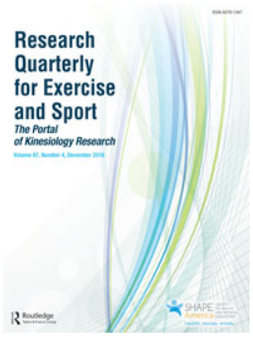

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SPECIAL TOPICS: THE 2016 C. H. McCLOY LECTURE

School-Based Team Research to Address Grand Challenges Through P–12 Physical Education Programs

Michael W. Metzler

Georgia State University

ABSTRACT

One of the grand challenges of our time is to educate children and youth to live physically active and healthy lives today and into adulthood. To do so, we must first agree that the highest mission priority for physical education programs in schools is that of public health promotion through physical activity. Under that mission, school physical education programs from preschool to Grade 12 (P–12) would be designed, implemented, resourced, and evaluated to help children meet the recommended 60 min of daily physical activity. From there, the worth of those programs would be judged on their success in accomplishing that mission. This article outlines an agenda for conducting longitudinal, cross-disciplinary team research on exemplary physical education programs that have demonstrated the capacity to help more children achieve the recommended daily level for physical activity. Once those exemplars have been studied and documented, the final step in this agenda is for researchers to disseminate their findings beyond the traditional audiences who read scholarly journals. Those new audiences would include school leaders, parents, other physical activity professionals and organizations, and, ultimately, policymakers. The article ends with a description of a 2-year research project that achieved many of the goals aligned with comprehensive school physical activity programs and that would promote SHAPE America – The Society of Health and Physical Educators' 50 Million Strong by 2029 initiative.

KEYWORDS

Research on physical education; team science

Sponsored by the Research Consortium of SHAPE America – The Society of Health and Physical Educators, the C. H. McCloy Research Lecture has three stated purposes (SHAPE America, n.d.-c). The first purpose is to give formal peer recognition to persons who have made outstanding contributions to kinesiology through their research efforts. It was truly an honor to give the 35th C. H. McCloy Research Lecture at the SHAPE America National Convention in Minneapolis, MN, this past April. When I looked at the list of past McCloy lecturers, it was humbling to know that I would be included in their number going forward. Who would not be moved to know that so many leading scholars stood before them in that same way and whose words would be published in *Research Quarterly for Exercise and Sport* for so many to read—and hopefully to think about and discuss? The second purpose is to provide a form of continuing recognition for Charles H. McCloy, one of the great pioneer scientists and leaders of the profession. With no intended disrespect, I will spend little time carrying out that purpose. Let me explain. McCloy's legacy is well deserved and intact today; his record of published research is both lengthy and broad. But rather than reiterate that record here, I would refer readers to Brad Cardinal's coverage of McCloy's interesting biography and research accomplishments in last year's lecture (Cardinal, 2015). Dr. Cardinal's coverage was the best I read from previous McCloy lectures, and any attempts I might make to highlight McCloy's legacy here would either put me at risk for plagiarizing Brad's work or properly citing him so often that it would clearly show he had done a lot more homework in his preparations than I did in mine!

The third purpose of the C. H. McCloy Research Lecture is to provide in-depth coverage of a research topic related to the lecturer's academic discipline. I am going to break from that tradition almost entirely here. Rather than provide an in-depth analysis of a single line of research, I am going to suggest a priority for future research in physical education and propose an agenda to make that happen. I *will* provide one example of how that agenda has already been attempted, but quite simply, at the end of this article, I want readers to think more about the future of physical education research and less

CONTACT Michael W. Metzler mmetzler@gsu.edu Kinesiology and Health Department, Georgia State University, 30 Courtland Street, SE, Atlanta, GA 30303.

about its past—"what needs to be done" not "what has been done."

Joining in a grand challenge

The international group called Grand Challenges is a coalition of private foundations and government agencies in several countries dedicated to solving some of the world's major public health problems. One member of that coalition is Grand Challenges Canada, which provides a succinct description of the Grand Challenges (Grand Challenges Canada, n.d.) mission: "We are dedicated to supporting Bold Ideas with Big Impact® in global health … We focus on bringing successful innovation to scale, catalyzing sustainability and impact. We have a determined focus on results, and on saving and improving lives."

Certainly, one of the grandest challenges of our time, and one specifically identified by First Lady Michelle Obama's *Let's Move!* (LetsMove.gov, n.d.) initiative and adapted by SHAPE America (n.d.-e) as *LetsMove! Active Schools*, is to educate our children to live physically active and healthy lives today and into adulthood. To do so, we must first agree that physical education's highest mission priority as that of public health promotion through physical activity, which was first advocated by Sallis and McKenzie (1991) and then again with others in 2012 (Sallis et al., 2012). Although that mission priority has not received anything that approaches universal acceptance, it does appear to be heading toward a consensus among teachers, teacher educators, and researchers in our field.

Under that mission, school physical education programs for preschool to Grade 12 (P–12) would be designed, implemented, resourced, and evaluated to help children meet the U.S. National Physical Activity Plan's recommended 60 min of daily physical activity (National Physical Activity Plan Alliance, 2016) in school, at home, and in the community. And from there, the worth of those programs would be judged on their success in accomplishing that mission. In my mind, that is the grand challenge for P–12 physical education today, and it should also be the measurement criterion for "strong" in SHAPE America's *50 Million Strong by 2029* initiative (SHAPE America, n.d.-b). Further, professors (and not just the teacher educators) should be fully involved in helping those programs get established, be maintained, and studied intensively. As Daryl Siedentop and Larry Locke (1997) admonished us nearly 20 years ago, it is something that practitioners and professors must do together.

The ultimate purpose for the research agenda I will propose here is to study physical education programs that are designed to make a positive contribution to our nation's health promotion efforts. To do so, we must start to look more at entire school programs—both for the outcomes to which they can lead and the dynamics of getting them in place, operating, and sustained. From the major reviews of research on physical education during the past 20 years, it is easy to be impressed with our research on a vast array of variables related to teaching effectiveness, teacher socialization, numerous teacher and student attributes, and instructional models (Graber, 2001; Hemphill, Richards, Templin, & Blankenship, 2012; Kulinna, Scrabis-Fletcher, Kodish, Phillips, & Silverman, 2009; Silverman & Skonie, 1997; Ward & Ko, 2006). Where our efforts start to dwindle is at the level of curriculum models, those overarching designs that can provide an identity to, delimit content of, and guide entire school programs, such as sport education; tactical games; skill themes; dynamic physical education; multiactivity; Sports, Play and Active Recreation for Kids (SPARK); and Coordinated Approach To Childhood Health (CATCH).

The mountain yet to climb: Research on P–12 physical education programs

Whether based on a defined curriculum model or just a disparate collection of instructional units, beyond the studies of SPARK and CATCH conducted in the 1990s, we have no research to demonstrate the outcomes of P–12 physical education programs over an extended period of time. We simply do not know what children and adolescents take away from our programs that might impact their pursuit of an active, healthy lifestyle in the short or long term. Although the new data reported by SHAPE America through MyCollegeOptions (SHAPE America, n.d.-a) show good support from high school students for their physical education programs, those data say nothing about if or how those programs contributed to students' sport/movement skills and/or current habits related to physical activity. In addition, other than a very mixed bag of anecdotal and testimonial evidence, we know nothing about our programs from the perspectives of key stakeholders like parents, health professionals, advocacy groups, and policymakers. It is long past time for all of that to change.

Using more expansive curriculum models for physical education

The first step that professors and practitioners must take together is to design, implement, and evaluate exemplary P–12 physical education programs—ones that truly demonstrate they can help students acquire the necessary knowledge, skills, and dispositions to meet daily physical activity standards on a regular and sustained basis. We all know now that active, healthy living can happen only when a large and complex set of factors comes together to

influence each individual's opportunities and decisions that lead to the personal health benefits from regular physical activity. Certainly, we know that it is much more complicated than just telling children and adolescents to "eat less, move more" or telling them that "exercise is medicine" and that they should be sure to take their daily dose.

We also know that the vast majority of school physical education programs simply do not offer enough daily physical activity opportunities for children in their allocated time. For schools to be effective venues for health-promoting physical activity, children must be given expanded opportunities before, during, and after the regular school schedule, and those opportunities must be provided and supported by more people than the physical education professionals. Recently, several related models have been designed to provide those expanded opportunities: comprehensive school physical activity programs (CSPAPs; SHAPE America, n.d.-d), a whole-of-school approach (Institute of Medicine, 2013), and Health Optimizing Physical Education (HOPE; Metzler, McKenzie, van der Mars, Williams, & Ellis, 2013).

In addition to being expansive, these programs need to be replicable through research so they can be put in place in more than just a few schools with optimal resources at their disposal. In our first 40-plus years of research in physical education, we have not promoted or valued new studies based on planned variations of previous studies—but we are not alone among educational researchers (Makel & Plucker, 2014). As part of such replications, we would also need to study the process, dynamics, resources, training, planning, support, and expertise needed to get exemplary programs up and running; we not only need to know *that* they work, we need to know *what makes* them work.

A capacious theoretical foundation

To operationalize these expansive programs and define the knowledge base needed to implement, evaluate, and replicate them, researchers must use more capacious theoretical models—such as the social-ecological model (SEM; Langille & Rodgers, 2010). The premise of SEM is that an individual's behavior (physical activity for this discussion) is largely determined by various types of influences and opportunities across environmental bands: interpersonal, organizational, community, and public policy. It is anticipated that any physical education program that is successful in providing the majority of its students with enough physical activity to meet the daily national standard is going to be operating effectively in multiple bands of this capacious model. That being the case, research on those successful programs must also ask and answer questions in the applicable bands of SEM. That means we must pursue a wide range of research question types and apply a similarly wide range of data collection and analytic techniques to answer them. That reality leads to the next agenda item for the future of research on physical education: team science.

Using cross-disciplinary team science

Just as it would not be reasonable to expect a lone physical education teacher or even a small staff of them to successfully implement a fully expansive school program, it is not reasonable to expect that any one researcher will have the capacity to conduct long-term, program-level, process- and outcome-based, multioutcome, multibanded studies of these exemplars. It only makes sense that studying how these exemplars work and what outcomes they can achieve will take teams of researchers—working together at every step, not in some tag-team arrangement.

In addition, these research teams must have an array of expertise commensurate with the number and variety of deployed program elements, implementation dynamics, and outcome measures. That array of expertise might come from within the subdiscipline of physical education (such as teaching and learning, curriculum, teacher socialization, student motivation, and more), but better teams will have cross-disciplinary expertise that includes those just mentioned, along with areas such as physical activity psychology, exercise/fitness, health, measurement, staff development, fitness promotion for disabled persons, social marketing, built environment, and adult learning. If we will need cross-disciplinary teams to get successful programs up and running, we will also need a lot of help across much of the kinesiology spectrum of subdisciplines to study how they work, why they work, and what outcomes can and should be measured. It has been clear for several years now that federal funding agencies not only encourage team science in their Requests for Proposals—they require it.

It would be incorrect to say that we have no such research efforts in physical education. The April 2012 issue of the *Journal of Teaching in Physical Education* (*JTPE*) contains several articles in this vein, and I am aware of team research going on at the University of South Carolina, Adelphi University, Wayne State University, the University of Northern Colorado, and Georgia State. But even so, these are rare exceptions, not the norm.

Reaching new audiences

By and large, research in physical education has been conducted for the past 40-plus years by professors and doctoral students—for professors and future doctoral

students. We largely define the value of others' research by how well it informs our own research—and vice versa—not by how well it influences practice in schools. I suspect that the only teachers who read research are those currently in graduate programs; apart from them, teachers pay no interest in what gets published in *JTPE* and other pedagogical journals in our field. But physical education researchers are not missing just this important audience—we generate almost nothing of interest to parents, school leaders, health professionals, community physical activity professionals, and, least of all, policymakers in school districts, statehouses, and Washington, DC. Once we can establish and study these exemplary programs that can meet our *grand challenge* and make *50 million kids strong*, we need to report those successes in more than just our academic journals. To do so will require another part of my proposed agenda—translating research findings into messages that can reach more people in more ways—people and organizations that would love to lend their support for our school programs, if we can help them to see actual evidence of how those programs can benefit our nation's children and youth. By example, I would point to *Elevate Health* (http://www.fitness.gov/resource-center/elevate-health), a publication of the President's Council for Fitness, Sport and Nutrition. In it, experts from many related fields routinely write articles that summarize lines of research for the types of audiences just mentioned, with the goal of helping those audiences be better informed in their respective venues (see Metzler, in press).

Putting my agenda to the test

Rather than simply telling readers what research *they* should do to meet *my* agenda, let me share some descriptions of one such expanded physical education program and how a team of researchers at Georgia State University (GSU) and the Centers for Disease Control and Prevention (CDC) studied its implementation and outcomes related to health promotion through physical education. The purpose of the study was to establish a 2-year pilot program in an urban middle school based on the HOPE CSPAP model (Metzler et al., 2013), and to conduct an analysis of its design, implementation, feasibility, and efficacy in achieving the goal of every child being physically active for 60 min each day—in other words, meeting the *grand challenge* and moving toward *50 Million Strong*.

The HOPE project research team included two professors from GSU, three CDC staff members who served as technical advisors, and three GSU graduate research assistants. Although not a fully interdisciplinary team, we did have expertise across a broad spectrum, including staff development, physical activity programming and assessment, health-related fitness, technology, and physical education curriculum and instruction. The HOPE-based model was implemented from the fall of 2013 to the spring of 2015 at Peachtree Charter Middle School (PCMS) in DeKalb County. PCMS has about 1,200 students and is racially diverse, with 22% African American, 22% Hispanic, 9% Asian, and 45% White students. Nearly 35% of PCMS students qualify for free or reduced-price school meals.

The key to the project was that PCMS's six physical education teachers made nearly all of the decisions and effort to put the program in place; our role was to provide any assistance and support they needed and to do the evaluation component for the project. The CDC staff members' primary role was to serve as technical advisors for the evaluation component. The project also received very strong support from the school principal, which was not part of the model itself but was essential to its success. To use a term from the show *Shark Tank*, this project demonstrated a "proof of concept" that a fully articulated HOPE CSPAP can be established when teachers and professors work together. We could not have imposed our vision of a plan on them, and their plan could not have succeeded without us.

During the course of the 2 years, the PCMS staff implemented the HOPE CSPAP model components shown in Table 1. It is our belief that the PCMS teachers planned and carried out the first full and sustained CSPAP in the United States at that point in time.

The evaluation component of the project included a variety of measures to monitor several major outcomes over 2 years and to track the resources needed to implement the HOPE CSPAP at PCMS. Program evaluation was conducted by the GSU team, and data collection methods met all standards for randomized sampling, validity, and reliability at all times in the study. Due to space allocations, only a small sampling of the results is provided here. Readers interested in specific data collection methods and complete results can access the final report, which has been reviewed and approved for distribution by the CDC Division of Population Health (Metzler, 2015).

Outcome: Knowledge of physical activity and healthy eating

There were significant increases in students' knowledge about physical activity and healthy eating, measured by a multiple-choice test given at baseline and again at the end of Years 1 and 2. Those significant differences were achieved when the data were disaggregated for boys, girls, and grade levels at PCMS. These gains are likely

Table 1. PCMS HOPE CSPAP implementation plan.

HOPE strands	Objectives	Components
Before-school/during-school/afterschool extended PA programming	Promote high rates of MVPA and health-related knowledge to supplement the scheduled PE program	– Afterschool PA program – Girls on the Run Club – Marathon Kids Club
Sport, games, dance, and other movement forms	To learn sport, games, dance, and other movement forms as a source of lifelong participation in PA	– Teacher staff development from GSU – Revision of PE curriculum and instruction for more MVPA – New instant activity plans for lessons – Goal setting for "CV Days" in PE – High MVPA "Choice Days" in PE
Family/home education	To teach parents, guardians, and other family members to promote PA, better diet, etc., at home	– CV Classic Day for parents and students – Open house evening for physical education program – Announcements in school e-newsletter
Community-based PA programming	To promote PA opportunities for children in community settings	– Announcements in school e-newsletter and postings around school for PA opportunities and events in the community
Health-related fitness	To promote weekly MVPA according to National Standards To promote individual achievement to "Healthy Fitness Zone"	– Increased content time for knowledge of PA in health and PE – Annual fitness assessments and reports
Diet and nutrition for physical activity	To learn and demonstrate knowledge of diet and nutrition that enhances PA	– Units on diet and nutrition for PA in health – Student projects for Physical Education Open House
Physical activity literacy	To acquire knowledge and appreciation that can increase and enhance participation and enjoyment of PA	– PA health fair at school – Guest speakers from community PA advocacy organizations – Information in school e-newsletter
Integration of HOPE across all school subjects (including recess)	To increase (non-PE) teachers', school administrators', and school staff's knowledge of and support for children's PA and improved dietary habits	– Teacher training for *Take 10!* classroom activity breaks

Note. PCMS = Peachtree Charter Middle School; HOPE = Health Optimizing Physical Education; CSPAP = comprehensive school physical activity program; MVPA = moderate-to-vigorous physical activity; PA = physical activity; PE = physical education; GSU = Georgia State University.

attributable to the added emphasis on physical activity content in both physical education and health at PCMS.

Outcome: Health-related fitness tests

All students in Georgia public schools who are enrolled in physical education are required to complete six FITNESSGRAM® test components annually. All testing of the students in the random sample from PCMS was conducted by the GSU research team after demonstrating adequate reliability. There were significant increases from baseline to the end of Year 2 in the percentage of students who achieved the Fitnessgram Healthy Fitness Zone (HFZ) on curl-ups, push-ups, and sit and reach. There was a non-statistically significant increase in the percentage of students who reached HFZ on body mass index and non-statistically significant decreases in the percentages of students in the HFZ for Progressive Aerobic Cardiovascular Endurance Run laps and aerobic capacity. There was a significant increase over the 2 years in the percentage of students who reached the HFZ on all six of the Fitnessgram tests required by the state of Georgia.

Outcome: Moderate-to-vigorous physical activity in physical education

There were three types of physical education lessons at PCMS: (a) "typical lessons" based on skill acquisition and game play; (b) "CV Days," on which students were expected to meet or better their individual goal for a timed 1-mile walk/run in class; and (c) "Choice Days," on which students could select from three to four high moderate-to-vigorous physical activity (MVPA) learning stations planned by the teachers. Students could pick one or more activities each day, but they were not allowed to simply sit around or walk slowly. As measured with accelerometry, students had significantly more MVPA minutes on CV Days and Choice Days than on typical physical education instructional days.

Outcome: Total daily MVPA

At the end of Year 2, 4-day accelerometry was used to show students' accrued physical activity in physical education, in the afterschool program, and in the evenings at home or in the community. Students who attended the afterschool physical activity program accrued a mean of 25.1 min/day of MVPA. In addition, students accrued a mean of 17.1 min/day of MVPA outside of the school setting (i.e., home, community, youth sports). From that information, we could make a composite of their daily MVPA rates, differentiated on the type of lessons they had in their physical education classes on those days. Overall, students got 56.8 min of MVPA on days with "typical physical education," 67.8 min on CV Days in physical education, and 64.6 min

on Choice Days in physical education. Those minutes represent 95%, 113%, and 108% of the daily recommended amount of MVPA, respectively.

Needed resources

During the 2 years, we also tracked the resources needed to plan, implement, and evaluate the PCMS HOPE model. Here is where the encouraging results get tempered. PCMS had six participating teachers. The GSU team had two full-time faculty members and three graduate research assistants dedicated to the project. From weekly time reports, we know that between PCMS teachers and GSU researchers, it took almost 1,000 hr a year to carry out the project. The GSU team spent about 75% of that time on providing materials and professional development support and collecting all of the evaluation data. That means the PCMS staff spent around 250 hr each year—over and above their normal planning and teaching time—to conduct the afterschool program, plan and attend the various extracurricular events, and meet to make decisions related to the project. That comes to around 40 hr to 50 hr *per teacher* each year of the project. Time was not the only resource needed for the project. Between GSU and CDC, it took nearly $75,000 to fund the project for 2 years. A full HOPE CSPAP is not only labor-intensive, but it can be very expensive.

Independent research on the PCMS HOPE Project

Late in 2015, we put the word out to see if other researchers might be interested in studying the dynamics between PCMS, GSU, and CDC personnel over those 2 years. We were very happy when Colin Webster at the University of South Carolina, one of his doctoral students, Cate Egan, and others, offered to study this three-way partnership from an independent perspective. We sent them dozens of documents to analyze, and they have interviewed various participants at PCMS, GSU, and the CDC. Data analysis is taking place as of this writing. It is anticipated that the research team at the University of South Carolina will generate a deep and impartial understanding of what happened when two professors and their graduate students joined with a team of practitioners to plan, implement, and evaluate an exemplary HOPE CSPAP in one school.

What physical education researchers can accomplish with this agenda

To review, my proposed research agenda starts with teachers and a variety of professors working together to establish school physical education programs that can meet the *grand challenges* embedded in health-promoting physical activity and help our profession meet the ambitious goal of *50 Million Strong*. That research will need to happen at the program level; be longitudinal, multibanded, and conducted by cross-disciplinary teams of researchers; and study both the processes needed to get these exemplars up and running and the health-promoting outcomes they foster. And what we learn from those studies needs to be translated into compelling reading for parents, school leaders, community partners, and policymakers. We will also need to replicate these studies to learn how to make these exemplars happen in a variety of school settings. Make no mistake: It is a daunting task for our research community—but at the same time, this agenda offers some real benefits we have not seen from more than four decades of inquiry in physical education. Let me highlight some of those likely benefits.

First and foremost, in meeting this *grand challenge* and making *50 Million Strong*, we would tangibly improve the lives of children in our schools—at least in the near term and perhaps longer. The closer we can get to *50 Million Strong*, as I have defined that outcome, the more we can say that our programs truly matter, not by just saying so, but by holding solid evidence to support that claim.

Second, when we choose to take on the mission of physical education as part of health promotion through physical activity, we immediately find ourselves in the company of a very large number of allies, supporters, and well-wishers—and we are far from alone in going down this path. We could draw strength and support from those allies and take advantage of their many resources and their influence with policymakers.

Third, pursuing team science for the promotion of active, healthy lives through school programs would position our researchers to be more competitive for large-scale federal grants (like National Institutes of Health [NIH] and National Science Foundation [NSF]) and more attractive to national foundations (such as The Robert Woods Johnson Foundation's Active Living Research). One of our community's most common laments is that we are not in a "fundable" field of research—but I think that will ring less and less true in the future—especially as we come under the broad umbrella of the sciences for health promotion. But with those opportunities will come increased expectations by research institutions for winning those large grants.

Fourth, findings from research on these exemplary programs would greatly inform the content knowledge and pedagogical content knowledge taught in our physical education teacher education (PETE) programs. Rather than our current strategy of trying to change

P–12 through PETE, once we have a firm grasp of best practices through research on successful programs, it would lead to much more focused and authentic preparation for our preservice teachers. Evidenced-based P–12 programs would then inform PETE, not the other way around—as it is now. Related to this same benefit, such research would also provide evidence-based support for our national P–12 physical education standards and our Beginning Teacher Standards.

Fifth, the passage and signing of the Every Student Succeeds Act (ESSA) in 2015 gives physical education some positive visibility and leverage it has needed for decades. No more struggling for our teachers to be labeled as "quality" and no more humiliating exclusions from the list of "core" subjects. That recognition comes with some new funding opportunities—ESSA allows physical education programs to be eligible for Title I, III, and IV Block Grants, awarded by state departments of education with flow-through federal monies. All of us should now be talking with our SHAPE America leaders, our state SHAPE organizations, and our state education departments to learn how those funds will be allocated in our home states and how they can be better leveraged through school and university partnerships. These Title IV Block Grants could well become the gateway to more and larger grants by the use of their pilot findings to support proposals to the NIH, NSF, and national foundations.

Sixth, collectively, we have mostly stood on the sidelines cheering on those who do research to link physical activity with measures of student learning and achievement—and we applaud and clutch at any new finding to support that linkage. Although I am not convinced that such a link really exists, I do think that we would be better positioned to look for it if we can first establish programs that help children achieve the daily physical activity standards. We might even find the Holy Grail we have been seeking for decades—convincing and compelling evidence that quality physical education programming is an essential component to student performance in other subjects, so schools should offer physical education more time and resources, not less (Donnelly et al., 2016).

Finally, as the evidence starts to emerge that health-promoting physical education programs make valuable and tangible contributions in children's lives, we will be more able to influence state and national policies that would see more required time for our programs, smaller class sizes, and more accountability for school leaders to meet those expanded standards. At first, it will have to come out of our collective hides; we cannot wait and wish for policymakers to give us the regulations, attention, and resources our programs need. We first have to take the initiative and provide them with data to show that our programs can contribute to key public health goals and to the overall educational mission—and how much that would cost. Only then we can realistically expect policymakers and school leaders to do the right thing on behalf of school physical education programs. If this is a chicken-or-egg question, then research must be the incubator for data that can ultimately lead to positive policy change for school physical education. While some of us have done a nice job of doing research to understand current policies, we need to take the next step of doing research that can influence policies.

Taking on this *grand challenge* for Physical Education is a daunting task, but one I think we have no choice about, because the very existence of our P–12 programs is in the balance today. In 2014, I wrote an invited editorial for then PELINKS4U, in which I predicted two likely futures for P–12 physical education (Metzler, 2014).

In one future, there are no physical education programs—they have become extinct. At some point in time, policymakers will decide that physical education does not provide enough added value in the education of children and youth, and new laws will be passed to eliminate physical education entirely. This destructive tipping point will occur one state at a time. Historians looking back will explain that physical education as a school subject tried to do too much and in the end did nothing that really mattered to students and the many other groups that have vested interests in what goes on in our schools. Physical education programs had been allowed to get away with their muddled mediocrity for too long, and eventually, it was time to put them out of their misery.

In the second possible future, physical education has witnessed a renaissance, thriving as a respected and valued part of the school curriculum, and is a major contributing factor in the rising national trend of promoting physical activity in children and youth. This future was the result of physical education professionals agreeing that their programs should focus directly on teaching children how to enjoy physical activity and reaping all the benefits that come with it. They got buy-in from classroom teachers and administrators to find more opportunities for physical activity in the school day, found ways to document that programs had achieved their stated outcomes, and leveraged support from constituent groups and the media to get the positive attention of policymakers who then legislated for more time and resources for quality physical education in our schools.

Maintaining the status quo in P–12 physical education and its separation from higher education will

ensure the inevitability of the first future. Although certainly not guaranteed, by aligning the mission and conduct of physical education programs with that of health promotion, by thinking and acting more capaciously, and by greater collaboration among professors and practitioners, we can give that second future a chance to be realized.

Three grand challenges for the physical education research community

All too often in the past, we have allowed our personal priorities, in the name of intellectual passion and paradigmatic allegiances, to shape the research agenda in physical education. The first of our *grand challenges* is to resist our individual and collective propensities toward one-off, single-paradigm, unauthentic, niche studies that hold no value beyond the pages of *JTPE* and our vitae. To keep doing that runs the real risk of losing what might be our last chance to demonstrate impact and relevancy for P–12 programs, PETE, and our body of knowledge. The second *grand challenge* is for our research community to help teachers establish, maintain, and replicate expanded programs that can help more children achieve daily physical activity goals and getting *50 Million Strong*. The third *grand challenge* is to expand our mind set for research in physical education to generate findings that hold more interest and value to many more audiences. To complete the circle that starts and ends with quality physical education programs, our researchers must help to establish exemplary programs, study those programs, and present our findings in ways that can garner support from teachers, school leaders, the public, and policymakers.

What does this article add?

This article begins a dialogue on establishing a collective and shared agenda for researchers and practitioners in physical education—an agenda that can allow P–12 programs to provide meaningful and sustainable health-promoting learning outcomes for students and inform a number of constituent groups, including policymakers.

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