Practitioners' Use of Research in Decision Making about Organized Out-of-School Time Programs Serving Adolescents

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Abstract: Research shows that adolescent participation in organized out-of-school time (OST) programs (e.g., after-school programs) is linked to positive developmental outcomes. However, whether OST program practitioners use this research to inform their decision making is unclear. Therefore, a science-to-practice gap may exist in OST programs. To assess the use of research, 21 OST program directors from the United States were interviewed. Directors identified the components of their programs (i.e., goals and activities) and rationales for choosing each component. Direct questions about the use of research in making program decisions were asked. Findings revealed that use of empirical research was seldom mentioned. Practitioners referred to research in other terms including attending trainings, online searches, and learning from other programs. This suggests there is a science-to-practice gap in OST programs, but also points to several ways that researcher-practitioner partnerships may narrow the gap.

Keywords: out-of-school time, after-school programs, adolescence, decision making, use of research

Introduction

In recent decades, educational reforms throughout the world have led to a widespread expansion of extended education in the form of extracurricular activities and organized out-of-school time (OST) programs (e.g., after-school programs, community-based organizations) to supplement traditional schooling. As discussed in Ecarius, Klieme, Stecher, and Woods (2013), examples include the emergence of "all-day schools" in Germany and Switzerland, Dutch all-day "Brede schools", Korean school-based after-school programs, Japanese after-school classes and clubs, and the growth of after-school programs in the United States.

A considerable financial investment has been made in extended education through social policies supporting the development of OST programs and in funding initiatives to generate new scientific knowledge concerning their effectiveness (Ecarius et al., 2013; Monsen & Woolfson, 2012; Tseng, 2012). Indeed, a large knowledge base has accumulated on the conditions under which participation in OST programs relates to various domains of youth development (e.g., Mahoney, Vandell, Simpkins, & Zarrett, 2009; Vandell, Larson, Mahoney, & Watts, 2015). It is clear that participa-

tion in OST programs *can* promote lifelong learning and development in the form of academic achievement, social-emotional competence, and psychological and physical health. This includes several long-term outcomes ranging from increased educational attainment to decreased criminal arrests and use of social welfare in adulthood. However, this same literature shows that poor quality programming is unlikely to be beneficial and could contribute to the development of adjustment problems.

Throughout the field of education, including extended education, there is an increasing expectation from policy makers that evidence-based practices be used to guide practical decision making (e.g., Granger, 2008; Tseng, 2012). However, despite the scientific evidence linking OST program participation to youth development, a limited investment has been made to ensure that this research is designed to be useful for the problems that practitioners face or whether the knowledge is accessible and interpretable by non-scientists (Coburn, Penuel, & Geil, 2013). Thus, although scientists and policymakers hope that research will be used to positively impact OST program practice, this may be the exception (Monsen & Woolfson, 2012).

The implication is that a gap between OST program research and practice may exist. The ramifications of such a gap are potentially far reaching. For example, for any given society, one can ask whether the investment in scientific knowledge on OST programs has any value if it does not ordinarily impact the decision making of practitioners at the program level. However, on a global scale, the rapid growth of extended education means that several million youth currently participate in OST programs every day. Therefore, to the degree that scientific knowledge is able to improve OST program practice and help to promote positive developmental outcomes, the economic and social capital loss related to a science-to-practice gap is potentially enormous. Hence, the main purpose of this investigation is to explore whether such a gap exists by elucidating the extent to which OST program practitioners use scientific research in their decision making.

Challenges to Using Science to Inform Practice in OST Programs

It is assumed that the use of research in educational settings will help to solve problems, aid in decision making, and improve the quality of educational programs (e.g., Monsen & Woolfson, 2012). Better quality programming should, in turn, lead to better developmental outcomes for the participants (Eccles & Gootman, 2002). Therefore, from a logical standpoint, one can imagine a situation where the practitioner encounters a problem, searchers for and finds research that provides information needed to make a decision, and uses it to guide their decision-making process (Tseng, 2012). In practice, this scenario is unlikely to happen because it is not grounded in the reality of practical decision making. Choosing a course of action in OST settings is a dynamic, complex process that does not necessarily follow what scientists may view as the most rational or logical route (e.g., Larson, Rickman, Gibbons, & Walker, 2009). This is particularly likely if communication between researchers and OST practitioners is limited. Three circumstances that are likely to impair practitioners' use of research in decision making about OST programs are described below.

The "One Way Street" of Knowledge

The above hypothetical scenario has been referred to as the "producer-push" model of research use (Huston, 2005; Tseng, 2012). In this model, a "one-way street" of knowledge from science to practice is followed. The assumption is that the practitioners will be logical and rational in their decision making and prioritize the use of scientific knowledge in problem solving because it is the best source information. However, as Asen et al. (2011) note, this is a fallacious assumption because the "lab to field" progression seldom predominates the process of educational decision making.

In many respects, the one-way street of science-to-practice places the burden of research use on the practitioner (and the blame for not using it). This is problematic. OST researchers rarely produce research that has been designed based on first-hand knowledge of practitioner needs. Likewise, OST researchers ordinarily do not disseminate scientific knowledge in a form that can be easily translated into practice. A well-known example is the eight program features associated with positive youth development (Eccles & Gootman, 2002). These empirically-grounded features have been referenced in numerous scientific publications over the past 15 years and are common knowledge to researchers studying OST programs. Nonetheless, they offer only a general description of effective practices averaged across populations and settings and are not intended as a "how to develop an effective program" guide for practitioners (e.g., Larson et al., 2009). Moreover, because researchers seldom track the use of their research beyond counting the number times a work has been cited, the extent to which OST practitioners are aware of these features or make use of them is unknown. Thus, much of the existing OST research has been conducted to build the knowledge base rather than to solve "real world problems" identified by practitioners.

Moreover, with respect to communication and dissemination, researchers typically communicate their knowledge directly with other researchers. Discussion with practitioners ordinarily occurs indirectly, if at all. Although understanding what practitioners want to know from research is a logical place to begin if researchers want their efforts to be useful, this is seldom the starting point. Some challenges include the fact that researchers may not know or regularly work with practitioners, might assume they already understand the needs of practitioners, or simply ignore practitioner needs when developing their research agendas (e.g., Gould, 2016). Therefore, the one-way street of science to practice has generated a large body of evidence on OST programming that (if accessible) is waiting for practitioners to find it, discern the quality of the science, translate it to practice, and apply it to a particular population and setting. This scenario seems unlikely to happen in the typical OST program.

Multiple Forms of Evidence

Scientists may consider research to be the best information for decision making, but educational decisions ordinarily involve multiple forms evidence, only one of which *might* include empirical research. For instance, Asen et al. (2011) showed that research accounted for less than 10% of all evidence used by school board members

from three Wisconsin school districts. Moreover, the references to research were generally vague, brief, and seldom discussed or questioned.

OST program practitioners confront a myriad of public concerns and competing interests across diverse stakeholders. These concerns are ordinarily addressed by drawing on a variety information sources that are rarely limited to scientific research. Therefore, practitioners will ordinarily value nonscientific ways to gain knowledge. These other forms of knowledge are not necessarily less important. As such, practitioners may not consider research to be the best source of evidence, particularly if it is difficult to find or presented in an abstruse manner with limited applicability to the practitioner's own program and population served (e.g., Huston, 2012; Weiss, Murphy-Graham, & Birkeland, 2005). As a result, decision making guided primarily by empirical research is likely to be uncommon for the typical OST practitioner.

Scientific and Practical Definitions of Research

Research is defined in different ways depending on who is asked (e.g., policymakers, practitioners, or researchers) (Huston, 2012; Tseng, 2012). Scientists may hold a narrow definition of research that focuses on the strength of evidence as determined by aspects such as internal and external validity, effect size, and publication following peer review. By contrast, practitioners may consider peer reviewed research as just another form of evidence to consider. As Tseng (2012) notes, other sources of information are valued and weigh into the decision making process for practitioners including, the practitioners' experience with, and knowledge of, the youth they serve, input from other stakeholders in the community (e.g., parents), and program requirements and demands from funders. Indeed, practitioner or "local knowledge" earned through experience is a prominent and respected form of evidence among educators (Honig & Coburn, 2008). Therefore, what the academic community views as powerful evidence may be less compelling to a practitioner who considers experience to speak louder than experiments.

In addition, the typical practitioner is not trained to be an effective consumer of research or to differentiate the quality of scientific evidence (Barton, Nelsestuen, & Mazzeo, 2014). This knowledge gap can lead to differences in what is considered to be research. For example, educators often describe the internet as a source for gathering information to guide educational decisions, but quality control of this information is limited and the material is seldom anchored in science (Gould, 2016; Huston, 2005).

Lastly, some practitioners may have an aversion to using scientific research. This could result from philosophical differences about the value of science, prior negative experience with research, or personal beliefs about what is most effective in practice. In other cases, practitioners may believe that research is not trustworthy because it can be manipulated to support varied, even opposing, positions.

The Present Study

Examining the use of research in OST programs has not been the focus of prior investigations. As such, the present study represents a first step into this area of inquiry

and there are limits on the scope of this investigation. The purpose of this study is to understand better practitioners' use of research in decision making about OST programs and determine if a science-to-practice gap exists. To do so, practitioners are asked directly to *describe* the reasons, or rationales, why they choose their program components (i.e., goals and activities) with particular interest in the role that empirical research plays in this decision making process. It is also of interest to learn how practitioners conceptualize the term research and the extent to which other forms of evidence are used to make decisions about program components. Taken together, this research has three main objectives: (1) To identify the goals and activities (i.e., components) practitioners identify for their programs? (2) To describe the rationales practitioners provide for choosing their program components? (3) To learn the extent to which the use of research is a rationale and, beyond empirical research, what other sources of evidence are used in the decision making process.

It is expected that there will be science-to-practice gap in OST programs. Specifically, practitioners will be unlikely to offer the use of empirical research as a source of evidence guiding their decision making. Instead, other forms of evidence, including personal experience and beliefs, shared "local knowledge" among staff, and requirements from funders or key stakeholders will predominate decision making. When asked explicitly about the use of research in decision making, it is anticipated that practitioners will consider research in broad terms and refer to sources of evidence that transcend empirical research (e.g., searching the internet, gathering ideas from other practitioners, trial and error learning).

Method

Participants

Interviews were conducted with a lead staff member at 21 OST programs (9 school-based after-school programs and 12 community-based organizations) serving 10-to-18 year-olds. The staff member chosen was the person most directly responsible for overseeing day-to-day programming at each site. Practitioners self-described their job title as follows: director or site coordinator (11/21 (52%)), lead teacher (6/21 (29%)), supervisor (2/21 (9.5%), or primary caregiver (2/21 (9.5%)). Hereafter, these individuals are collectively referred to as "program directors" or "practitioners."

Program directors were invited to participate using a snowball sampling procedure. Initial contacts and interviews were made with program directors known to a member of the research team. Following initial interviews, program directors were asked to identify other OST program directors in the county that may be interested in the study. These directors were contacted, in turn, and the process was repeated. The resulting sample of 21 programs is diverse and includes some of the largest national OST programs in the U.S. (e.g., Boys and Girls Clubs of America, Girls Inc.) as well as local, independent programs operating in public schools and community centers. Across programs, 16 directors were female and 5 were male with an average of 10.8 years of experience working in OST programs (*range* = 9 months to 25

years). Educational attainment varied from completing some college to earning a master's degree and the modal level was a bachelor's degree in human development or education.

With respect to the geographical contexts of programs, 14 were located from a county in the Southwestern U.S. and 7 were located from a county in the Northeastern U.S. The approximate demographics of the Southwestern vs. Northeastern counties were as follows: population (3,169,000 vs. 536,000), urban (99.8% vs. 78.7%), median household income ($76,000 vs. $57,000), persons living in poverty (12.9% vs. 10.5%), White (42% vs. 83%), Hispanic (34.3% vs. 9.8%), Asian (19.6% vs. 2.2%), Black or African American (2.1% vs. 4.8%) (U.S. Census, 2016).

Data Collection Procedure

Semi-structured interviews were conducted with OST program directors. Interviews were audio recorded and transcribed. Participants were paid $25 for completing the interview that required about one hour of time. To understand and describe the use of research in OST programs from the practitioners' perspective, the Scanlan Collaborative Interview Method (SCIM) was used (Scanlan, Russell, Wilson, & Scanlan, 2003). The SCIM offers the interviewee, in partnership with the researcher, the ability to derive a personal model of their program components and the rationale(s) for choosing each component. The method captures the practitioner's own words as he or she describes the program while also elaborating upon the sources of information that inform decision making.

To develop a model of each program, the practitioner first identifies the goals or outcomes youth are expected to gain through their participation. Next, the practitioner identifies the program activities provided. Each goal and activity identified is written on an index card and placed on the table in front of the practitioner after he or she describes it. The practitioner can add, delete, or modify identified components at any point during the interview. Next, the practitioner is asked how he or she decided that each component should be included in the program. For example, if "adult mentors" is identified as a component, she will be asked, "How did you decide that adult mentors should be a component within your program?" At this point, the practitioner identifies the source(s) of knowledge (e.g., personal experience, workshop, research report, etc.) that serves as the rationale for each component.

Finally, after the program model has been described and discussed, practitioners respond to direct questions about whether and how research may be used to make program decisions (e.g., "Do you use research in your decision making?). If research is used, then follow up questions are asked to discern what type of research is used and how it is involved in decision making.

Data Coding and Analysis

The analytic procedure is primarily descriptive and draws on qualitative methodology. First, through examination of the transcribed interviews, the lead investigator compiled an initial list of rationales. Next, the research team examined the tran-

scribed interviews and the initial list of rationales was modified through discussion until agreement was reached on a comprehensive list of rationale categories. Finally, rationales pertaining to the use of research were sub-categorized to identify the particular sources of information used by repeating the aforementioned procedure. Throughout this process, NVivo 11 software for qualitative data analysis (NVivo, 2010) was used to help identify and organize the practitioners' reports of rationales concerning why the different program components were chosen. Three independent raters were involved in establishing coding reliability. Raw percent agreement was moderately high for the coding of goals (89.5%), activities (88%), and rationales (91%). Inter-rater reliability for coding rationales was acceptable (K = .71).

Results

Results are described in three sections. First, program components are listed. Next, rationales for incorporating program components, including the use of research, are described. Finally, responses to direct questions about the use of research in decision making are presented.

Program Components

Goals

Program directors identified 75 different goals across the 21 programs. An average of 4.33 (*SD* = 1.35) goals were identified per program (range 2–8). Those goals listed by 2 or more programs are as follows with the number of programs identifying each goal in parentheses: safety (9), academics (8), social-emotional development (7), character/leadership development (4), fun (3), program affordability (3), homework completion (2), building relationships with adults (2), sports and fitness (2), life skills (2), teamwork (2), independence (2), and becoming well-rounded (2).

Activities

Program directors identified 61 different activities across the 21 programs. An average of 6.52 (*SD* = 3.06) activities were identified per program (range 2-13). Those activities listed by 2 or more programs are as follows with the number of programs identifying each activity in parentheses: homework (11), group and outdoor games (10), arts and crafts (8), academic enrichment (7), language arts and reading (6), video games (5), science (5), sports (4), group time (4), nutrition/snack time (4), fitness (3), character education (2), clubs (2), community involvement (2), free time (2), multicultural education (2), parent involvement (2), and guest speakers (2).

Rationale for Program Components

Practitioners described 17 different rationales for choosing the program components. Table 1 shows the six rationales reported by 50% or more of the programs along with the corresponding number of excerpts for each rationale and an example. Although these rationales were distinct, practitioners sometimes described multiple rationales for a particular component, or a single rationale was provided as the basis for several different components. The three most commonly reported rationales are described in more detail below.

Table 1. Most common rationales practitioners described for selecting their program components.

Rationale	Number (%) of 21 Programs	Number of Excerpts	Example Excerpt
Fun for Youth	18 (86%)	54	"They love fun. We try to make everything fun for them because usually, if it's not fun, they're not going to do it."
Skill Building	17 (81%)	45	"I have a big emphasis on teaching them life skills… like you should know how to sew… cook something for yourself… even hygiene and taking care of your body. Like be active."
Personal Beliefs	15 (71%)	61	"Because personally, like a philosophy, I really think that… if children have an outlet, whether it's art or music or sports or something they can invest their time in and we can nurture in them, it really keeps them from having the opportunity to make bad decisions."
Requirement	14 (67%)	73	"These are all grant requirements and that's what our company has said, 'These are approved activities for the kids to play.'"
Experience	14 (67%)	42	"By learning through doing it. You find out what works and what doesn't for your particular site."
Parent Request	12 (57%)	32	"[Homework] is a need from the parent. If it wasn't for the parents wanting it, I don't think we would do it in the program because we feel there's other enriching activities they could be doing."

Fun for Youth

The majority of practitioners reported that decisions about program components were based, in part, on whether the activities were enjoyable for youth. They recognized that youth participation was dependent on whether activities were fun. As one

director explains: "I've experienced times throughout my 8 or 9 years now, where we've been rather dull, and haven't kept the interest of youth and we've seen them walk out the door. So we've said, hey, we better keep adding things, or renovating the building, or whatever it took to make it an inviting place for youth to be. So we've learned from experience that they vote with their feet."

The level of enjoyment expressed by youth did influence practitioner decisions about whether activities would stay in the program curriculum. For instance, as one practitioner explained, activities that are not well received by youth are discarded: "I also learn by seeing if the kids enjoy the activity. Then, I know we could do it again. And, if they don't enjoy the activity, we won't do it again. …if the kids don't really like it or they don't understand it, then we'll know next time not to do it."

Some practitioners viewed the provision of fun as an important function of OST programs because education policies for the school day emphasized teaching only traditional subjects. One practitioner explained: "In classes they don't get to do a lot of fun activities now because the teachers all have State standards that they have to teach. So, a lot of the fun things have gone away." However, practitioners did not report a contradiction between building school-relevant competencies and having fun. Indeed, one practitioner viewed integrating the two as central to the program's mission: "So our main focus here is to give them that aspect of a fun atmosphere, at the same time disguise learning, in a sense, to give them that so they can enhance their skills for the school day."

Skill Building

Most practitioners identified skill building as a rationale for program components. The particular skills that programs desired to develop in youth varied, but helping youth to see the value of education and be successful in school was described by several practitioners. In some cases, the decision to include academic components was fueled by a desire for youth to become effective learners and understand the significance of education for reaching life goals. As one practitioner described, "… we want to give them confidence and feel like they can be a great student. They have the tools and the study skills that they need to know how to learn something or ask questions to follow up with their learning… we also really want them to value their education and put a priority on that."

The other major skill building rationale was to develop social-emotional competence including fostering social skills, empathy, conflict resolution, leadership, and character development. One director described the rationale for social skills activities as follows: "Social skills are huge with us. How we treat each other, how we want to be treated. …it feeds into our empowerment [goal] because a lot of people don't understand that they can stand up for themselves… we allow them to have that ability as well as telling others how they feel and having others feel that too." Another director described fostering life skills as a rationale for including social skill building, "I would have to say socialization skills and the proper ways of how to address certain people. Because, in this school in particular, they use a lot of profanity. They're not really respectful to their elders. …Be respectful, be responsible, be safe, and have fun. If they're able to fully understand those four concepts, I think they'll be good with life in general." Finally, some practitioners viewed OST programs as

providing youth with a well-rounded education that included developing social-cultural competence. As one director said, "I think after-school programs do so much more than the school setting because we're working on the whole child, not just on math and reading. We're working on their social skills and how to relate to others and different cultures."

Personal Beliefs

Most practitioners made decisions about program components according to their own beliefs concerning what would be best for the youth they served. Often, these beliefs came from their experiences as a child or parent. For example, in describing why the program included community service, one director said: "I think just from my own growing up. My parents instilled certain values in me and my sister. And, then as my daughter went through school and seeing the choices that she made, she actually taught me to do a lot of volunteerism. So, I think it was something from my life that just came here." Similarly, another director discussed how she used her early experience to relate to the youth: "Another one too is just my personal values. A lot of them tie back to what I do at the site. Only because, as a student when I was child, if I did a component or if I did an activity, if nobody asked me what I got out of it, I wouldn't pay attention. And, that's just me personally. A lot of the students could relate. So, I would have to say that a lot of it is personal values as well."

Use of Research

Only three practitioners referred to research as a basis for making decisions about program components. In these cases, research was mentioned briefly and in reference to evaluation tools or documentation for activities. For instance, one practitioner described using research to reduce relational aggression: "…you can look up all of the work that [the researcher] has done. He is absolutely fantastic. …he does years of research before he ever rolls any of this stuff out, and then he is very generous. He gave us all of the materials to use. There's a whole term manual that tells you every single goal. I mean it's really very detailed, so all of the goals and all of the activities are all planned out." Another director described using a long-standing instrument designed to evaluate after-school program quality – the School Age Care Environment Rating System (SACERS) -- as the basis for the program: "We've also had something called SACERS. It's a curriculum basically, to give you an outline of what your after-school programs should be like. That's what our program is modeled after or from back when we started. …the basis for our program was SACERS."

Use of Research Themes

Most practitioners indicated that they did use research when the question was posed directly. However, the definition of what they considered to be research was broad and responses yielded 20 sub-categories, or themes, of research use. The most common themes that emerged around the use of research are shown in Table 2. Below the three that were reported most frequently are highlighted.

Table 2. Most common themes of practitioner-defined research use to make decisions and develop their programs.

Research Use Theme	Number (%) of 21 Programs	Number of Excerpts	Example Excerpt
Training and Workshops	13 (62%)	29	"We go through trainings and conferences and district meetings to learn more how we can add things to our program, how we can change things, possibly how we can make our program successful or offer more."
Online Information	12 (57%)	23	"…we research things on Google, different art sites and things like that, different games, new games to play. A lot of us will do internet research on that."
Learn from Other Programs	11 (52%)	18	"We go to the Boys & Girls Club or something like that. It's neat to see how they do their program. You can learn from that. You can go, 'Oh, maybe we should try that!'"
Share Ideas with Staff	11 (52%)	17	"I also try to draw from the other leads that I work with… especially the ones that have been here a long time. They're just full of knowledge and projects and ideas and other perspectives are definitely important."
Youth and Parent Report	9 (43%)	24	"We do kind of use the center surveys for the girls that are here… We do parent surveys at the end of every school year as well. Obviously we want the girls to love this place and really feel like it has everything that they need."
Learn by Doing	8 (38%)	10	"It's mostly just trial and error, to be honest. We try things out, if it works, it works. If it doesn't then we move on to something else."

Training and Workshops

The majority of practitioners reported learning about research by attending workshops or staff trainings. In many cases, their job required that they participate in these sessions. Practitioners reported gaining valuable information from trainings, particularly if they were geared towards "hands on" activities that were applicable to their own program. For example, one practitioner described her recent conference experience: "We had a workshop a couple weeks ago… in a session on like, STEM – science, tech, you know, all that stuff. And they built [STEM products] during the entire session! They engaged with the activities, and they came away and they're like, 'Yeah! I can actually use this!'" Another practitioner described value in trainings on bullying prevention: "…bullying has become a big thing. Over the last decade, it's

become a problem – cyberbullying – it's become an epidemic. We've had a lot of trainings on that and that's why we've implemented Character Counts so we can use a word in a positive manner, but also make them understand what's not good."

However, whether practitioners found the workshops valuable depended on experience and the provision of new information. One director discussed the diminished utility of workshops: "…working in this profession and having done it for such a long time that, even going to workshops or whatever, it's not much new compared to just experiences. I went to a workshop the other day and I was like dying. I'm like, I cannot believe I'm here because it's something we already know. I think if you're 18 or 19 and starting off in this field, then yes, great ideas."

Online Information

For the majority of practitioners, the Internet was a central resource to research OST activities and develop their programs. One practitioner explains: "I use the Internet a lot for my activities. You cannot continue doing the same things. Luckily there is the Internet now that helps you. You can Google anything and find tons of stuff. The Internet's totally helpful!" This sentiment was echoed by another director: "I'm trying to think of a bunch of fun things that I can do with them. Anything that I can come across on the Internet. …you can find 8 million activities on the Internet. 8 million! Every link will take you to 5 million other ones, so it's nice." Indeed, some directors considered the Internet a primary source of information: "Research, for me, it's figuring out what we want to do to meet a certain goal. The best way now is to ask other people or on the Internet. The Internet really is my best friend. We are 'besties.'"

Although most practitioners did not mention searching for empirical research on the Internet, two did report finding some. In one case, the discovery was incidental: "Oh, it's interesting because going online, you do find things. Like, I'll be looking something up and they'll be somebody who has just done a thesis or paper on something and it's new. It's a different technology or technique that you weren't aware of that makes sense." In a second case, looking for research was intentional: "Um, I'll look at like different resources like the After School Today and different listservs I get. Um, just to see what research is out there, just to see what direction we're being recommended that we should go in."

Learning from other Programs

Practitioners also considered learning what other OST programs were doing as research. One director described this as a collaborative learning process: "I think it's very enriching to meet other people in the field that are doing similar things or finding out what other programs do. So, I guess it would be… collaborative groups." A second director responded similarly: "…working with your peers and how they are with the children, or different techniques they may have. I think that's a learning process too [and] some of it's really good. 'Hey, that's a great idea!' I really like how that person… or, 'Hey, that person, I really didn't like that idea.' So, guess what, 'Not.'" However, as another practitioner explained, the process was not always collaborative: "…you copy off of some others. You know, sometimes we'll just type in 'rec programs' and we'll find something that someone's doing in California and,

we'll be like, 'Oh, that's a good idea.' Um, so you either come up with it on your own, or you see that someone else is doing it, and you copy. You steal it."

Programs that were part of a national organization reported researching what the larger organization was emphasizing and then chose national components that made sense for their own program. "…it kind of starts with national. What's national focusing on? Is there any new curriculum that they're putting out that we want to be able to try, or any of that? …we pick certain things that we feel like are most important for the demographic of youth that we have here."

Use of Empirical Research

Six of the twenty-one practitioners explicitly mentioned empirical research. Accounts ranged from vague knowledge of research to systematic data collection assessing program outcomes. For example, one director knew that a longitudinal study was being conducted with the program participants, but could not provide many details. "I know somebody… I don't know who it is but I should probably know. Someone is in the middle – again, I should know – of doing a long-term study with some of our youth that kind of started young and are now moving up in the world. Going through high school and stuff." Another director had general knowledge about research on girls' concerns over body type and appearance that affected curriculum choice. "I think the self-esteem and body image [components] comes from a lot of those articles and research… there are tons of studies that [younger] girls are becoming more, kind of, concerned with appearance and how they look. So, I feel like that does play a big role as far as the sort of national curriculums that are designed, but also what we want to decide to focus on here."

One practitioner discussed in more detail how the program engages in its own data collection for program evaluation: "…our program is a blueprint program, meaning that it's been well-researched nationally and, you know, has consistent outcomes from program to program. So, we all use a national tool called the Youth Outcome Survey. And, it's a pre- and post-test indicator of the child's assessment of their growth." However, systematic data collection was rare and programs typically used their own informal surveys to gauge youth and parent satisfaction or perceived success.

Avoidance and Misuse of Empirical Research

Some practitioners actively avoided using research. For instance, when asked whether research was used to make program decisions, one practitioner responded: "No. It's not my style. It's just not how I operate. I'm pretty much informal and relational and will try [something] and if it doesn't work that's okay, and try something else." In other cases, program decisions were made based on notions of science that have not been supported by empirical research. For example, one director chose dance as a program component because of findings on the so-called "Mozart effect." "… There's training on music with the kids and how it helps their brains develop differently. …through the classes and trainings, you learn that it's supposed to be important because it helps kids' brains develop differently and think differently. You just

have fun doing it, too, so it has some advantage. I'm not saying we put on a ballet or anything, but silly little dances or whatever."

Discussion

This was among the first research studies to describe practitioners' use of research in decision making about OST programs. A major aim was to find out the extent to which a science-to-practice gap exists. Overall, the findings showed that research was seldom used in practitioner decision making about program components (i.e., goals and activities) or otherwise. Therefore, a fairly wide science-to-practice gap may exist. Researchers studying OST programs may have suspected this to be the case and the findings confirm those suspicions. However, results also show that decision making is not haphazard. It is influenced by a variety of other factors ranging from the practitioners' personal beliefs to the requirements of stakeholders. This is consistent with the complexity involved in understanding practitioners' knowledge discussed by Larson et al. (2015).

Given the worldwide growth of OST programming through extended education initiatives, and the potential for evidence-based practice to increase their effectiveness, the results have value. We now have some understanding of what sources of knowledge OST program practitioners use to make their decisions. This information can help researchers disseminate findings that are directly relevant to practitioner needs through sources they already access. This also coincides with Larson et al. (2015) who suggest that a strong rationale for gathering information directly from practitioners is to increase the likelihood that research findings will be the sort that they want and can use. Taken together, the findings may help develop strategies to close the science-to-practice gap in OST programs. The following discussion considers some of the implications for closing the gap and it is organized around the study's three objectives.

Practitioners' Reports of OST Program Components

All 21 practitioners identified goals and activities for their programs. Common goals included providing a safe environment and developing academic and social-emotional skills. In terms of activities, homework, games, arts and crafts, and academic pursuits were most common. The stated goals are in line with features of youth programs that can promote positive youth development (Eccles & Gootman, 2002). However, these were program level goals. Some work has shown practitioners do not have specific goals for their interactions with youth (Zeldin & Camino, 1999) and further study would be required to see how effectively program goals are translated to practice.

Research is available to inform practical decisions about many of the reported program components. For example, in general, achieving program goals is likely to depend on having explicit and intentional links with activities demonstrated to

achieve such goals (Durlak, Weissberg, & Molly, 2010; Shernoff, 2013). Researchers can work with practitioners to achieve a strong link between goals and activities that are anchored in science. One example where goals, activities, and research may be integrated better is homework time. Homework was the most common activity, but seldom was it a program goal. There is evidence that homework supports academic achievement (Cooper, Civey Robison, & Patall, 2006). However, practitioners were also aware that homework time stifled engagement and it was often included just to appease stakeholders. As an alternative approach, research indicates that academic enrichment activities (i.e., hands-on, interactive, project-based learning) tend to be both engaging and predict increases in academic performance (Shernoff, 2010). Likewise, whether homework time is viewed by students as "more school" or an extracurricular activity may depend on whether it involves active, cooperative learning that allows for student autonomy (Kielblock, 2015). Thus, structuring homework to fit the needs and interests of youth may result in a desirable activity that also achieves academic objectives.

Practitioners' Rationales for Choosing Program Components

Practitioners provided a range of rationales to explain why they selected their program components. Different from a strict "science to practice" approach to decision making, most practitioners chose components using input from multiple other sources, including stakeholders (i.e., youth and parents), personal beliefs, and program requirements (Honig & Coburn, 2008). Fun or enjoyment for youth was the most common rationale. Whether a program is enjoyable has not typically been included in measures of OST program quality, but perhaps it should be one. Enjoyment is a property of engaging programs (Bohnert, Fredricks, & Randall, 2010; Shernoff, 2013) and engagement, in turn, is critical for attracting and retaining youth. Practitioners appeared to understand this principle well. Nonetheless, knowledge of the importance of engagement/fun and the creation of engaging environments are different. In this regard, effective dissemination of research on the features of engaging programs would help to support practitioners' interest. For instance, those practitioners who create engaging environments tend to be youth centered in their approach to programming and are effective listeners and observers of the youth they serve (Larson, Walker, & Pearce, 2005; Larson, Walker, Rusk, & Diaz 2015). Program activities are selected to be appealing and meet the specific developmental needs of adolescents. For example, two core tasks during adolescence – identity development and social relatedness – can be developed through OST activities that emphasize social problem solving through civic engagement (Shernoff, 2013).

Building skills was also a common rationale. This is an encouraging result because it shows that program goals go beyond mere supervision and that practitioners desire to impact a range of youth development outcomes. However, although practitioners clearly want youth to develop skills, they are not usually expert in assessing whether skill development has occurred (Larson et al., 2009). Researchers are in a position to collaborate with practitioners on the selection of methods to measure program-related impacts. Indeed, a variety of tools are available to assess program

quality, activity-related developmental experiences, and change in biopsychosocial outcomes (e.g., Larson, Hansen, Moneta, 2006; Smith, Akiva, McGovern, & Peck 2014).

Consistent with prior work with educators and athletic coaches, practitioners' personal beliefs also guided decision making in most of the OST programs (Gould, 2016; Honig & Coburn, 2008). Although these beliefs were not usually developed through knowledge of research, empirical support for the benefits of some resulting components (e.g., civic engagement) is available (Sherrod, Flanagan, & Youniss, 2002). This raises a question for further study concerning whether research needs to be used intentionally (vs. incidentally) to be effective.

Requirements imposed by funding agencies, higher level organizational directives, and requests from stakeholders (e.g., parents) were also common rationales. Therefore, practitioners do not always have a choice when it comes to program content and they may have more freedom in *how* practices are carried out rather than *whether* a particular component is included. Thus, beyond comparative studies of different types of activities, efforts to disseminate knowledge on best practices in commonly mandated activities should also be valuable to practitioners.

It was uncommon for the practitioners' rationales to reference empirical research. Only 3 of the 21 practitioners mentioned using scientifically-based information or instruments. These references tended to be brief and void of detail (Asen et al., 2011). Moreover, in some cases, misconceptions about research occurred. For instance, one director described the SACERS as a curriculum when, in fact, it is observation-based assessment tool to determine quality (Harms, Jacobs, & White, 2013). However, in another case, partnership with a university researcher led to the adoption of an empirically-based approach to reduce aggression. Therefore, connections with researchers may help practitioners' understand and use research more effectively.

Practitioners' Use of Research in OST Programs

When practitioners were asked directly whether they used research in their decision making, most said that they did. Consistent with prior work (Huston, 2012; Tseng, 2012), practitioners defined research in broad terms and the mention of scientifically-based research was uncommon. Instead, workshops and trainings, online searches, and learning from other programs were utilized to make decisions more frequently than empirical research. Although not mentioned frequently, it is possible that scientific research was incorporated into these other sources of information. Regardless, the results identify sources of knowledge that practitioners already consult. These venues could be targeted by researchers to disseminate their findings.

For example, researchers might discuss with practitioners the sorts of research that would be valuable to include in their trainings and then employ hands-on learning approaches that allow practitioners to apply research findings to their own programs. Collaborating with experienced program providers may be helpful in this regard. Likewise, the internet was used frequently and, in a few instances, practitioners reported finding empirical research. But, OST practitioners do not ordinarily have

the training or time required to assess the methodological soundness of a voluminous research literature on OST programs (Barton et al., 2014). Here again, researchers can be helpful in suggesting practitioner-friendly sites that accurately describe OST research, holding trainings on how to discern credible science from other material on the internet, and directly sharing relevant research in a usable format through email and using the list serves, blogs, and newsletters that they already consult. Finally, researchers can support practitioners' interest to learn about other programs by guiding them to model programs employing evidence-based practices (e.g., Shernoff, 2013).

It is also noteworthy that one director explicitly refused to use scientific research. A reluctance to use research in educational settings can stem from philosophical differences about the value of such evidence, but may also result from a distrust of researchers or a fear of evaluation (Coburn et al., 2013). Sometimes practitioners do not believe researchers are listening to them or are actually concerned with helping them to solve their problems (Gould, 2016). Developing authentic partnerships between researchers and practitioners can foster trust and facilitate joint collaboration to help fuse practice and science. Indeed, having a relationship with a researcher or research-oriented national organization was characteristic of the OST programs that used research in their decision making.

Researcher-Practitioner Partnerships

The preceding discussion points to examples where a science-to-practice gap in OST programming exists. Researcher-practitioner partnerships are one way to begin closing the gap. On the one hand, researchers need to make their work accessible and useful. They must be explicit about the implications of their research for practice so that it is applicable in "the real world." On the other hand, practitioners must have knowledge of what constitutes "good research" and become proficient in identifying and using such work appropriately in their particular settings. In this view, *the science-to-practice gap is co-constructed by scientists and practitioners*. Thus, to close the gap, it is suggested that partnerships involve training for *both* parties (Mahoney & Warner, 2014).

For researchers, training is needed to communicate research findings in a form that is useful to practitioners (Tseng, 2012). When making program decisions, practitioners must choose specific courses of action that fit their particular program amidst time, staffing, and costs constraints (Huston, 2005). Although researchers studying OST programs have much to offer practitioners in areas that interest them, their research often exists in a world of its own that is designed to be accessible by other scientists. To overcome this barrier, researchers must expend more effort developing their work *for* practitioners in a collaborative process that recognizes and values the expertise of practitioners (e.g., Hirsh, 2005; Larson et al., 2009; Palinkas, Short, & Wong, 2015). This will require that OST researchers know the phenomenon they are studying by spending time in practice settings, talking with stakeholders, and understanding the challenges they face (Larson & Walker, 2010). This will help to ensure that the resulting research is targeted to the needs of OST practitioners and designed to be useful to them from the outset (Larson et al., 2009). We direct the reader to

Barton et al. (2014) for steps to develop and maintain researcher-practitioner partnerships, and to Gould (2016) for approaches on disseminating research knowledge for practice.

Consistent with this proposal, it has been suggested that training researchers to work effectively with practitioners should be part of graduate school classes (e.g., Gould, 2016) and it can be done effectively at the undergraduate level as well (e.g., Mahoney et al., 2010). However, to encourage practitioner-oriented research and training, universities need to value these activities in the tenure and promotion process (e.g., Coburn et al., 2013) and invest in hiring action-oriented researchers. Likewise, funding agencies need to support the study of researcher-community training partnerships in the science-to-practice translation process (Tseng, 2012).

For practitioners, becoming educated consumers of science and understanding how to translate it into actionable knowledge for practical decision making is paramount. On this score, the study of effective practitioners by Larson et al. (2009) may inform how to go about such training approaches: "The expertise they need involves not logical, but ecological reasoning: to be effective, the have to employ ways of thinking and caring that are adapted to the complex dynamics and rationality of these different intersecting systems" (p. 78). To this end, Monsen et al. argue that practitioner training needs to include developing cognitive/reasoning expertise about problem solving to improve instructional quality and youth outcomes (Annan et al., 2013; Monsen & Fredrickson, 2008; Monsen & Woolfson, 2012). They provide a multi-phase problem-analysis framework where researchers and practitioners collaborate in a relational training process to develop theories of applied practice anchored in research and guided by critical reflection of personal experiences in relation to the scientific evidence. In addition, practitioners also need the skills to effectively enact the appropriate response(s) to the problem (Larson et al., 2009). Thus, practitioners need to develop both the reasoning skills to solve problems and the action skills to carry out the solutions competently in specific settings.

Limitations and Future Directions

There are limitations to the current study that provide directions for future research. First, a non-random sample of 21 programs was employed and the extent to which the findings generalize beyond this sample is unknown. Efforts to replicate the results within the U.S. and cross-nationally are encouraged. Second, the study was focused on describing whether research is used to guide decisions in OST programs. Explaining the conditions under which some programs do, and do not, use empirical research was not the goal, but it is a logical next step for the research program. Factors that may make research use more likely include: (1) practitioner-researcher partnerships, (2) belonging to a national organization, (3) mandated program evaluation, (4) mid-level supervisors being aware of research, and (5) practitioners with prior education and/or training in research. Possible differences in research use according to geographic location and type of OST program (school- or community-based) can also be considered in future work. Third, this study did not examine how different combinations of program components and rationales relate to program quality or

youth development. Moreover, the program components and rationales described by practitioners refer to their overall program model averaged across time. Assessing day-to-day and moment-to-moment choices is also needed to fully comprehend OST decision making (Larson et al., 2009). Finally, a better understanding of the information acquisition and dissemination processes within OST program organizations is required through systems level analysis of social connections and knowledge transfer. Social network analysis can identify how relationships, social hierarchies, and power structures relate to information exchange in educational settings (e.g., Daly & Finnigan, 2012; Finnigan, Daly, & Che, 2013). This approach might clarify decision making pathways that encourage (or impede) research use in OST programs.

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