specific participant characteristics moderate trainees’ improvements in

these key outcomes from pre-test to post-test?; and (3) Do participants who are differentially higher or lower on any of these variables at the pre-test show greater improvement from pre- to post-test on other variables?

Method

Participants

Participants included 70 individuals who completed the VAP training from 2014-2016 in a southeastern state in the United States. Participants were mostly highly educated, White mothers of children with disabilities (see Table 1). There were, however, some participants who were school personnel, community or residential service providers, or health and mental health professionals (i.e., professionals). Inclusion in this study related to inclusion criteria for both being accepted to and completing the VAP program. All program attendees were at least 18 years of age and agreed to volunteer as an advocate for four families in the future (i.e., after completing the training). To be included in this particular study, participants also must have attended at least 80% (i.e., 10 out of 12) of all VAP sessions.

Recruitment

VAP participants were recruited through state and local disability organizations, including the state's Parent Training and Information Center (PTI), local and state chapters of The Arc, and the state's University Centers for Excellence in Developmental Disabilities (UCEDD). Former program graduates were also asked to disseminate training information to others who might be interested.

Procedures

Once Institutional Review Board approval was received for this study, interested participants completed an online application, which included indicating agreement with

statements about consistently attending sessions and voluntarily advocating for four other families after training completion. After eligibility was confirmed, participants were sent an electronic pre-test using REDCap (Harris et al., 2009), a secure, web-based data collection platform. All pre-test and post-test survey responses were anonymous, with the responses of each individual automatically linked within REDCap. All respondents provided consent for their responses to be used for research purposes by indicating their agreement with a consent statement on both the pre-test and post-test. Participants were required to complete the pre-test before attending the first VAP session.

The VAP training consisted of 3-hr sessions for 12 consecutive weeks in the fall of 2014, 2015, or 2016. Trainees attended the VAP at sites across the state, with at least three participants and a coordinator at each site. The training was webcast live from the main site to all other sites. Training elements were consistent across years.

Each 3-hr session included a brief review of previously taught content and the introduction of new content on 2-3 topics presented by content-area experts. Presenters included advocates, lawyers, professors, school personnel (e.g., school psychologists), parents of individuals with disabilities, and graduate students in special education with teaching experience. Content was delivered using a combination of didactic instruction, case studies, small group activities, and opportunity for questions. Topics related to special education knowledge included: American special education law history, introduction to IDEA, disabilities covered by IDEA, assessment, eligibility and evaluation, least restrictive environment, IEPs, early intervention, response to intervention (RTI), research-based instruction, discipline, functional behavioral assessment, assistive technology, extended school year, transition planning, dispute resolution, and Section 504 of the American Rehabilitation Act. A session on non-adversarial advocacy

included an advocate panel with panelists who were themselves parents or self-advocates, in addition to having previously completed the VAP. Additionally, the training addressed cultural awareness in a session that included a parent panel.

Post-tests were administered at the completion of the 12 training sessions. Specifically, during the week of the final training session, participants who attended at least 80% of sessions (i.e., program graduates) were sent an electronic post-test using REDCap (Harris et al., 2009). Participants were given the option to request paper pre- and post-tests, but none did. The response rate was 48%, with 70 of 147 of those who completed the training also completing both the pre-test and post-test. Compared to pre-test completers, those who completed the training and post-test (i.e., study participants) did not differ on any demographic measures, including gender, level of education, race/ethnicity, and role. Therefore, although we could compare pre-test completers to study participants on only certain variables, our sample of those who completed both the pre- and post-test measures seemed representative of VAP participants overall from 2014 to 2016.

Measures

The pre-test and post-test were identical, and included the following sections based on prior studies on the VAP training (Burke, Goldman, et al., 2016) and VAP graduates (Burke & Goldman, 2017). Some sections related directly to training content (i.e., special education knowledge and advocacy comfort), while the remaining three sections used existing measures to assess the constructs of role identity, involvement, and empowerment.

Demographics. Participants were asked multiple-choice questions about their gender, race/ethnicity, highest level of education, and role (e.g., parent or family member of an individual with a disability).

Special education knowledge. The *Special Education Knowledge Scale* (Burke, Goldman, et al., 2016) consists of 30 multiple choice and true-false questions related to knowledge of IDEA and other special education policy. Because this measure maps directly onto training content, some minor revisions were made to individual items from the original scale to address state and federal policy changes from the time of its creation (e.g., using RTI instead of a discrepancy definition to identify learning disabilities). Each item was scored as correct or incorrect, with a total percentage correct calculated for each participant. This multiple-choice test has been previously used to examine VAP graduates' change in special education knowledge (Burke, Goldman, et al., 2016).

Advocacy comfort. The *Special Education Advocacy Scale* (Burke, Goldman, et al., 2016), is a 10-item scale that measures how comfortable and skilled participants perceive themselves to be advocating for others. Examples of items include: "How able are you to advocate for a child's educational needs at special education meetings?" and "What is your self-confidence like in dealing with the school?" Each item was rated on a 5-point Likert scale from *not at all* to *excellent*. Scores were summed and averaged across the 10 items for each participant. Internal reliability was high, with Cronbach's alphas of 0.93 at pre-test and 0.89 at post-test.

Role identity. A 5-item measure of volunteer advocate role identity (Burke & Goldman, 2017, modified from Callero, 1985) was used to calculate an overall role identity average. Items included, for example, "Volunteering as an advocate is an important part of who I am." Each item was rated on a 5-point Likert scale from *strongly disagree* to *strongly agree*. Internal reliability for this sample was acceptable at pre-test and post-test (Cronbach's alphas of 0.64 and 0.74, respectively).

Involvement. Participants were asked to rate their degree of involvement in the disability community on a 5-point Likert scale from *not at all* to *extremely*. Three items addressed involvement in: (a) disability advocacy networks such as Partners in Policymaking, (b) disability organizations such as the National Down syndrome Society or The Arc, and (c) disability advocacy social media groups (e.g., on Facebook). These items were developed and used in a previous study with VAP graduates (Burke & Goldman, 2017). A total involvement score was calculated by summing across the three items and calculating an average. Cronbach's alphas at pre-test and post-test were 0.71 and 0.81, respectively.

Empowerment. We used the 10-item Community-level subscale of the *Family Empowerment Scale* (Koren et al., 1992). Originally created for parents of children with emotional disabilities, this scale has also been used to measure empowerment as it relates to advocacy by parents of children with a range of disabilities (e.g., Burke, Magaña, et al., 2016; Taylor et al., 2017a). The Community-level subscale (alpha = 0.88; Koren et al., 1992) addresses those who are concerned with advocacy for improved services for children in general, rather than specifically for one's own child. As a result, items were worded to be answered by both parents and professionals (i.e., those who were not parents of children with disabilities) and matched the type of empowerment needed by advocates who are advocating for other families of children with disabilities. For example, one item included "I feel that my knowledge and experience can be used to improve services for children with disabilities and their families." Each item was rated on a 5-point Likert scale from *strongly disagree* to *strongly agree*. Internal consistency for this sample was acceptable, with a Cronbach's alpha of 0.84 at pre-test and 0.85 at post-test.

Data Analysis

First, to determine whether study participants were similar to those VAP attendees who filled out only the pre-test measures, we performed chi-square analyses on demographic characteristics. Then, to determine whether participants improved from pre- to post-tests on all outcome measures, we performed matched t-tests on both our original measures—special education knowledge and advocacy comfort—as well as on measures of role identity, involvement in the disability community, and empowerment. To determine the size of the effect for each within-subjects finding, we utilized partial eta-squared (partial η^2); effect sizes were interpreted using guidelines by Sink and Stroh (2006). To identify whether participant role (i.e., parent vs. non-parent, professional) or level of education (i.e., high school vs. college degree or more) moderated pre- to post-test improvements across the five outcomes, we conducted two-way repeated-measures ANOVAs.

Next, we examined relations among these outcomes. To do so, using pre-test and post-test scores, we calculated Pearson's correlations for all five measures separately at each of the two time points. We also calculated change-scores, by subtracting each participant's pre-test score from their post-test score on the same measure. We then correlated pre-test scores on each measure with the degree to which each participant had changed on each of the five variables from pre- to post-test (i.e., change-score). In this way, we were able to examine relations among knowledge, comfort, role identity, disability involvement, and empowerment both concurrently (at pre- and at post-tests) and predictively, showing whether participants with lower or higher levels of each variable at program entrance showed greater gains by the end of the training.

Results

Pre-Test to Post-Test Change

For four of the five main outcomes, participants showed significant increases from pre- to post-test evaluations. As shown in Table 2, only role identity did not significantly change from pre- to post-test. Participants gained in the two areas directly taught during the training itself—special education knowledge and advocacy comfort—but they also gained in their involvement and empowerment. For the four outcomes that demonstrated significant change, results revealed large effect sizes. As noted at the bottom of Table 2, only the involvement measure showed a pre- to post-change that fell between a moderate and a large effect size. For knowledge, comfort, and empowerment, effect sizes exceeded those typically considered to be “large” (Sink & Stroh, 2006).

Moderators of Treatment Effect

Although prior studies have indicated that role (parent vs. professional) moderated the amount of change from pre- to post-tests, interaction effects were not significant for this sample (see Table 3). For all outcomes except role identity and involvement, there were also no significant main effects due to role. Other than role identity, however, all other variables showed significant increases from pre-test to post-test. For role identity, although participants did not demonstrate significant growth from pre-test to post-test, parents had a significantly higher average role identity ($M = 4.30$) than non-parent professionals ($M = 3.81$), $F(1, 68) = 12.70, p = .001$. For involvement, significant main effects emerged for both group and changes from pre-test to post-test. Similar to role identity, parents reported higher levels of involvement in the disability community ($M = 2.72$) than non-parent professionals ($M = 1.99$), although this did not moderate growth in involvement from pre- to post-test.

In contrast, participants' level of education (i.e., high school vs. college degree or more) moderated the training effect on role identity, with a significant interaction, $F(1, 69) = 7.457, p$

= .008. Despite similar pre-test levels, those with a high school education improved significantly from pre- to post-test, while those with higher levels of education did not increase their role identity during the training (see Table 3). For all other variables, interactions between time and level of education were not significant, although main effects for pre- to post-test remained significant.

Concurrent and Predictive Correlations

To examine relations both concurrently and predictively, we performed several sets of correlations among the five main outcomes. Table 4 shows the concurrent relations at both the pre-test assessment (above the diagonal) and at the post-test (below the diagonal). At both time-points, many significant correlations emerged among the variables of interest, but correlations tended to be stronger at the pre-test period than at the post-test. At both time-points, the correlations of other variables with empowerment were generally stronger and all were significant; correlations of other variables with knowledge were generally weaker (especially at the post-test).

We also examined predictive relationships. Looking ahead from the pre-test and using the degree to which each individual changed from pre-test to post-test, we examined whether those who entered the program lower on one or another characteristic showed differential amounts of increase over the 12-week period. Within each of the five outcomes, those who began at lower levels in a particular area increased more in that same area (see Table 5). Moreover, most of these (negative) correlations were medium to strong, with the pre-test measures of comfort, empowerment, and knowledge strongly related to each's respective increase over the pre-to-post-test interval (i.e., all correlations stronger than $-.60$).

There were also several correlations between a particular domain's pre-test score and pre-to-post change in a different domain. The most significant relations here involved empowerment (see Table 5). In addition to those starting the program lower on empowerment gaining more on that same domain, so too were greater pre-post gains in empowerment found among those who began the training lower on all other domains. All correlations were significant, ranging from $r = -.276$ with pre-test levels of knowledge, to $r = -.585$ with pre-test levels of comfort. Similar (albeit not quite as strong) connections occurred for changes in comfort; lower pre-test levels of empowerment, role identity, and involvement all related to significantly greater amounts of change in comfort across the sessions (all correlations approximately r 's = -0.30).

A final set of relations involved change scores across each of the five domains. As Table 6 indicates, all significant correlations again involved empowerment. Those increasing more from the pre-test to the post-test in empowerment also increased more in advocacy comfort, role identity, involvement, and special education knowledge.

Discussion

Moving beyond the basic question of whether one can train special education advocates, this study is among the first to examine the inter-relations among a wider set of outcomes, and whether diverse program participants experience different training outcomes. By evaluating pre-to-post changes on several key variables linked to post-training advocacy, we identified three main findings.

First, replicating findings from earlier VAP cohorts (Burke, Goldman, et al., 2016), we found that, after completing this 36-hr training, this new sample of VAP participants again increased their special education knowledge and advocacy comfort. The training thus continues to meet its main goal of increasing the knowledge and comfort of advocates (Burke, Goldman, et

al., 2016). In essence, when directly teaching certain content and skills over a 12-week period, program participants showed increases in directly taught areas. But VAP program graduates also improved on other correlates of ongoing advocacy, namely empowerment and involvement in the disability community supporting findings from other studies in the field (Burke & Goldman, 2017; Taylor et al., 2017a). Though not directly taught in the VAP training, these characteristics were still developed while completing the program. Notably, such findings are consistent with other advocacy training programs, which also yielded increases in knowledge and empowerment (e.g., Jamison et al., 2017).

In highlighting the pattern of changes on differing outcomes, we are intrigued by the possibilities and limits of what have been called “diffusion effects.” Across a variety of interventions, diffusion effects occur when an intervention’s effects go beyond the people who have been directly targeted or the content that has been directly taught (Gray & Klaus, 1970; Seitz & Apfel, 1994). In the case of the VAP program, the diffusion appeared to work across constructs. While the VAP program explicitly taught special education knowledge and advocacy comfort, VAP content was minimal with regard to empowerment and to involvement in the disability community. Even so, our preliminary results indicated that these parent and professional participants nevertheless increased in these two areas. Although we do not yet fully understand the mechanism of change in terms of these outcomes and whether the VAP itself causes these changes, participants in the VAP training seem to indirectly improve on outcomes that are important later in the advocacy process.

But there also may be a limit to the domains to which diffusion occurs. Such diffusion effects were not present for all constructs for participants overall; specifically, role identity did not increase for participants while completing the training, even as one’s sense of identity as an

advocate is a key predictor of post-training ongoing advocacy (Burke & Goldman, 2017). It is important to understand, then, whether role identity can be fostered during the training, or if it is a pre-existing—and possibly more stable—characteristic that is developed separately from the training, possibly only after one has gained more practical experience with advocacy.

Our second main finding related to moderator effects, the idea that certain VAP participants benefit more from the training than do others. Unlike past VAP participants (Burke, Goldman, et al., 2016), in this study the participant's role (i.e., parent vs. professional) did not moderate changes in measured outcomes, even as parents did have higher role identities than did non-parent professionals. There was, however, an interaction between level of education and pre-test to post-test change in role identity. Those with less than a college education increased in their role identity as an advocate, whereas those with college educations or more did not. This interaction effect may help to explain why the VAP did not improve role identity overall, when evaluating all participants as a group. Unlike other advocacy trainings that focus on a specific subgroup (i.e., parents), the VAP includes participants of various roles and levels of experience. Our results show that, overall, participants across roles and levels of education make strong gains after completing the training. However, additional research is needed to better understand how participant characteristics, such as role and level of education, impact training outcomes.

Our third finding relates to inter-relations among this study's five main training outcomes. As might be expected (Balcazar et al., 1996), those who entered the training with lower levels of knowledge, advocacy comfort, involvement, role identity, and empowerment had more room for growth in each area; in each case, greater pre-post change in each respective construct occurred for participants who entered the program at lower levels. In addition to this pattern of within-construct relations, across-domain correlations were also noted in the single

domain of empowerment. Specifically—and different from all other constructs—greater gains in empowerment emerged when a participant was lower in any of the five measures at pre-test.

Such relations hint at the emerging importance within advocacy interventions of the construct of empowerment. Although empowerment has been identified as a key part of the advocacy process (i.e., empowering other families; Goldman et al., 2017), prior research has not examined how empowerment relates to the advocate training process itself. Our findings support a definition of empowerment that is directly linked to advocacy, as defined by Carr (2011). However, more research is needed to understand the mechanism of change, and the connection between advocacy training, empowerment, other proximal training outcomes (e.g., knowledge and comfort), and long-term improved outcomes for students.

Implications for Research and Practice

Although special education advocacy is designed to improve services for students with disabilities, it remains unclear how to most effectively reach this outcome through advocacy training. While this study provides a good first step, more specific, rigorous future studies are needed. The first area of future research involves the relations of advocacy training to personal characteristics. Who benefits most from the VAP and other advocacy training? Generally referred to as studies examining moderators of intervention, such research capitalizes on the relatively diverse group of VAP participants, at least as compared to other advocacy trainings that are tailored towards a single sub-group (e.g., mothers). Our findings indicate that individuals with less experience in a given area (e.g., advocacy, knowledge, education) still make strong gains after completing the training, despite the high-level training content. This finding supports the structure of the VAP, which serves as an initial training for some families and as a more advanced training for some professionals (Goldman et al., 2019). Still, more research is needed

to inform practice and understand the link between the training and advocacy process and participant characteristics, particularly related to role identity and empowerment and their development over time.

The problem now becomes one of specificity, to learn which kinds or aspects of intervention work, for whom, under which conditions, with the goal of improving the training itself or more closely aligning training characteristics to specific program attendees. For example, parent advocates may benefit from first focusing on their own child's needs, and then expanding their advocacy efforts to other families and the broader system (Goldman et al., 2019). Additionally, if the VAP or other advocacy training programs are modified to target a particular group such as parents, it might be beneficial to choose trainers who are themselves parents (Burke, Magaña, et al., 2016). Among other uses, such targeted interventions have been previously employed when using parents as interventionists to other parents in mindfulness training (Dykens, Fisher, Taylor, Lambert, & Miodrag, 2013) and in early language interventions (Heidlage et al., 2019). In a similar way, advocacy training programs might be customized to enable the development of advocacy skills by pre-service special education teachers (Strassfeld, 2018) or by doctoral students (Nagro, Shepherd, West, & Nagy, 2018), respectively.

The second, possibly more difficult extension concerns understanding the mechanisms of change for advocacy training. Although the end goal of special education advocacy is to improve school services for students with disabilities, it remains unclear how to maximize the training and post-training advocacy process to reach this distal outcome. Additional longitudinal research is needed to understand the training and advocacy process through which advocates impact change for students with IDD. Although statements about causation cannot be made from our findings, prior research suggests that empowerment may be the key mechanism of change in

accessing services. In one advocacy training program for parents of young adults with autism (Taylor et al., 2017a), for example, parents who attended the training increased their: knowledge of the service system, advocacy comfort, and feelings of empowerment. But in a follow-up study, significant relations occurred only between parent empowerment and the number of services received by young adults with autism; parents' increased knowledge or even advocacy comfort did not relate to increased numbers of services received. As a potential target mechanism that increases access to services for young adults with autism (Taylor et al., 2017b), empowerment may also be a critical variable in understanding the mechanism of change for advocacy training and the special education advocacy process. However, just as advocacy differs when advocating for one's own child versus someone else's (Goldman et al., 2019), the role and definition of empowerment may also differ for advocates supporting their own families versus the families of other children. In addition, results of this study cannot be used to compare changes in empowerment during training to those that occur, or continue, during the advocacy process. More research is needed to understand how empowerment develops and changes over time for advocates, and how it relates to effective advocacy for needed services for students with IDD.

Although this study was focused on one particular advocacy training, additional research is also needed to better understand how moderators, mechanisms of change, and training outcomes vary for different advocacy trainings in different locations. For example, US special education policy differs somewhat from state to state, making replication of the VAP in new states more challenging than in other countries without this variation in training content. Beyond replication within the US, additional research is needed to understand how the VAP and other

advocacy trainings can be adapted to the needs and special education laws of other countries (Chiu, Burke, & Goldman, 2015).

Limitations and Conclusions

This study has several methodological limitations that must be addressed. First, we had a relatively low response rate, meaning that the VAP graduates who participated in this study may differ from the overall population of VAP trainees. Although no significant differences emerged in demographic characteristics for those who completed the training and post-test versus those who applied for the training and completed the pre-test, the two groups may differ on other relevant but unmeasured characteristics. This “self-selection” by participants could have influenced our outcomes, and as a result, findings should be interpreted with caution. Additionally, because our participants represent a subset of graduates of one specific advocacy training program, our findings may not generalize to participants in other advocacy trainings within and outside of the US. Further, this study utilized a within-group, pre-test/post-test design, without a control group. We were not able to collect data from non-completers or assign participants to a wait-list control group. This design does not match the rigor of a randomized controlled trial, which would enable us to make statements about causation, ruling out alternative explanations for changes from pre-test to post-test.

Despite these limitations, this study adds to the limited literature on special education advocacy training. Our findings provide additional support for the structure and format of the VAP training, with its mixed group of participants. In addition to replicating participants’ improvement in special education knowledge and advocacy comfort, we also expanded on previous findings, gaining a greater understanding of the mechanisms of change in advocacy training, particularly related to empowerment. Although additional research is needed to build on

these preliminary findings and related work in this field, this study helps to build our knowledge of advocacy training and post-training advocacy, with the goal of improving the educational outcomes of all students with disabilities.

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Table 1

Demographic Characteristics of Participants

Characteristics	% (n)
Gender	
Female	94.3% (66)
Male	5.7% (4)
Race/ethnicity	
White, non-Hispanic	80% (56)
Other	20% (14)
Educational Background	
High School or some college	27.1% (19)
College or Graduate School degree	72.9% (51)
Role*	
Parent of child with disability	72.9% (51)
Other family member	7.1% (5)
Individual with disability	8.6% (6)
School personnel (including para-professional)	11.4% (8)
Community or residential service provider	17.1% (12)
Health or mental health care provider	15.7% (11)
Grad student, faculty, or university staff	15.7% (11)
Other	15.7% (11)
VAP Cohorts	
2014	22.9% (16)
2015	35.7% (25)
2016	41.4% (29)

*Participants could select “all that apply”, so total n is greater than 70.

Table 2

Pre-Test to Post-Test t-test Results

Outcome Variables	Pre-Test Mean (SD)	Post-Test Mean (SD)	t	p	Partial η^2
SPED Knowledge	57.90 (10.56)	69.14 (8.60)	-9.726	.001	.578
Advocacy Comfort	3.66 (0.79)	4.07 (0.52)	-4.584	.001	.233
Involvement	2.40 (1.04)	2.64 (1.10)	-2.747	.01	.099
Role Identity	4.11 (0.63)	4.22 (0.69)	-1.346	.183	---
Empowerment	3.67 (0.67)	4.09 (0.49)	-5.714	.001	.321

Note. N = 70. SPED = special education. For all t-tests, pre-test scores minus post-test scores (hence, negative t-values). Partial η^2 (eta-squared) of approximately 0.14 = large; .06 = medium, and .01 = small effect sizes (Sink & Stroh, 2006).

Table 3

Results of Two-Way Repeated Measures ANOVA

Variable	Characteristic	Pre-test M (SD)	Post-Test M (SD)	Main Effect Pre-Post		Main Effect Group		Interaction Effect	
				<i>F</i>	Partial η^2	<i>F</i>	Partial η^2	<i>F</i>	Partial η^2
SPED Knowledge	Parent	57.71 (11.28)	69.48 (8.65)	68.60***	.502	.01	---	.55	---
	Professional	58.42 (8.56)	68.25 (8.63)						
Advocacy Comfort	Parent	3.75 (0.65)	4.06 (0.53)	25.48***	.273	.900	---	3.78	---
	Professional	3.42 (1.07)	4.11 (0.49)						
Role Identity	Parent	4.23 (0.59)	4.37 (0.59)	.848	---	12.70***	.157	.35	---
	Professional	3.79 (0.62)	3.82 (0.80)						
Involvement	Parent	2.61 (1.06)	2.83 (1.10)	6.76*	.091	7.97**	.105	.14	---
	Professional	1.84 (0.78)	2.14 (0.98)						
Empowerment	Parent	3.73 (0.65)	4.12 (0.50)	28.20***	.293	1.66	---	.31	---
	Professional	3.52 (0.69)	3.99 (0.46)						
SPED Knowledge	HS	55.79 (10.88)	67.37 (8.13)	75.19***	.525	.032	---	.032	---
	College +	58.69 (10.44)	69.80 (8.75)						
Advocacy Comfort	HS	3.68 (0.58)	3.93 (0.56)	12.78***	.158	.370	---	1.24	---
	College +	3.66 (0.87)	4.13 (0.50)						
Role Identity	HS	4.00 (0.66)	4.45 (0.54)	---	---	---	---	6.37*	.086
	College +	4.15 (0.62)	4.14 (0.73)						
Involvement	HS	2.63 (0.76)	2.79 (0.97)	4.69*	.064	.920	---	.34	---
	College +	2.31 (1.12)	2.59 (1.15)						
Empowerment	HS	3.57 (0.60)	3.99 (0.47)	25.56***	.273	1.03	---	.001	---
	College +	3.71 (0.69)	4.12 (0.50)						

Note. SPED = special education; HS = high school.

* $p < .05$; ** $p < .01$; *** $p < .001$.

Table 4

Relations Between Domains at Pre-Test and Post-Test

	Knowledge	Comfort	Disability Involvement	Role Identity	Empowerment
Knowledge	---	.236*	.222	.074	.393**
Comfort	.069	----	.372**	.349**	.605***
Involvement	-.050	.282*	---	.300*	.600***
Role Identity	.054	.004	.333**	---	.460**
Empowerment	.261*	.426**	.530***	.392**	---

Note. Numbers above the diagonal reflect correlations among five variables at the pre-test period; those below diagonal are correlations among variables at the post-test.

* $p < .05$; ** $p < .01$; *** $p < .001$.

Table 5

Relations Between Domain Pre-Test Levels and Pre- to Post-Test Change Scores

Change Score	Scores at Pre-Test				
	Knowledge	Comfort	Involvement	Role Identity	Empowerment
Knowledge	-.642***	-.211	-.231	-.061	-.271*
Comfort	-.007	-.776***	-.295*	-.300*	-.321**
Involvement	-.089	-.057	-.270*	-.070	-.157
Role Identity	-.102	-.216	-.044	-.470**	-.202
Empowerment	-.276*	-.585***	-.339**	-.293*	-.706***

Note. Change scores in a particular domain equal the post-test score minus the score on that same domain at the pre-test.

* $p < .05$; ** $p < .01$; *** $p < .001$.

Table 6

Correlations Between Change Scores Across Domains

	Comfort	Involvement	Role Identity	Empowerment
Knowledge	.001	.014	.139	.315**
Comfort	---	.219	.170	.508***
Involvement		---	.235	.360**
Role Identity			---	.344**
Empowerment				---

Note. Change scores in a particular domain equal the post-test score minus the score on that same domain at the pre-test.

* $p < .05$; ** $p < .01$; *** $p < .001$.