Soula Servello,
Erin Cassar,
Elisabeth Fornaro,
Peter Hawes,
Catherine Tkatch,
and Ebru Erdem

The authors would also like to acknowledge Sydney Negus for her help with data collection, and Ashley Tanz and Alanna Fogarty for their help with analysis.

Office of Research and Evaluation

This institution is an equal opportunity provider. This material was funded by USDA's Supplemental Nutrition Assistance Program (SNAP) through the Pennsylvania Department of Human Services (DHS).

February 2021

THE SCHOOL DISTRICT OF PHILADELPHIA

SNAP-Ed Funded School-Community Partnerships: Cultivating Readiness

Summary

This report is part of a series of four reports resulting from a case study process evaluation of the SNAP-Ed nutrition education partnership, Eat Right Philly (ERP), in 2018-19. The reports focus on the implementation and effectiveness of SNAP-Ed community partnerships. Additional reports from the evaluation can be found at philasd.org/research.

This report focuses the early stages of program implementation. We examined the factors that facilitate the initial implementation of policy, systems, and environment (PSE) changes and found that in schools where PSE changes are successfully implemented by school staff, ERP builds motivation and increases the capacity of school staff. In addition, a key factor in implementing ERP programming is the length of time the ERP nutrition educator has been working with the school, since they are then able to build relationships with school staff. These findings suggest that ERP currently focuses more on a school's existing capacity when determining if a school is ready for programming. Instead, ERP should concentrate their efforts on cultivating capacity, motivation, and relationships at schools, allowing the partnership to develop readiness over time. In other words, developing key relationships seemed more important than the school's existing capacity.

Contents

Overview

This report is the first in a series of four reports on SNAP-Ed funded school-community partnership implementation and success.[1] The four reports focus on (1) cultivating readiness (this report), (2) supporting implementation,(3) sustaining partnerships, and (4) measuring implementation for collective impact.[2] These reports resulted from a case study process evaluation of the SNAP-Ed nutrition education partnership, Eat Right Philly, in 2018-19. Through an in-depth exploration of school community partnerships within one district-wide nutrition program, this case study project provides a nuanced understanding of how schools and community partners can better collaborate to address complex problems, such as malnutrition.

Nutrition is an important consideration in engagement, achievement, and the gap between low-income and higher-income students.[3, 4] Students' mental, social, and emotional needs cannot be "rigidly compartmentalized" or separated from their physical needs.[5] Students who are food-insecure or malnourished, have inadequate water consumption, or lack opportunities to move their bodies through physical activity have a harder time paying attention in class. In fact, a recent study found that children who are non-active and have unhealthy nutrition habits scored lower on standardized test scores when compared with children who are active with healthy nutrition habits.[6] The link between health and academics is especially clear for students living in poverty, who may not have their basic needs met at home. High-poverty schools often require assistance in helping meet the needs of school-dependent students.[7, 8, 9] Assistance often comes through school-community partnerships. Engaging stakeholders at both the school and community level is an effective way to deliver the resources and support schools need[10] and is vital to improving student nutrition.[11]

---

[1] The series of four reports resulting from the 2018-19 Case Studies project defines "implementation" using implementation science. For more information on implementation science see Appendix A.
[2] Additional reports from the evaluation can be found at philasd.org/research.
[3] Charles E. Basch, "Healthier Students are Better Learners: A Missing Link in School Reforms to Close the Achievement Gap," *Journal of School Health* 81, no.10 (2011): 593-598.
[4] Alicia Fedewa and Jennifer Hoffman, "Nutrition and Physical Activity as Protective Factors in Eliminating the Achievement Gap," *Communique* 42, no. 1 (2013): 1-12.
[5] Nell Noddings, "What Does it Mean to Educate the Whole Child?" *Educational Leadership* 63, no.1 (2005): 5.
[6] Fiona M. Asigbee, Stephen D. Whitney and Catherine E Peterson, "The Link Between Nutrition and Physical Activity in Increasing Academic Achievement," *Journal of School Health* 88, no. 6: 407-415.
[7] Lisa Delpit, Multiplication is for White People: Raising Expectations for Other People's Children (New York: New Press, 2012).
[8] H. Richard Milner IV, "Understanding Urban Education from the Outside In and Inside Out," *Urban Education* 47, no. 6 (2012): 1019-1024.
[9] Pedro A. Noguera and Lauren Wells, "The Politics of School Reform: A Broader and Bolder Approach for Newark," *Berkeley Review of Education* 2, no. 1 (2011): 5-25.
[10] Pedro A. Noguera and Lauren Wells, "The Politics of School Reform: A Broader and Bolder Approach for Newark," *Berkeley Review of Education* 2, no. 1 (2011): 5-25.
[11] Ying-Ying Goh et al., "Using Community-based Participatory Research to Identify Potential Interventions to Overcome Barriers to Adolescents' Healthy Eating and Physical Activity," *Journal of Behavioral Medicine* 32, no. 5 (2009): 491-502.

SNAP-Ed and Eat Right Philly (ERP)

The United States Department of Agriculture (USDA) Supplemental Nutrition Assistance Program Education (SNAP-Ed) provides nutrition education to SNAP-eligible low-income individuals and families. In Philadelphia, SNAP-Ed provides federal funding to seven community partners[12] to implement a nutrition education program known as Eat Right Philly (ERP) in 214 School District of Philadelphia (SDP) schools.

Key Terms

Direct education: Nutrition education lessons delivered through a SNAP-Ed approved curriculum and delivered either by ERP nutrition educators or classroom teachers with support from ERP staff.

ERP partners: Refers to the group of seven community partners that implement Eat Right Philly programming in SDP schools.

ERP programming: The overall set of program components Eat Right Philly delivers to a school or set of schools. Programming is typically made up of either direct education or work related to Policy, Systems, and Environment (PSE).

ERP staff: All staff members who work for Eat Right Philly partners to deliver or manage programming in schools. This includes seven ERP Directors who manage the program at the ERP Partner level, as well as ERP nutrition educators who deliver programming within schools.

Policy, Systems, and Environment (PSE): Interventions meant to facilitate people to act on their education by making healthy choices easier and preferable.

School staff: Refers to all employees who work at a particular school. For the purposes of the case study, we have grouped school staff into four main categories: 1) Administrators (principals and assistant principals), 2) Classroom teachers, 3) Other school staff (climate staff, nurses, counselors, food service managers), and 4) Partnership coordinators (anyone at the school whose key role is to manage partnerships, for example Community School Coordinators or VISTA staff).

SNAP-Ed: The United States Department of Agriculture (USDA) Supplemental Nutrition Assistance Program Education (SNAP-Ed) provides funding for nutrition education to SNAP-eligible low-income individuals and families.

ERP provides a range of programming to schools related to nutrition and physical activity to align with the SNAP-Ed requirement of using a combination of approaches. These approaches include direct nutrition education, social marketing, and Policy, Systems, and Environmental (PSE) change

[12] The seven community partners are the School District of Philadelphia, Drexel University, Agatson Urban Nutrition Initiative, Einstein Medical Center, Vetri Community Partnership, The Food Trust, and Health Promotion Council.

interventions. PSE changes facilitate people to act on their education by making healthier choices easier and preferable.

The goal of SNAP-Ed programming is to provide consultation and technical assistance to schools so that staff and administration make changes at the school level. While ERP partners provide direct programming and work with schools to implement a variety of initiatives, the school itself is "ultimately responsible for adopting, maintaining, and enforcing the PSE change."[13] Examples of school-level PSE changes include: writing a policy in the parent handbook to limit the amount of unhealthy snacks brought in for school celebrations, adopting a new intervention to increase physical activity during recess, or removing a vending machine that sells ice cream from the cafeteria.

ERP 2018-19 Case Study Project

The School District of Philadelphia (SDP) Office of Research and Evaluation (ORE) conducted a year-long case study project during the 2018-19 school year, which included 19 schools, 119 interviews of school and program staff, 7 focus groups with 41 students, document analysis, 138 hours of participant observation, and analysis of SDP District-Wide Survey (DWS) and School Support Census data.[14][15] The goal of the case study project was to: (1) understand the extent to which contexts (i.e., policies and environments, communities, and interpersonal connections) influence successful implementation of ERP programming, and (2) uncover how the seven community partners who implement SNAP-Ed nutrition education in the SDP can better coordinate programming, elevate the importance of their work to SDP administration and the public, and collect shared measures that will show the collective impact of their work over time. Collective impact is when stakeholders commit to a common agenda for solving a complex social problem that no single organization can solve alone.[16,17]

The series of reports that summarize the findings from the case study project answer four main research questions:

1. What are the factors that facilitate the initial implementation of policy, systems, and environment (PSE) changes? (This report, "Cultivating Readiness")
2. What implementation challenges and successes do ERP partners encounter in their schools? ("Supporting Implementation")

[13] Supplemental Nutrition Assistance Program Education, FY 2019 SNAP-Ed Plan Guidance (Alexandria: VA, United States Department of Agriculture, 2018), 18.
[14] Analysis of the SDP District-Wide teacher survey was used to inform findings in report one of this series of four reports, "SNAP-Ed Funded School-Community Partnerships: Cultivating Readiness." For more information on the District-Wide teacher survey and our analysis see Appendix C.
[15] Analysis of the SDP School Support Census was used to inform report three of this series of four reports, "SNAP-Ed Funded School-Community Partnerships: Sustaining Partnerships." For more information on the SDP School Support Census and our analysis see Appendix C.
[16] John Kania and Mark Kramer, "Collective Impact," *Stanford Social Innovation Review* 9, no. 1 (2011):36-41.
[17] For more information on Collective Impact see Appendix B.

3. How can ERP implement policy, systems, and environment (PSE) changes that can be sustained over time? ("Sustaining Partnerships")
4. What opportunities exist for ERP partners to measure, align, and coordinate programming? ("Measuring Implementation for Collective Impact")

This report focuses on the first question and uses the theory of organizational readiness to frame ERP success in cultivating a school's readiness to implement PSE interventions.

Research Questions Guiding this Report

This report answers one of the research questions that guided the larger case study project: What are the factors that facilitate the initial implementation of policy, systems, and environment (PSE) interventions? To help us answer the larger question, we considered five more focused questions about implementing PSE:

1. How do ERP program staff consider school readiness when making programming decisions?
2. How does school capacity to implement *any new programming* influence school staff readiness to implement *ERP programming*?
3. What factors influence school staff motivation to implement ERP programming?
4. What factors influence school staff perceptions of their capacity to implement ERP programming?
5. What strategies do ERP partners use to increase school staff motivation and capacity?

Methods

Case studies are especially useful when it is impossible to separate variables from the context, and understanding multiple perspectives is required.[18, 19] The aim of case study research is "particularization," not generalization.[20] Thus, randomized sampling is not desirable for this method; rather, the aim should be to examine a "strategic selection of cases." Instead of examining the "typical case," we looked for "critical cases" that are rich in detail.[21] To that end, we created a tiering system to categorize all partners' schools into three tiers based on 2017-18 data, quantifying the available qualitative programming data in each school. We then chose one "critical case" for each tier for each partner, for a total of 19 schools. Schools had a variety of characteristics, including grades served, enrollment, geography, and demographics. The researchers collected data from various stakeholders at the 19 schools in our sample including 119 interviews of school and program staff, 7 focus groups with 41 students, document analysis, and 138 hours of participant

[18] Robert K. Yin, *Case Study Research: Design and Methods 4th Ed*. (Thousand Oaks: Sage Publications, 2008).
[19] Helen Simons, *Case Study Research in Practice* (London: Sage Publications, 2009).
[20] Sharan Merriam, *Qualitative Research: A Guide to Design and Implementation* (San Francisco: Jossey-Bass, 2009), 24.
[21] Bent Flyvbjerg, "Five Misunderstandings About Case-study Research," *Qualitative Inquiry* 12, no. 2 (2006): 229.

observation.[22] All data was coded by one team member and checked by a second team member using Dedoose.[23, 24] Disagreements about code application were discussed until a consensus was reached.

PSE grouping and analysis

In order to compare readiness factors in schools with similar levels of programming and school staff buy-in, we used case study data to separate the 19 case study schools into four PSE Groups (Table 1). The goal of Policy, Systems, and Environmental (PSE) work is for school staff and administration to implement PSE changes at the school level with support from Eat Right Philly (ERP). PSE changes make healthy choices easier and preferable. For example, adopting movement breaks in the classroom or selling produce outside the school during dismissal make it easier to move throughout the day and to eat more fresh produce. In order for PSE to be successful, administrators, teachers, and other school staff need to have a high level of motivation and belief that the work is important in order to implement program components and create PSE changes themselves. The groups consider both the amount of PSE programming in each school, as well as the level of involvement of school staff in implementing program components. We used Program Evaluation and Reporting System (PEARS) data. PEARS is a system in which the seven ERP Partners list the programming they implement at each school. Schools we considered as having a high level of programming and support/buy-in from staff and administration had, overall, programming listed in PEARS with the greatest combination of reach (potential number of people who participated), frequency (the number of times it occurred), and penetration (the number of groups, such as parents, staff, and/or students, involved).

[22] A detailed description of the project methods is provided in Appendix C.
[23] Dedoose Version 8.0.35, web application for managing, analyzing, and presenting qualitative and mixed method research data (2018). Los Angeles, CA: SocioCultural Research Consultants, LLC www.dedoose.com.
[24] For our complete codebook see Appendix D.

Table 1. The groups representing levels of PSE programming in the 19 case study schools

Group	Description	# Schools
Group1	Schools with a high level of programming and support/buy-in from staff and administration. These are schools where staff members take on a larger role in programming, and the schools have more potential to make PSE changes because of the level of staff involvement.	5
Group 2	Schools with a medium to high level of programming. Programs are mostly ERP-led and have less involvement from school staff, which means there is less potential for PSE changes.	4
Group 3	Schools with a medium to low level of programming. Programming is mostly direct education, and any PSE is ERP-led with little to no staff involvement. ERP staff report actively trying to increase programming in these schools and struggle to increase engagement and buy-in.	5
Group 4	Schools with little to no programming, and ERP is not trying to increase activities due to a lack of capacity, ERP staff turnover, or other higher-level programming decisions.	5

2018-19 District-wide teacher survey

In addition to case study interview data with ERP and school staff, ORE used data from the 2018-19 District-wide teacher survey[25] to analyze differences in teacher perceptions of school culture, leadership, and staff capacity that may determine the ability of the school to implement *any* interventions across and between schools and the above PSE Groups. We selected three District-wide teacher survey questions to highlight key factors that might influence a school's ability to implement innovations, including student behavior, principal leadership, and staff time constraints:

1. To what extent is student behavior a challenge to student learning at your school? (*A great challenge, a moderate challenge, a slight challenge, not a challenge*)
2. The principal at this school creates buy-in among faculty. (*Strongly Agree, Agree, Disagree, Strongly Disagree)*
3. To what extent is the lack of teacher planning time built into the school day a challenge to student learning at your school? *(A great challenge, a moderate challenge, a slight challenge, not a challenge)*

These three District-wide teacher survey questions were used to look at differences in question responses by school and by PSE Group in order to determine the extent to which attributes of a

[25] The District-Wide teacher survey asks SDP teachers their perspective on numerous topics related to their work. For more information on the SDP District-Wide teacher survey see https://www.philasd.org/research/programsservices/district-wide-surveys/.

school (student behavior, principal leadership, and teacher planning time) may be related to their capacity to implement new programming.

As part of the larger 2018-19 case study project on SNAP-Ed funded school-community partnership implementation and effectiveness described above, this specific report focuses on the first research question: "What are the factors that facilitate the initial implementation of policy, systems, and environment (PSE) interventions?" To analyze the data in relation to this research question we used the theory of organizational readiness.

Analytical Framework

Organizational readiness is the extent to which an organization, such as a school, is willing and able to implement a particular change or innovation.[26, 27] Organizational readiness to implement an innovation (i.e., nutrition education and programming) includes whether school and program staff value the innovation, whether they perceive themselves and/or their school as capable of implementing the program, and the general context in which they operate.[28, 29, 30, 31, 32]

For the purposes of this report, we rely on a model of organizational readiness[33] that suggests readiness to adopt an innovation includes three distinct components:

1. **Motivation** refers to what makes an innovation desirable, and includes beliefs about the innovation as well as beliefs about how much support for the program exists within the school and District.
2. **General Organizational Capacity** refers to attributes of an organization that impact its ability to implement *any* new programming. This includes organizational structure, culture and climate, as well as leadership and staff capacity. We refer to this as the school's general capacity to implement *any new program*.
3. **Innovation-Specific Capacity** refers to what is needed for an organization to implement a *specific* innovation with quality. Every innovation requires a set of knowledge and skills to

[26] Jonathan P. Scaccia et al., "A Practical Implementation Science Heuristic for Organizational Readiness: R= MC2," *Journal of Community Psychology* 43, no. 4 (2015): 484-501.
[27] For an overview of the Theory of Organizational Readiness see Appendix E.
[28] Paul D. Flaspohler et al., "Ready, Willing, and Able: Developing a Support System to Promote Implementation of School-based Prevention Programs," *American Journal of Community Psychology* 50, no. 3-4 (2012): 428-444.
[29] Sara R. Jacobs, Bryan J. Weiner, and Alicia C. Bunger, "Context Matters: Measuring Implementation Climate Among Individuals and Groups," *Implementation Science* 9, no. 46 (2014): 1-14.
[30] Jonathan P. Scaccia et al., "A Practical Implementation Science Heuristic for Organizational Readiness: R= MC2," *Journal of Community Psychology* 43, no. 4 (2015): 484-501.
[31] Christopher M. Shea et al., "Organizational Readiness for Implementing Change: A Psychometric Assessment of a New Measure." *Implementation Science* 9, no. 1 (2014): 1-15.
[32] Abraham Wandersman et al., "Bridging the Gap Between Prevention Research and Practice: The Interactive Systems Framework for Dissemination and Implementation" *American Journal of Community Psychology* 41, no. 3-4 (2008): 171-181.
[33] The model is known as $R=MC^2$, or Readiness = Motivation x General Organizational Capacity x Innovation-Specific Capacity

implement, and programs can build innovation-specific capacities through efforts like training and technical support.[34, 35] We refer to this as the school's capacity to implement *ERP programming* specifically.

In this understanding of "readiness," a school's capacity by itself is not enough to make a school ready to implement new programming, such as ERP. Just because a school has the *capacity* to implement it does not mean they have sufficient collective motivation to do so. For this reason, ERP must also increase motivation (or "buy in") as well. External programs implementing programming within organizations can improve motivation by matching what they offer to an identified need within the organization, or by linking their work to an already existing program. And, while external programs may not have direct influence over the school's capacity to implement any new program, they can devote time and resources to build "innovation-specific capacity," or the knowledge and skills needed to implement *specific* programming.[36] Programs can do so by offering training, technical assistance, and resources.[37]

Readiness can change over time, and should not be considered a one-time dichotomous measure of "ready" versus "not ready." If an external organization wants to implement a program in a school, they need to increase readiness and monitor changes throughout implementation. Readiness can increase with more support and assistance, and it can also decrease if key staff leave or new priorities compete with the innovation.[38] While considering organizational readiness can help programs allocate resources, deeming a school "not ready" can potentially remove resources from schools most in need of help.[39] It is critical, therefore, for ERP and other external partner organizations hoping to work with schools, to consider all three components of readiness – and to consider the extent to which external partners themselves can focus on cultivating readiness and at which schools they can concentrate these efforts. We used the theory of organizational readiness to guide our understanding of what factors facilitate the initial implementation of policy, systems, and environment (PSE) changes and how ERP staff can get schools ready to implement PSE.

[34] Jonathan P. Scaccia et al., "A Practical Implementation Science Heuristic for Organizational Readiness: R= MC2," *Journal of Community Psychology* 43, no. 4 (2015): 484-501.
[35] For a full list of general capacities, innovation capacities, and factors that influence motivation, see Appendix D.
[36] Jonathan P. Scaccia et al., "A Practical Implementation Science Heuristic for Organizational Readiness: R= MC2," *Journal of Community Psychology* 43, no. 4 (2015): 484-501.
[37] Jonathan P. Scaccia et al., "A Practical Implementation Science Heuristic for Organizational Readiness: R= MC2," *Journal of Community Psychology* 43, no. 4 (2015): 484-501.
[38] Jonathan P. Scaccia et al., "A Practical Implementation Science Heuristic for Organizational Readiness: R= MC2," *Journal of Community Psychology* 43, no. 4 (2015): 484-501.
[39] Paul D. Flaspohler et al., "Ready, Willing, and Able: Developing a Support System to Promote Implementation of School-based Prevention Programs," American Journal of Community Psychology 50, no. 3-4 (2012): 428-444.

Findings

How do Eat Right Philly (ERP) program staff consider school readiness when making programming decisions?

Overall, we found that ERP program staff tend to focus on the school's general capacity to implement *any* innovation when they think about a school's "readiness." We found that the most common factors considered by ERP when making programming decisions were school climate and student behavior, school staff motivation, and administrative support. ERP has little control over a school's general capacity to implement *any* new intervention. In other words, they have little control over a school's culture and climate, staff capacity, and leadership. However, ERP *can* develop school the staff motivation and capacity *specific to ERP programming* and should focus on how they can develop readiness to implement ERP programming over time, as well as developing deep relationships with key school staff. Key school staff allow access to the school, communicate with ERP about school events and ERP programming, and deliver ERP programming such as direct education.

Eat Right Philly staff consider <u>student behavior</u> when making programming decisions about a particular school

One factor ERP staff typically consider when deciding what and how much programming to implement at particular schools is school climate and student behavior. School climate and student behavior falls under a school's general capacity to implement *any* innovation such as organizational climate, leadership, and staff capacity. When asked how they make programming decisions, one ERP staff member said, "depends on the school, depends on the stress level of people at the school. It depends on the administration..." ERP staff pointed to school-level issues, like student behavior as major factors in being able to implement successful programming in schools.

ERP staff cited student behavior as a barrier to implementing programming; one ERP staff member said that if "students are a little difficult, if you're screaming at them to be quiet or stop hitting each other...it [ERP programming] might just not be something that the school is ready for yet." Another ERP staff member commented, "...if you go to a school where the whole school is out of control because there's nobody setting expectations for behavior then that's a different environment. We can only do so much." In two Group 4 schools -- schools with little to no programming where ERP is not trying to increase activities -- ERP staff said that the main reason they do not offer more programming was because of student behavior issues, even if they occurred several years ago.

Eat Right Philly staff consider school staff motivation when making programming decisions about a particular school

The second factor ERP staff consider when deciding what and how much programming to implement at particular schools is staff motivation. Motivation involves school staff's perceptions of the program and its importance. Overall, ERP staff agreed that the motivation of school staff to implement health-related changes and staff buy-in related to health and wellness were key to creating a successful program. However, ERP staff discussed motivation more in terms of a quality that either does or does not exist currently, and less in terms of something that could be increased or influenced by ERP staff. Assessments of whether school staff are motivated to implement ERP programming were generally based on past relationships and contextual knowledge of the school. One ERP staff member explained that they only have the capacity to offer programming to so many schools so they select schools, "where we have a relationship, where we know they want it, and where they know the school will support it and be easy to work with." ERP staff described looking for schools who are "excited and want to do more," and schools that "can handle us coming to the school two or three days a week. Some schools are not interested." ERP made decisions based on perceptions of the relationships and motivation that already existed at a school, as opposed to identifying where they could develop key relationships and increase school staff motivation.

ERP staff consistently discussed the need for a "program champion" or similar key school staff member to help facilitate programming at a school. When asked how ERP makes decisions on which programs to offer a school, an ERP staff member said: "It depends on if there are staff at the school that are interested...A lot of schools, that's finding a champion at the school to kind of like be your advocate when you're not there." Another ERP staff member advised: "you need a champion. It doesn't have to be the principal; it could really be anybody, but you need a champion. Our most successful projects are always with a champion." ERP staff identified program champions as a factor in their decisions about programming because they were motivated to help with ERP programming.

Eat Right Philly staff consider a school's administrative support for health and wellness when making programming decisions about a that school

The third factor ERP staff consider when deciding what and how much programming to implement at particular schools is administrative support specifically for nutrition programming. ERP staff agreed that they can only do so much without support from school administration. One ERP staff member said, "we've been finding that if the principals are more reluctant to [implement ERP] then it's harder to create an impact overall." Another ERP staff member emphasized the importance of principals making their work a priority: "you can have a super strong [partnerships coordinator], but if they're in a school where the principal does not prioritize health and wellness it's going to be a challenge…." When school leadership was not supportive of health and wellness programming it made implementing ERP programming more difficult, even with a partnerships coordinator. A partnerships coordinator is someone at the school whose position is dedicated to facilitating school-community partnerships. Partnerships coordinators can increase a school's capacity to

participate in successful external partnerships by being the main point of contact communicate about day-to-day programming, facilitate scheduling, and supporting or leading programming at the school. For example, they could lead a PSE change such as a healthy fundraiser at the school.

ERP staff saw the support of the principal as essential in how much programming they could do at a school. The nutrition educator at a Group 1 school said, "They know us, they know our program, and the principal sets the tone and everybody here is great. A lot of it has to do with her. She's really big with supporting Eat Right [Philly]…" In contrast, an ERP staff member at a Group 3 school said, "traditionally we have not done much. The principal there has sort of just been like, 'Yeah, whatever' and walks away." ERP staff feel that school leadership determines the school's culture around health and wellness and influences staff motivation to implement or support programming.

How does school capacity to implement *any new programming* influence school staff readiness to implement *ERP programming*?

The fourth question we examined focused on the school's capacity to implement *any new program*. While the capacity to implement *ERP programming* involves the capacity of school staff and whether they have the knowledge and skills to implement specific PSE changes, the school's capacity to implement *any new program* depends on the overall environment of the school. In order to explore the connection between the school's capacity to implement *any new programming* and the ability of school staff in our 19 case study schools to implement *ERP programming*, we reviewed questions on the SDP 2018-19 District-wide Survey (DWS). We chose questions related to three factors that *ERP staff* cited as influencing the amount of programming they could offer a school: 1) student behavior, 2) school leadership and 3) staff motivation. For each factor, we provide data from the relevant DWS question to look at differences by school and by PSE Group. We used DWS questions about student behavior and school leadership. Because there is not a DWS question directly related to motivation, we chose a question about school staff time constraints because, as will be discussed below, if school staff perceived ERP programming as too time-consuming, they were less motivated to implement it. Overall, our findings do not show any associations or patterns between the amount of PSE programming, and teacher perceptions of climate, leadership, and time constraints.

A fourth factor, the presence of a partnerships coordinator, emerged during the case study project as another factor in a school's capacity to *implement ERP programming*.[40] Because there is not a District-wide Survey question about the partnership coordinator, we looked at case study data related to partnership coordinators by PSE Group. We found that having a partnerships coordinator might have some influence on a school's ability to implement programming.

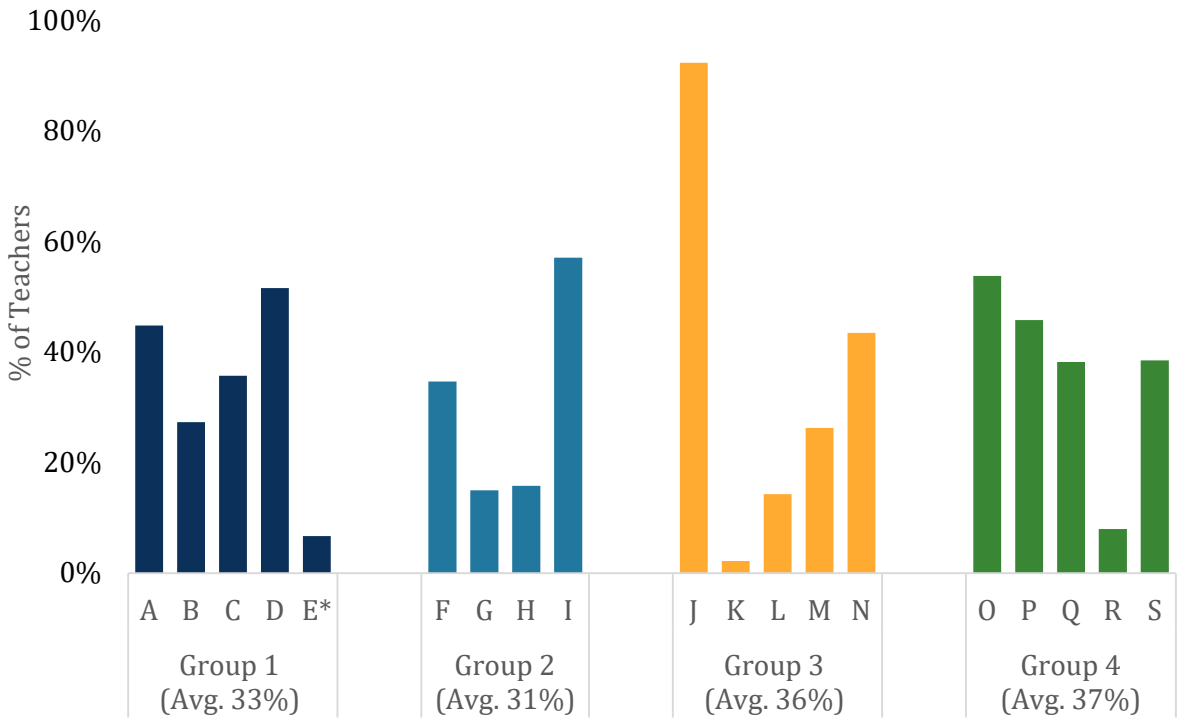
[40] Report two of this series of four reports, "SNAP-Ed Funded School-Community Partnerships: Supporting Implementation," discusses this finding in more detail and can be found at Philasd.org/research.

There are no clear patterns among a school's amount of PSE programming and climate, leadership, and time constraints

ERP programming can be successful in schools regardless of how challenging student behavior is perceived to be

The DWS asked teachers: "to what extent is Student Behavior a challenge to student learning?" If student behavior was a major factor in a school's ability to implement PSE changes, we would expect to see that fewer teachers in Group 1 schools responded that student behavior was a great challenge when compared to Groups 2-4. However, the DWS data show that teacher perceptions of student behavior varied more within groups than across groups (Figure 1). While ERP staff cited student behavior as a reason for decreasing the level of programming at a school, this shows that ERP programming can be successful in a variety of behavioral environments.

Figure 1. The percentage of teachers who responded that student behavior was a "great challenge" to student learning in their school



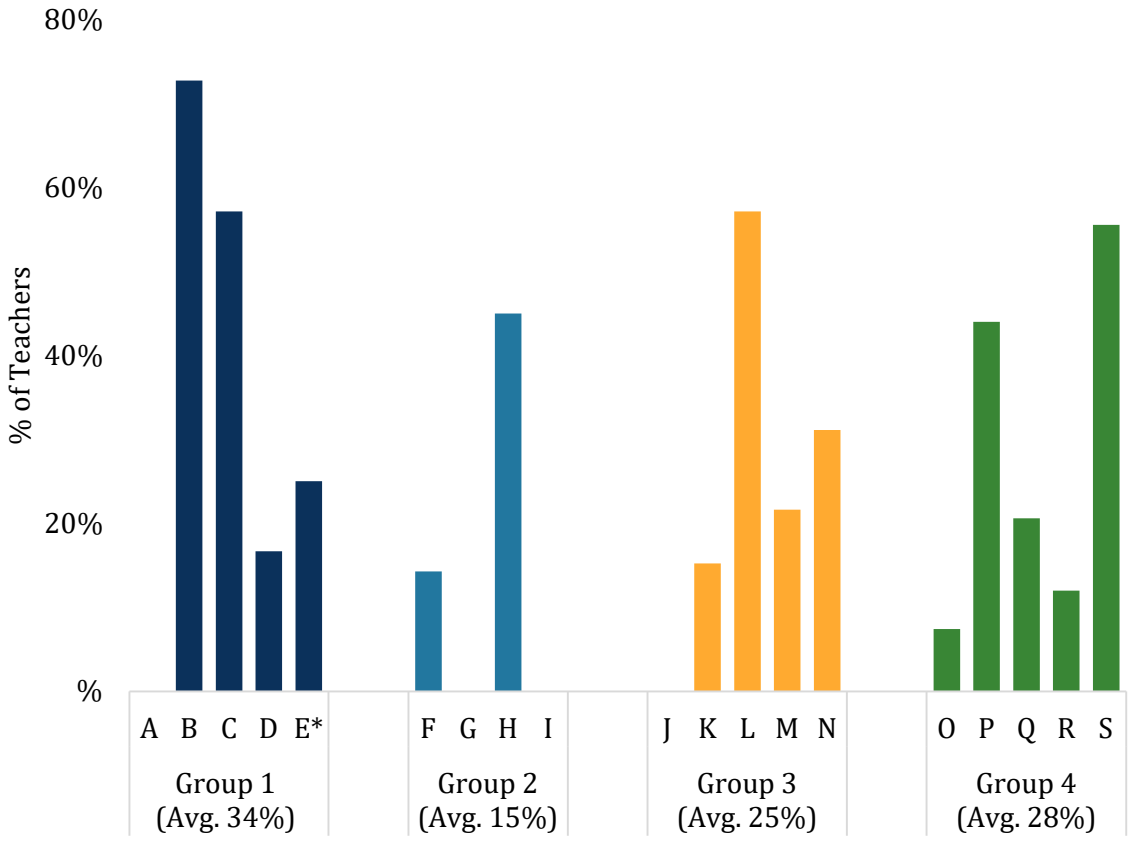
* School E did not meet the threshold for reporting in 2018-19, so ORE used data from 2017-18. There were no major changes at the school to indicate any potential differences between years.
Source: 2017-18 and 2018-19 SDP District Wide Survey Data
How to Read this Figure: Each bar represents teacher responses from one of the 19 case study schools. The schools are grouped into four groups, where Group 1 has the most PSE programming implemented by school staff, Group 2 has PSE programming but is mostly implemented by ERP staff, Group 3 has little to no PSE programming and ERP staff identified school-level barriers to increasing PSE work, and Group 4 has little to no PSE programming and ERP staff is not trying to increase PSE work. The group average is listed under each group level.

While student behavior did not appear to hinder a school's ability to implement ERP programming overall, it did factor into schools' ability to implement specific components. School staff at a Group 1 school said they could not do movement breaks because students would not settle back down. A teacher who used movement breaks at a Group 4 school felt they would be difficult in a school with behavioral problems. This teacher's testimony provides an example of the perception that student behavior issues hamper movement breaks, but did not impede program implementation overall.

School leadership and support for ERP programming is a factor in increasing school staff involvement in programming

ERP staff felt the amount of programming they could implement depended on the principal's interest and involvement. To see if there were any differences between PSE Groups related to school staff perceptions of their principal and the school's ability to implement PSE changes, we looked at the DWS question: "how much do you agree with the following statement: the principal at this school creates buy-in among faculty?" Overall, teachers in Group 1 schools perceived their schools as having stronger leadership on average when compared to other groups, but there was still more variety within groups than between groups (Figure 2).

Figure 2. The percentage of teachers who "strongly agree" that the principal at their school creates buy-in among faculty



* School E did not meet the threshold for reporting in 2018-19, so ORE used data from 2017-18. There were no major changes at the school to indicate any potential differences between years.
Source: 2017-18 and 2018-19 SDP District Wide Survey Data
How to Read this Figure: Each bar represents teacher responses from one of the 19 case study schools. The schools are grouped into four groups, where Group 1 has the most PSE programming implemented by school staff, Group 2 has PSE programming but is mostly implemented by ERP staff, Group 3 has little to no PSE programming and ERP staff identified school-level barriers to increasing PSE work, and Group 4 has little to no PSE programming and ERP staff is not trying to increase PSE work. The group average is listed under each group level.

One staff member from a Group 1 school said they could focus on ERP programming because systems for improving attendance and behavior were in place and as a result of "consistent leadership…." An administrator at another Group 1 school explained:

> "It's always my goal to establish and sustain a climate where number one, people feel like they're heard, they feel like they're respected and they feel like they have voice in what's happening with the organization...I think when you get to that place, then you can be successful with initiatives like the wellness policy or initiatives like Eat Right [Philly]..."

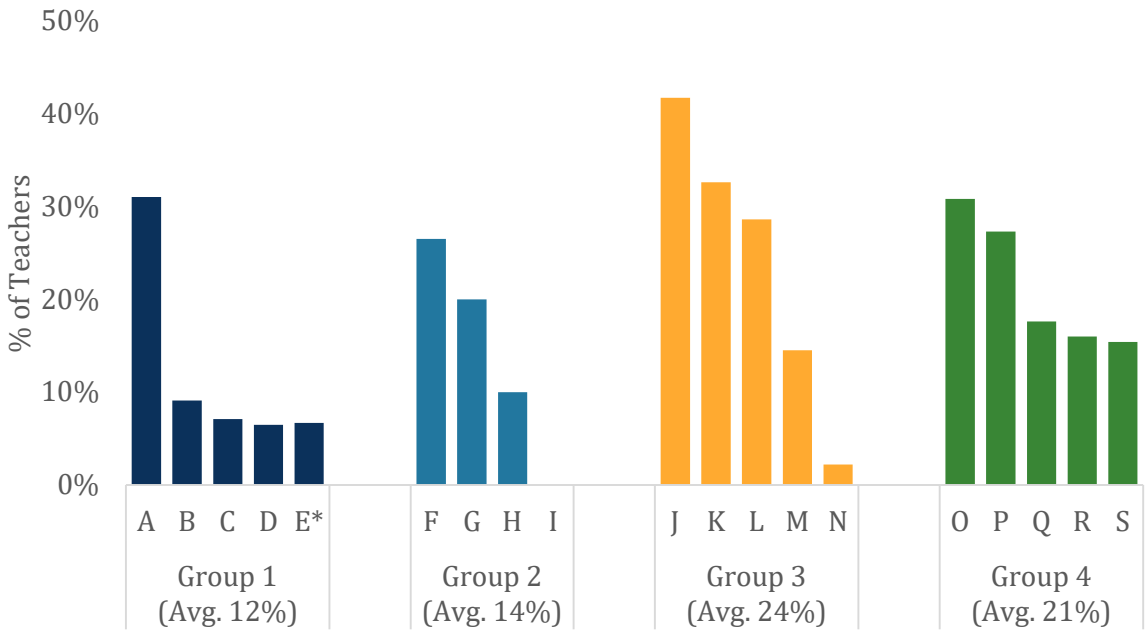
Conversely, school staff in Groups 2, 3, and 4 mentioned problems with school leadership. A staff member at a Group 3 school was unable to communicate with the principal, who was too busy to

respond to calls or emails. A staff member at a Group 2 school described the climate as "stressful" and believed they could not make PSE changes because they had no administrative support.

School staff time constraints may be one barrier to school staff involvement with ERP programming

Several ERP staff mentioned that if school staff were "stressed" or felt like they didn't have time to take on extra work, it was difficult to generate motivation for PSE changes. To examine whether this pattern was consistent across the 19 case study schools, we looked at the results to this question on the DWS: "to what extent is the following a challenge to student learning: lack of teacher planning time built into the school day?" Overall, teachers at Group 1 schools were less likely to view lack of teacher planning time as a great challenge to student learning at their school. While school staff time constraints may impede school staff involvement at many schools, there are exceptions in schools A and N (Figure 3). This demonstrates that school staff time constraints are not the one determining factor that shows whether a school is ready to implement PSE.

Figure 3. The percentage of teachers who responded that the lack of teacher planning time built into the school day was a "great challenge" to student learning at their school



* School E did not meet the threshold for reporting in 2018-19, so ORE used data from 2017-18. There were no major changes at the school to indicate any potential differences between years.
Source: 2017-18 and 2018-19 SDP District Wide Survey Data
How to Read this Figure: Each bar represents teacher responses from one of the 19 case study schools. The schools are grouped into four groups, where Group 1 has the most PSE programming implemented by school staff, Group 2 has PSE programming but is mostly implemented by ERP staff, Group 3 has little to no PSE programming and ERP staff identified school-level barriers to increasing PSE work, and Group 4 has little to no PSE programming and ERP staff is not trying to increase PSE work. The group average is listed under each group level.

The difference in average responses between groups could indicate that one barrier to implementing ERP programming is that school staff feel they do not have time to take on extra health-related initiatives. Several staff members at a Group 3 school indicated that there are too many competing priorities to be able to focus on health, and one teacher commented that they didn't feel like they had "time to do activities that promoted learning besides just what we're being told to do." At another Group 3 school, many interviewees talked about competing priorities and how overextended teachers were, and that they needed to meet many academic goals before anything else. A teacher at that school wanted the program less often because they felt it took up too much instructional time. In contrast, staff members at Group 1 schools were able to implement particular programming components themselves with the support of ERP. Staff at these schools might perceive themselves as having more time to take on what others see as "extra" work.

In all three DWS survey questions related to the three factors most commonly identified by ERP staff, there was variation both between groups and between schools. Across the three key factors, student behavior, staff time constraints, and leadership, while the average responses differed between groups, there were exceptions in individual schools. For example, School A in Group 1 had a higher percentage of teachers that responded lack of planning time was a great challenge compared to School N in Group 3 (figure 3). While these general capacity factors—organizational climate, leadership, and staff capacity—might have some influence on a school's ability to implement PSE programming, the data show that there is not one general capacity factor that shows whether a school is ready to implement PSE. Furthermore, looking at all three data points together still may not reveal useful information about a school's "readiness."

Having a partnership coordinator helped facilitate ERP programming and provided a key contact that ERP staff could count on to support health programs

An additional finding that emerged from our research about ERP staff's ability to implement programming was the presence of a person at the school who managed partnerships, what we call a partnerships coordinator. In our case study schools, this was often a Community Schools Coordinator, a VISTA partnerships coordinator, or a Health Connector. At one Group 1 school, an ERP staff member said they had "the resources here" due to the presence of an identified school partnerships coordinator. The administrator at that school also attributed the level of partnerships to having that position, saying their partnerships coordinator, "certainly heightened the level of partnerships..." At another Group 1 school, the partnerships coordinator regularly met with ERP staff to coordinate logistics of health programming. ERP staff said having that person is "wonderful in a lot of ways because we kind of have a direct link in. It's someone whose job is in working with projects like this and connecting to community partners." Similarly, in a Group 3 school with other general barriers (behavior issues, lack of teacher planning time), ERP was still able to coordinate several program components with the help of the school's partnership coordinator, and ERP staff said without having that person at the school it would be "more difficult" to schedule any

programming.[41] Overall, having a partnerships coordinator led ERP to perceive schools as having the capacity to implement *any new programming* across PSE Groups.

What factors influence school staff motivation to implement ERP programming?

The second question we examined focused on motivation. Motivation refers to the aspects and incentives of a program that make it desirable to use. This includes beliefs about the program as well as beliefs about how much support for the program exists within the organization. This section highlights four factors that influenced school staff motivation to implement ERP programming: 1) Relative Advantage, 2) Compatibility, 3) Complexity, and 4) Priority.[42]

School staff were less motivated to implement programming and PSE changes if they perceived the "unhealthier" alternative as more effective

One factor that influenced staff motivation to implement ERP programming was its relative advantage. Relative advantage is the degree to which a particular program or intervention is perceived as being better than the alternative. Overall, our case study data revealed that school staff were less motivated to implement ERP programming and PSE changes if they perceived the "unhealthier" alternative as more effective. For example, staff at several schools agreed that changing food sold at fundraisers to something healthier like smoothies would be difficult to implement and expensive to maintain. When asked about using food as reward, one teacher said, "I think your first barrier is: candy works. It's effective." An administrator mentioned a monthly school celebration with ice cream and recognized that it's "not the healthiest option", but said, "what would a reward look like then?...I think sometimes it is a struggle to find things that would be a healthier alternative…." School staff felt that unhealthier food was the easiest choice for fundraisers, celebrations, and rewards and was preferred by students. Because the less healthy alternative was perceived as more advantageous, school staff were less motivated to implement PSE changes such as health fundraisers, celebrations, and rewards.

[41] Report two of this series of four reports, "SNAP-Ed Funded School-Community Partnerships: Supporting Implementation," discusses the extent to which partnerships coordinators can facilitate communication about program implementation and can be found at Philasd.org/research.
[42] For a full list of common factors that can influence motivation according to the Theory of Organizational Readiness, see Appendix E.

Overall, school staff were more motivated to implement ERP programming if they saw it as compatible with their schools' values, norms, and/or needs

A second factor that influenced staff motivation to implement ERP programming changes is its compatibility. Compatibility is the degree to which a program or intervention is perceived as being consistent with school's values, norms, and/or needs. School staff often discussed issues of how compatible health and nutrition initiatives were with school values, norms, experiences, and specific needs of students and families. Staff were more motivated to implement changes if they saw them as being compatible with their school environment. As discussed below, perceptions of the school's healthy food environment, perceptions of how students' health and nutrition would be supported at home, and perceptions of student preferences for healthy options influenced whether school staff found the program compatible for their school.

School staff perceptions of the school's health environment influenced how compatible they felt ERP programming was with their schools' values, norms, and/or needs

Staff opinions of compatibility were influenced by their perception of the quality of school lunch. Some school staff were less motivated to offer healthy options for fundraisers, celebrations, and snack policies if they thought students didn't want to eat school lunches. For example, an administrator at a school with a satellite kitchen said they would rather their students eat Doritos than go hungry if they don't like the lunch that day, and complained that, "you get people who come in from these places and they tell you what to do and they tell you what you can't do...but you're going to give them a lunch that's not good. So, now my kid is not eating." School staff felt that when school lunches were not desirable, ensuring students eat during the day was a greater need than ensuring students eat healthy foods. If school staff thought the school lunches already offered students healthy options, they didn't feel the need to provide healthy foods in other ways. A staff member at a school with a recently converted full service kitchen said a colleague used to buy fresh fruits and vegetables to sell during lunch as a fundraiser and students loved it, "but now they offer carrots and dips and things like that...so the kids are eating more of that in the lunchroom, so there's no need to sell them." Therefore, healthy fundraisers were no longer compatible with the schools' needs, decreasing staff motivation to continue healthy fundraisers.

School staff in many schools were confused about PSE and misunderstood what it was. Findings indicate that if school staff understand why they are being asked to implement PSE changes they may be more motivated to participate and implement programming. An ERP staff member explained that they do not use the term "PSE" with school staff because it led to confusion, but that, "I kind of ask them, 'Is there anything health-related at this school that you think we should be improving? We could do different things.'" This nutrition educator connects PSE to the school's needs. The administrator at that school, a PSE Group 1 school, acknowledged that ERP was shifting their focus on making changes to the school's health environment and said, "I think the kind of things...like selling the food after school—those type of things, I think they send a better message than just doing the lessons with kids in school." This administrator felt that improving the school's

health environment sent a better message to students. Overall, school staff at Group 1 schools were most knowledgeable about ERP focusing on changes to their school's health environment. However, there still seemed to be a lack of clear and consistent messaging around PSE.

In contrast, school staff in lower group schools (PSE Groups 2-4) either were not aware of the shift to focusing on changing a school's healthy foods environment or thought it was because the program lost funding. Some school staff were aware of the shift in programming and knew schools were being asked to implement programming, but were unclear why the shift happened. A school staff member at a Group 2 school described ERP as having "pulled back" due to a decrease in funding. Staff at a Group 4 school complained about the decrease in programming and believed it was due to a lack of funding to support direct education. An administrator at a Group 2 school was unaware of the shift and said direct education was more effective, asking, "but how do you change behavior without changing people's knowledge?" Other school staff were also unaware of the shift, and some expressed negative feelings about the decrease in direct education in order to do more PSE work. If school staff understand why they are being asked to take on what they might see as "extra" work, they may be more motivated to participate and implement programming.

School staff perceptions of how students' health and nutrition is supported at home influenced how compatible they felt ERP programming was with their schools' values, norms, and/or needs

Overall, data suggests school staff were less motivated to implement health and nutrition programming at school if they thought their efforts would not be supported at home. Many school staff pointed to the importance of involving and educating families on healthy eating, and saw their role as more limited compared to what students receive at home. One school staff member said, "we expose them to healthy things, but you know, their access is limited. What their parents provide them is what they're given... I don't know how to fix that." Similarly, a teacher said that having students taste new foods and learn about nutrition in the classroom is great, "but they can't shop for themselves and that's where it falls apart." These school staff felt ERP programming meets a need by exposing students to healthy foods, but feel that its outcomes are limited due to students' food options at home. On the other hand, an administrator praised the work ERP did with parents at their school by, "providing those parents with tools that they can use in their household," and that the school is "at a higher starting point than we would be if just the student got the lesson…" While ERP programming cannot directly change student access to healthy options at home, school staff perceive it as meeting a need by exposing students and their families to healthy foods.

School staff perceptions of student preferences influenced how compatible they felt ERP programming was with their schools' values, norms, and/or needs

School staff who thought students wanted healthier options were more motivated to implement ERP programming, while staff who thought students preferred unhealthy options were less motivated to make changes. For example, the administrators at a Group 4 school said they tried making changes to the school store by selling items like granola bars and flavored water, but students still chose the unhealthy options because "that's what they love." In contrast, a school staff

member at a Group 1 school cut up strawberries to sell to students as a fundraiser and said "they're going to buy whatever you give them. They want to spend their dollar. And so we'll try to get something healthy." At this school, staff felt that students would buy a healthy option, making a healthy fundraiser compatible with their school, and motivating them to implement healthy fundraising as a PSE change. In addition, if school staff did not think students would like a particular PSE change, making it not compatible with that school, they were less motivated to implement it. For example, school staff explained that using Activity Works[43] for movement breaks in their classrooms did not work because students "get bored with it" and it is not engaging, particularly for older grades. Therefore, school staff were less motivated to continue the Activity Works program.

Overall, school staff were less motivated to implement ERP programming if it was viewed as too complex, or difficult to implement

A third factor that influenced staff motivation to implement ERP programming is its complexity. Complexity refers to the perceived difficulty of implementing programming. If school staff perceived part of programming as too difficult or time-consuming, they were less motivated to implement it. For example, when asked whether they would deliver lessons using materials provided by ERP, a teacher said they wouldn't have time. "Before I have to talk about how healthy an apple is I have to do my homework too. Otherwise, it's the blind leading the blind..." This teacher felt that even though ERP provided materials, delivering a quality lesson on an unfamiliar topic, such as why an apple is of nutritional value, with the materials required preparation time.

Several staff members who were involved in implementing ERP programming identified challenges with complex logistics. A staff member who led a Common Market produce stand[44] at their school said they stopped the program after a few years because it was too difficult to make the orders, handle leftover foods, and promote it to parents. A staff member at another school said that they would love to have more smoothie sales but that it takes too much prep work to do it consistently. "I can't ask my lunch staff to be blending up smoothies when they're supposed to be watching and moving kids and taking people to the bathroom." These school staff members were less motivated to implement these PSE changes because they were too logistically complex to maintain.

[43] Activity Works is an online program that offers video content school staff and classroom teachers can use to implement movement breaks with their students. ERP partnered with Activity Works to offer free licenses to a select number of SDP schools.

[44] ERP partners implement produce stands at their schools to increase food access for students and families. There are several models of produce stands offered; Common Market is one model ERP supports where school staff are responsible for purchasing and selling food each month or during school events such as report card conferences.

Overall, school staff were less motivated to implement ERP programming if it was not perceived as a priority by their school

A fourth factor that influenced staff motivation to implement ERP programming is its priority within the school. Priority refers to the extent to which programming is regarded as more important than others. If school staff did not perceive health and wellness as a priority at their school, either because their administration did not actively support health and wellness efforts or because their own workloads were heavily focused on academics, they were less motivated to implement health programming. Across almost all case study schools, staff reported that, while they understood the connection between health and academics, they were under pressure to meet so many academic demands and ensure the safety of their students that taking on what they saw as "extra" work for health and wellness was not always possible.

For example, several teachers said that they weren't interested in implementing movement breaks because it would take too much instructional time. When asked whether they want to incorporate movement breaks, one teacher at a Group 4 school said, "No, because of the demand...Not being able to fit the academics in, where can we fit extra stuff?" An administrator at a Group 2 school acknowledged the importance of health and its connection to academics, but when asked about making health a priority said, "we have these restraints, like we're trying to please too many masters...something's got to give." Both quotes illustrate that school staff are not as motivated to implement ERP programming when nutrition is not a priority at their school. In both Group 4 schools (with little to no programming) and in Group 2 schools (with a medium to high level of programming) programs are mostly ERP-led and have less involvement from school staff. However, in four of the five Group 1 schools, staff overall thought health was a priority, even though schools have to meet academic demands. In one Group 1 school, a staff member said,

> "...we always put our students first. And not just academically, but just as a whole person…. Nutrition is something that they need, not just in school, but beyond, for healthy brain development, healthy physical development. I would just say [ERP] just fits in so well..."

This points to the idea that getting school staff to see health and wellness as a priority and linking it with academics is key in getting them to implement more PSE.

What factors influence school staff perceptions of their own capacity to implement ERP programming?

The third question we examined focused a school's capacity to implement ERP programming, such as PSE efforts, with quality. Every program requires a set of knowledge and skills to implement, and programs can build program-specific capacities through efforts like training and technical

support.[45] This section highlights three factors that influenced school staff capacity to implement PSE changes: 1) the knowledge, skills, and abilities specific to nutrition PSE changes, 2) administrative support, 3) Eat Right Philly staff serving as program champions.

In order to feel they have the capacity to implement ERP programming, school staff needed training and support on the knowledge, skills, and abilities specific to ERP and nutrition

The first factor influencing school staff perceptions of their capacity to implement ERP programming is whether or not they have the required knowledge, skills, and abilities. In order to have the capacity to implement a specific program, school staff need the specific knowledge, skills, and abilities related to that program. If school staff feel like they don't have the necessary knowledge, skills, or abilities, they don't perceive themselves to have adequate capacity to implement the program. Across case study schools, school staff pointed to the need for more training and support to implement specific ERP programming activities. A teacher at a Group 4 school said that they were not able to deliver nutrition education lessons themselves because they didn't feel confident in their knowledge of the material and didn't have time to learn it. A teacher at another Group 4 school explained that they had not used Activity Works to implement movement breaks in their classroom because they were not aware they had received a log-in and were not sure how the website worked. These school staff could have implemented ERP programming more effectively with more training and support related to knowledge of nutrition and technical skills.

In order to feel they have the capacity to implement ERP programming, school staff needed to feel that the program had principal support

A second factor influencing school staff perceptions of their capacity to implement ERP programming is principal support for the program. As discussed above, administrative support was also an important factor in how ERP staff made decisions about programming in schools. This section focuses on *school* staff. We found that in order to feel they have the capacity to implement a particular program or intervention, school staff need to feel that the intervention is supported by their superiors.[46] School staff across case study schools mentioned that they needed more support from school administration to implement ERP programming. When asked about implementing movement breaks in her classroom, a teacher said, "I would never want the principal or assistant superintendent walking in, and my kids are exercising." The nurse at another school wanted to increase ERP programming but said, "... if administration is not pushing for it. Or if the teachers are not saying, OK, we want it,' it's not going to work. I can only do so much with it if we don't get the push from administration." If a school staff member is personally motivated to prioritize ERP

[45] For a full list of common factors that can influence innovation-specific capacity, see Appendix E.

[46] Jonathan P. Scaccia et al., "A Practical Implementation Science Heuristic for Organizational Readiness: R= MC2," *Journal of Community Psychology* 43, no. 4 (2015): 484-501.

programming they still need administrative support to allow them the time and space to implement the programming, or they will not have the capacity.

At several schools, there was a disconnect between what principals said they support and what teachers and other school staff perceived. For example, one administrator acknowledged the challenge of competing priorities but said that they encourage teachers to have movement breaks and make sure students get adequate recess. However, a teacher at that school said movement breaks are "impossible" because of the amount of time taken up by academic demands. Another administrator said they pushed physical activity and supports for health, but other staff and teachers still saw academics as the priority and one teacher said they would never want the principal to walk by while they had students exercising. While many principals did support ERP programming and saw a clear link between students' health and academics, others did not. Overall, school staff did not feel they could support ERP goals if they did not have administrative support.

Some ERP staff increased school staff capacity to implement ERP programming by serving as program champions working to change school culture around health and wellness

A third factor influencing school staff perceptions of their capacity to implement ERP programming is having an ERP staff member serve as program champion. In the organizational readiness literature, a program champion can be anyone who puts "charismatic support behind an innovation through connections, expertise, and social influence."[47] While ERP staff frequently discussed the importance of identifying a school staff member as a "program champion," school staff often spoke about the specific qualities of ERP staff that contributed to building capacity and changing the school culture around health and wellness. For example, an administrator at a Group 1 school said, "because of [nutrition educator] and who she is and her personality, she's been able to get people on board with that, and that's a wonderful thing. I think the work is the culture and changing the mindset." A staff member at a different Group 1 school said the most important aspect of ERP programming was the nutrition educator's ability to build relationships and described her as "a very loving, caring person...I see her in the hallways with the kids. She's an asset to the building." Staff at Group 1 schools described being able to approach their nutrition educators with ideas and were confident they would receive support when implementing programming components.

In contrast, school staff and administration at Group 3 and 4 schools often commented on the lack of a relationship with their ERP staff. Staff at one Group 4 school said they did not even know who their nutrition educator was even though they visited the building several times to drop off materials. Staff at another Group 4 school described their nutrition educator as "abrasive" and said

[47] Jonathan P. Scaccia et al., "A Practical Implementation Science Heuristic for Organizational Readiness: R= MC2," Journal of Community Psychology 43, no. 4 (2015): 484-501.

they "had difficulty" with certain student age groups. Staff at these schools might not have felt as supported by ERP staff to implement programming or bring up new ideas.

What strategies do ERP partners use to increase school staff motivation and capacity?

While external programs, such as ERP, have little to no influence on a school's general capacity to implement *any* new program (e.g., school climate, culture, leadership), they can address school staff motivation and capacity to implement ERP programming (e.g., specific knowledge, skills, and abilities) in order to increase readiness to implement the program. This section reviews four key strategies that ERP partners and staff used in the 19 case study schools to increase school staff motivation and capacity to implement ERP programming: 1) building relationships with school staff and principals, 2) building off of intrinsic motivators identified by school staff, 3) providing training, technical assistance, and ongoing support for specific interventions, and 4) helping school staff understand the "why" behind PSE work.

ERP increases school staff motivation and capacity by building relationships

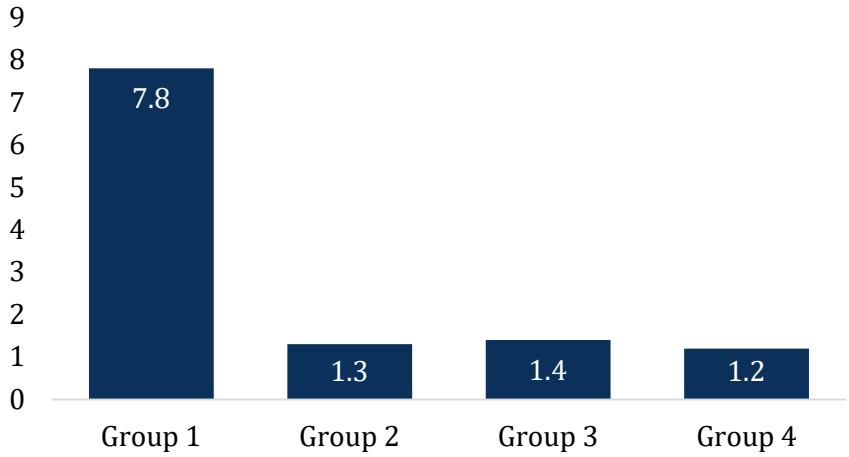
One strategy that ERP uses to increase school staff motivation and capacity is building relationships at the school. First, findings indicate that the quality of the relationships often depended on the number of years a nutrition educator has been at a school. We looked at how long nutrition educators had been at their schools by PSE Group and our findings confirm that the longer a nutrition educator has been at a school the higher the level of programming and support/buy-in from school staff. Second, case study data shows that ERP staff's ability to build relationships was facilitated by consistent and visible ERP programming.

One determining factor in ERP staff's ability to build relationships was how long they had worked at a school

According to ERP and school staff, having a consistent nutrition educator at a school helped build relationships and buy-in. An ERP staff member explained that schools with limited staff involvement were "more apt to be the schools that have turnover from our staff." Nutrition educators who had been at schools for longer were better able to build relationships. On average, during the 2018-19 school year, nutrition educators at Group 1 schools had been at the school for almost eight years, with a range of three years to 18 years (Figure 4).[48] In contrast, nutrition educators at Group 2, 3, and 4 schools had been at their school on average for less than two years.

[48] Even when the outlier of 18 years is removed in group 1, the average is still higher than other tiers at 5.25 years.

Figure 4. Average number of years ERP nutrition educator has worked with the school



Source: 2018-19 case study project data
How to Read this Figure: This figure shows the average number of years ERP Nutrition Educators had worked Group 1, Group 2, Group 3, and Group 4 Case Study schools.

An ERP staff member described her efforts at a Group 1 school and said, "being there and learning the people is really why I feel like I'm so successful here." A teacher at another Group 1 school said the nutrition educator "knows the kids, knows all their names too." An administrator at a third Group 1 school described the nutrition educator as "part of the family." Group 1 schools, schools with a high level of programming and support/buy-in from staff and administration, may benefit from the relationships their ERP nutrition educators were able to build at their school over time. In contrast, the educator at a Group 3 school said that her program just "picked up" the school in the middle of the previous year and that it's been "hard to get to know people" since they are only at the school a few times a year. Group 3 schools have a medium to low level of programming with little to no school staff involvement. At a Group 4 school the nutrition educator said "we're still figuring it out – what we were doing, and we changed the program a lot from last year, sort of thing. So, it's definitely been a growing relationship…."Group 4 schools have little to no programming, and ERP is not trying to increase activities due to a lack of capacity, ERP staff turnover, or other higher-level programming decision. Across the 19 case study schools, we found that the longer an educator is at a school, the more they can build relationships and buy-in for ERP programming.

ERP staff's ability to build relationships was facilitated by consistent and visible ERP programming

School staff at Group 1 schools described ERP programming as consistent and highly visible. A teacher at a Group 1 school said "I see [ERP] here multiple days a week, so I know that they're pretty involved." The nutrition educator at that school mentioned that they tried to connect ERP's work with other programming, for example attending backpack program distribution days, "just so the kids can put a connection to all this." This ERP nutrition educator made themselves visible during backpack program distribution, a PSE change, to make the connection between ERP and the PSE change. Several staff at another Group 1 school commented that the educator made an effort to be available during school events, and even when they were unable to attend they were "always

willing and able to reach out to peers and say 'Hey, I cannot go, but I will send so and so, and I'll get back to you.' It's always the willingness to try to make it work somehow." Nutrition Educator's efforts to be consistent and visible facilitated their relationships with school staff.

School staff at lower PSE Group schools commonly talked about a decrease in the level of programming and the amount they see their nutrition educator compared to previous years. School staff at a Group 3 school described scheduling as "scattered" and said that programming decreased since least year so they didn't see the educator as often. The administrator at a Group 4 school with a new educator said they didn't remember the nutrition educator's name because "it's that infrequent," while two teachers at that school were only able to name the educator from the prior year who came to do regular classroom lessons. A teacher at another Group 4 school expressed interest in making time during class to do their own nutrition lessons, but said, "I'm not going to do that unless it becomes more consistent...Like I'm doing too much at once and they need some other source other than reading." This teacher felt that they would not prioritize teaching ERP lessons during their instructional time, which involved students reading about nutrition concepts, if the nutrition educator did not consistently come themselves to the classroom to provide lessons.

ERP increases school staff motivation and capacity by identifying and building off of specific needs school staff saw at their school related to health and wellness

The second successful strategy ERP staff used to increase motivation was to identify specific needs school staff saw at their school related to health and wellness and build their program based on what school staff identified as important. In Group 1 schools, where school staff had a higher level of buy-in and implemented program components, school staff identified specific needs they saw at their school related to health and wellness, which ERP was then able to use as motivation to involve more school staff in their activities. For example, the nurse and food service manager at a Group 1 school teamed up to address low breakfast participation rates, and with the help of the ERP nutrition educator implemented a breakfast cart at their school. Several staff members at another Group 1 school commented on the issue of limited food access in the neighborhood, and worked with ERP to introduce a backpack program and produce distribution. At another Group 1 school, the issue of food access was written into their original school plan, and school staff partnered with ERP to implement Common Market produce stands. By tapping into the key issues identified as important by school staff, ERP was able to motivate staff and integrate them into PSE activities.

In contrast, school staff in lower tier schools weren't always able to identify needs on their own, or didn't feel that their needs could be addressed by ERP. At two Group 2 schools, which have less school staff involvement in ERP programming than Group 1 schools, ERP worked with school wellness teams to complete the School Health Index[49] and identify needs and focus areas. However,

[49] The School Health Index (SHI) is a self-assessment and planning tool developed by the Centers for Disease Control (CDC) to help schools meet CDC recommendations for various health and wellness-related topics.

the agreed upon activities weren't always clear to participating school staff and were sometimes driven by ERP. For example, a staff member on the school wellness team at a Group 2 school said he wasn't sure how the focus areas were decided on and said that they were "more driven by [ERP's] questions." Each of the three wellness team members interviewed at that school answered differently when asked about the focus areas that came out of team meetings. The nutrition educator at another Group 2 school said the school wellness team wanted to work on physical activity and movement in the classroom, while two staff members involved in the wellness team felt the most important thing was limiting unhealthy rewards and fundraisers. In these schools there was a disconnect between the needs ERP staff and school staff identified as important.

ERP increases school staff motivation and capacity by providing training, technical assistance, and ongoing support for specific innovations

The third strategy ERP used to increase school readiness was to provide necessary training, technical assistance, and ongoing support for specific PSE changes and program components in order to build knowledge and skills specific to ERP programming

Providing training and technical assistance helped build the knowledge and skills needed for classroom teachers to provide nutrition education

In several case study schools, ERP asked classroom teachers to deliver part or all of a direct education curriculum and had varying levels of success. Classroom teachers who had more success benefitted from more training and assistance from ERP. For example, two classroom teachers who delivered nutrition lessons consistently every week said that all the materials were listed on the ERP partner's website, and they were provided with a lesson plan each week along with food for a tasting. They acknowledged the challenge of having to meet academic demands, but they worked with their nutrition educator in the beginning of the year to decide on a timeline for delivering the lessons each week. One teacher said, "they've [ERP nutrition educator] always been very helpful whenever we've had any questions, and it's been pretty consistent…" The nutrition educator also said the teachers email her with questions throughout the week, and explained that they provided a PD at the beginning of the year to take teachers through the website and resources. Providing lesson plans and timelines, a clear avenue for questions, and providing up front training helped classroom teachers acquire the knowledge and skills needed to teach nutrition lessons.

In contrast, at two Group 4 schools, ERP staff dropped off materials for teachers to use for nutrition education lessons in their classrooms. A teacher at one school said they had not used the materials because first they would have to "do [their] homework" and it would be "the blind leading the blind" if they were to try to deliver lessons on their own. A teacher at the other school said they delivered the lessons, "but it does cut into instructional time, and it does take a few minutes of planning. But, I know other teachers who just passed out the food, and that was it. It's lost its purpose." Without extra training and assistance teachers were not able to build the knowledge and skills needed to consistently implement the nutrition lessons.

Providing ongoing support for logistics and planning helped school staff implement PSE changes

ERP staff at Group 1 schools also worked to coordinate the logistics of activities and supported school staff in implementing innovations. For example, the nutrition educator at a Group 1 school purchased and delivered fresh fruit directly to a teacher who implemented an after-school fruit market with her class, and also provided recipes and materials to another teacher who led an after school cooking club. The educator at another Group 1 school described a healthy celebration they wanted school staff to take over, and after making healthy pizzas said that school staff decided "the hot stuff wasn't for them" so they worked on a simpler option of fruit cups with whipped cream. These nutrition educators took care of logistical issues for school staff, such as running errands during school hours and problem solving, enabling school staff to implement PSE changes.

At lower tier schools, school staff often commented that they would benefit from more support or direction on certain activities, even after receiving initial training or information. A teacher at a Group 2 school who helps operate a tower garden provided by ERP said they wished the nutrition educator would come more often to help with harvests since they had some challenges and they were too busy to figure it out on their own. Several school staff members expressed interest in initiatives like healthy fundraisers but struggled with how to implement it with limited staff time. These school staff were not able to implement PSE changes due to logistical issues.

Conclusion/Recommendations

Overall, our findings show that when considering a school's "readiness," ERP partners mainly focused on the school's general capacity to implement any new program (for example, student behavior and school leadership), which we do not find to be as important to ERP's ability to implement programming as the other two components of readiness – school staff motivation and the capacity to implement ERP specifically. We recommend that ERP partners concentrate their efforts on cultivating capacity, motivation, and relationships at schools, allowing the *partnership* to develop readiness over time. In other words, developing key relationships seemed more important than the school's existing capacity.

Our findings also show that one of the most important factors in a school's readiness to implement ERP programming was the length of time an ERP nutrition educator had been with the school, which led to a strengthening of relationships with school staff and administration. By balancing school capacity with factors that are more in ERP's control - for example, building relationships, increasing motivation, and providing training and support for school staff - ERP could make more effective decisions on how to implement their program and ensure schools receive equitable access to health and wellness initiatives.

The recommendations listed below should be considered when trying to build school readiness to implement program components. We also present these recommendations as they relate to the

three components of readiness (general capacity, motivation, and innovation-specific capacity) and related findings (Table 2):

- Consider a school's general capacity (i.e., the ability to implement *any programming*) when making decisions, but recognize this is only one factor in school readiness.
    - While problems with student behavior might make some classroom-based program components more difficult, school staff could be ready and willing to implement other PSE changes that encourage healthy eating and physical activity.
- Make it as easy as possible for school staff to implement programming components.
    - School staff often cited the time it would take to learn something new as a barrier to delivering nutrition lessons, implementing classroom movement breaks, and providing healthier options for fundraisers and celebrations. By providing school staff with all possible resources and supports up front, they may be more motivated to implement the initiative.
- Touch base with as many people as possible at a school to build relationships and identify key motivators.
    - Findings from our case studies showed that school staff were more motivated to implement programming when they connected it to a particular need at their school (e.g., increasing breakfast participation or food access. Therefore, we recommend connecting with multiple school staff members and having continuous conversations to gather information on what they see as the most important needs or program components at their school.
- Create systems to follow up with teachers and staff to identify and alleviate any barriers to implementation.
    - While providing training and support up front is helpful in building the capacity of school staff, there are sometimes further barriers to implementation that occur after training is complete. Allow for enough time for ERP staff to check in with people at the school who are implementing parts of the program (e.g., delivering nutrition lessons or implementing movement breaks) to ensure things are going as expected.
- Provide trainings and professional development opportunities for ERP educators to become "Program Champions" at their schools.
    - Staff at Group 1 schools often cited their relationships with their ERP nutrition educators as a major factor in how motivated they were to implement programming, and one administrator even said, "Any program that you run in this school, the relationship is really contingent upon the people who are representing the program..." Nutrition educators at Group 1 schools were more likely to approach multiple school staff members about health needs and programming possibilities, used their skills to get school staff and participants excited about nutrition and physical activity, and were better able to explain the reasoning behind PSE work. Development opportunities could include giving new or inexperienced staff time to "shadow" a long-term nutrition educator or continuing to host cross-partner meetings to share ideas and best practices.

- Develop a consistent "elevator pitch" for explaining the shift to PSE and the reason ERP is asking school staff to have a more active role.
    - The concept of PSE was often misunderstood by school staff, and the ways of explaining the reasoning behind the shift to PSE varied across nutrition educators. If school staff understand why they are being asked to take on what they might see as "extra" work, they may be more motivated to participate and implement programming. Ensuring all nutrition educators approach those conversations in a standardized way could help broaden that understanding across schools.
- Develop systems of sharing successes at other schools so school staff can see what works.
    - School staff at our 19 case study schools indicated that they were less motivated to implement programming if they thought it wouldn't work with their students. For example, teachers were often hesitant to implement movement breaks if they thought their students wouldn't be able to calm down afterwards, and school staff were less likely to change items served during fundraisers and celebrations if they believed students did not like healthier options. Several school staff members asked how other schools successfully implemented certain programming components. By sharing success stories and/or connecting staff from different schools to compare methods, school staff could see that certain activities might work with their students and be more willing to implement programming in their own schools

Table 2. Summary of components of readiness, findings, and related recommendations for trying to build school readiness to implement ERP programming

Component of Readiness[50]	Finding	Recommendation for trying to build school readiness to implement ERP programming
General Organizational Capacity (the school's general capacity to implement *any new programming*)	• While climate, leadership, staff capacity, and the presence of a partnerships coordinator might have some influence in a school's ability to implement programming, none of these are determining factors in a school's general capacity to implement *any new programming* that shows whether a school is ready to implement PSE.	• Consider the ability of a school to implement *any new programming* when making decisions, but recognize this is only one factor in readiness and does not necessarily represent a barrier.
	• ERP programming can be successful in schools regardless of how challenging student behavior is perceived to be.	• While problems with student behavior might make some classroom-based program components difficult, school staff could be ready and willing to implement other PSE changes that encourage healthy eating and physical activity.
Motivation	• School staff indicated that they were less motivated to implement programming if they thought it would not work with their students. For example, school staff were less likely to change items served during fundraisers and celebrations if they believed students did not like healthier options.	• Develop systems of sharing successes so that staff can see what works at other schools. School staff members asked how other schools successfully implemented specific programming. By connecting staff from different schools, they could see that certain activities might work in their setting and be more willing to adopt programming.

[50] For a full explanation of components of readiness, see the "Analytic Framework" section of this report on page 10.

Component of Readiness[50]	Finding	Recommendation for trying to build school readiness to implement ERP programming
	• School staff were more motivated to implement programming when they connected it to a particular need at their school (e.g., increasing breakfast participation or food access)	• Touch base with as many people as possible at a school to build relationships and identify key motivators. • Have ongoing conversations with school staff to assess what they see as the most important needs or program components.
	• The concept of PSE changes was often misunderstood by school staff, and ways of explaining it varied across nutrition educators. Understanding why they are being asked to take on what they might see as "extra" work, may motivate school staff to implement programming.	• Develop a consistent "elevator pitch" for explaining the shift to PSE and the reason ERP is asking school staff to have a more active role. Ensuring all nutrition educators approach those conversations in a standardized way could help broaden that understanding across schools.
	• Overall, school staff were less motivated to implement ERP programming if it was viewed as too difficult. School staff often cited the time as a barrier.	• Make it as easy as possible for school staff to implement programming. Provide school staff with all possible resources and supports up front, to increase motivation.
	• Staff at schools often cited relationships with nutrition educators as a major factor in how motivated they were to implement programming. Nutrition educators at Group 1 schools were more likely to approach multiple school staff about health needs and programming possibilities, used their skills to get school staff and participants excited about health, and were better able to explain the reasoning behind PSE changes.	• Provide trainings and professional development opportunities for ERP educators to become "Program Champions" at their schools. • Give new or inexperienced staff time to "shadow" a long-term nutrition educator during a typical school visit

Component of Readiness[50]	Finding	Recommendation for trying to build school readiness to implement ERP programming
Innovation-Specific Capacity (the school's capacity to implement *ERP programming* specifically)	• While providing training and support up front is helpful in building the capacity of school staff, there are sometimes further barriers to implementation that occur after training is complete.	• Create systems to follow up with teachers and staff to identify and alleviate any barriers to implementation. • Allow time for ERP to check in with people at the school who are implementing parts of the program (e.g., delivering nutrition lessons or implementing movement breaks) to ensure things are going as expected.

Appendix A

This appendix, Appendix A on Implementation Science, can be found in all four reports in this series on SNAP-Ed funded school-community partnerships.

Implementation Science

As a field of research, implementation science promotes the adoption and uptake of evidence-based practices. Rather than focus on traditional outcomes of interventions or practices, implementation science tries to figure out why an evidence-based intervention is not being implemented (i.e., the barriers and facilitators of implementation).

Implementation outcomes, the effects of purposeful actions to implement new programming,[51] are useful in evaluations that need to account for the influence of contextual factors when implementing change: "Examining implementation outcomes (e.g., extent to which an intervention is adopted by teachers) provides context for intervention outcomes (e.g., change in children's BMI) and is needed to ensure that interventions are effectively adopted, translated, and sustained in community settings."[52] Implementation outcomes are based in the larger field of implementation science, focused on the uptake of evidence-based practices in real-world settings.[53]

With its roots in health-care and public health, implementation outcomes are used increasingly in research on health and nutrition interventions in K12 schools. Implementation Science has been applied in public health and educational research studies on nutrition lessons and related activities[54] as well as PSE changes, such as school food policies[55] and food backpack programs.[56] Prior research has highlighted factors in implementation outcomes, such as the presence of supportive school staff that can serve as "champions" for the intervention.[57, 58] Prior research has

[51]Proctor et al., "Outcomes for Implementation Research: Conceptual Distinctions, Measurement Challenges, and Research Agenda," *Administration and Policy in Mental Health and Mental Health Services Research* 38, no. 2 (2011): 65-76.
[52] Rachel E. Blaine et al., "Using School Staff Members to Implement a Childhood Obesity Prevention Intervention in Low-Income School Districts: The Massachusetts Childhood Obesity Research Demonstration (MA-CORD Project), 2012-2014," *Preventing Chronic Disease* 14, no. 3 (2017): 2.
[53] Martin P. Eccles and Brian S. Mittman, "Welcome to *Implementation Science," Implementation Science* 1, no. 1 (2006): 1-3.
[54] Rachel E. Blaine et al., "Using School Staff Members to Implement a Childhood Obesity Prevention Intervention in Low-Income School Districts: The Massachusetts Childhood Obesity Research Demonstration (MA-CORD Project), 2012-2014," *Preventing Chronic Disease* 14, no. 3 (2017): 1-14.
[55] Claudia-Santi F. Fernandes et al., "Educator Perspectives: Selected Barriers to Implementation of School-Level Nutrition Policies," *Journal of Nutrition Education and Behavior* 51, no. 7 (2019): 843-849.
[56] Russell E. Glasgow, Thomas M. Vogt, and Sean M. Boles, "Evaluating the Public Health Impact of Health Interventions: The RE-AIM Framework," *American Journal of Public Health* 89, no. 9 (1999): 1322-1327.
[57] Rachel E. Blaine et al., "Using School Staff Members to Implement a Childhood Obesity Prevention Intervention in Low-Income School Districts: The Massachusetts Childhood Obesity Research Demonstration (MA-CORD Project), 2012-2014," *Preventing Chronic Disease* 14, no. 3 (2017): 1-14.
[58] Carmen Byker Shanks and Samantha Harden, "A Reach, Effectiveness, Adoption, Implementation, Maintenance Evaluation of Weekend Backpack Food Assistance Programs," American Journal of Health Promotion 30, no. 7 (2016): 511-520.

also examined the ways in which implementation outcomes interact, such as higher penetration leading to long-term sustainability.[59]

There are eight conceptually distinct implementation outcomes: acceptability, adoption, appropriateness, feasibility, fidelity, implementation cost, penetration, and sustainability.[60] These outcome categories provide useful short- and medium-term indicators for the successful implementation of ERP programming, which in turn can provide context for evaluations of the effectiveness of the intervention itself. Each of the outcomes is described below.

Acceptability

Acceptability is the perception among stakeholders that an intervention is agreeable, palatable, or satisfactory. Acceptability refers to specific aspects of an intervention, while satisfaction references a general experience. Acceptability is dynamic and should be assessed based on stakeholder knowledge of, or experience with, various dimensions of an intervention, such as its content or complexity.[61] Factors found to influence acceptability include pre-existing wellness activities, parental involvement, strong principal support, and sensitivity to the community.[62, 63]Moreover, acceptability is impacted by changing administrative priorities (e.g., towards standardized testing) that compete with health and nutrition initiatives.[64] As an outcome, acceptability can occur throughout implementation. It needs to occur early for intervention adoption, must be ongoing to facilitate penetration, and must occur late into implementation to allow for sustainability.[65]

Adoption

Adoption refers to the intention, initial decision, or action to try an intervention at the beginning to middle stages of implementation.[66]Supportive school staff that are invested in the intervention, often called "champions," can facilitate adoption by coordinating logistics and garnering school

[59]Enola Proctor et al., "Outcomes for Implementation Research: Conceptual Distinctions, Measurement Challenges, and Research Agenda," *Administration and Policy in Mental Health and Mental Health Services Research* 38, no. 2 (2011): 65-76.

[60]Enola Proctor et al., "Outcomes for Implementation Research: Conceptual Distinctions, Measurement Challenges, and Research Agenda," *Administration and Policy in Mental Health and Mental Health Services Research* 38, no. 2 (2011): 65-76.

[61]Enola Proctor et al., "Outcomes for Implementation Research: Conceptual Distinctions, Measurement Challenges, and Research Agenda," *Administration and Policy in Mental Health and Mental Health Services Research* 38, no. 2 (2011): 65-76.

[62] Rachel E. Blaine et al., "Using School Staff Members to Implement a Childhood Obesity Prevention Intervention in Low-Income School Districts: The Massachusetts Childhood Obesity Research Demonstration (MA-CORD Project), 2012-2014," *Preventing Chronic Disease* 14, no. 3 (2017): 1-14.

[63] Claudia-Santi F. Fernandes et al., "Educator Perspectives: Selected Barriers to Implementation of School-Level Nutrition Policies," *Journal of Nutrition Education and Behavior* 51, no. 7 (2019): 843-849.

[64] Rachel E. Blaine et al., "Using School Staff Members to Implement a Childhood Obesity Prevention Intervention in Low-Income School Districts: The Massachusetts Childhood Obesity Research Demonstration (MA-CORD Project), 2012-2014," *Preventing Chronic Disease* 14, no. 3 (2017): 1-14.

[65]Enola Proctor et al., "Outcomes for Implementation Research: Conceptual Distinctions, Measurement Challenges, and Research Agenda," *Administration and Policy in Mental Health and Mental Health Services Research* 38, no. 2 (2011): 65-76.

[66]Enola Proctor et al., "Outcomes for Implementation Research: Conceptual Distinctions, Measurement Challenges, and Research Agenda," *Administration and Policy in Mental Health and Mental Health Services Research* 38, no. 2 (2011): 65-76.

support. The presence of a champion is a critical factor in adoption.[67]It is important to assess adoption readiness at both leadership and staff levels.[68]

Appropriateness

Appropriateness is the perceived fit, relevance, or compatibility of an intervention for a given setting, provider, or consumer and/or the perceived fit of the intervention to address a particular issue or problem. It is salient in early implementation, prior to adoption.[69] Appropriateness is important for understanding pushback to implementation, such as when stakeholders feel an intervention doesn't fit with the mission of a setting or is inconsistent with their role. As an example, research has found educators to be less motivated to implement school food policies intended to encourage healthy eating behaviors because they found the policies incompatible with the culture of the students and families in their school.[70]

Feasibility

Feasibility is the extent to which a new intervention can be successfully used or carried out within a given setting. This outcome is salient early in implementation, during adoption, because an intervention may be appropriate for a setting but not feasible due to a lack of resources.[71] Quality training, competing priorities, and burnout are factors that can impact feasibility. As with acceptability, competing priorities have been found to impact feasibility.[72]

Fidelity

Fidelity is the degree to which an intervention was implemented as intended and is apparent during the early to middle stages of implementation.[73] SNAP-Ed evaluation materials refer to fidelity as the extent to which the nutrition education program is being implemented as designed.[74] It involves adherence to protocol, the amount of program delivered, and the quality of delivery. It is

---

[67] Carmen Byker Shanks and Samantha Harden, "A Reach, Effectiveness, Adoption, Implementation, Maintenance Evaluation of Weekend Backpack Food Assistance Programs," *American Journal of Health Promotion* 30, no. 7 (2016): 511-520.

[68] Rachel E. Blaine et al., "Using School Staff Members to Implement a Childhood Obesity Prevention Intervention in Low-Income School Districts: The Massachusetts Childhood Obesity Research Demonstration (MA-CORD Project), 2012-2014," *Preventing Chronic Disease* 14, no. 3 (2017): 1-14.

[69]Enola Proctor et al., "Outcomes for Implementation Research: Conceptual Distinctions, Measurement Challenges, and Research Agenda," *Administration and Policy in Mental Health and Mental Health Services Research* 38, no. 2 (2011): 65-76.

[70] Claudia-Santi F. Fernandes et al., "Educator Perspectives: Selected Barriers to Implementation of School-Level Nutrition Policies," *Journal of Nutrition Education and Behavior* 51, no. 7 (2019): 843-849.

[71]Enola Proctor et al., "Outcomes for Implementation Research: Conceptual Distinctions, Measurement Challenges, and Research Agenda," *Administration and Policy in Mental Health and Mental Health Services Research* 38, no. 2 (2011): 65-76.

[72] Rachel E. Blaine et al., "Using School Staff Members to Implement a Childhood Obesity Prevention Intervention in Low-Income School Districts: The Massachusetts Childhood Obesity Research Demonstration (MA-CORD Project), 2012-2014," *Preventing Chronic Disease* 14, no. 3 (2017): 1-14.

[73]Enola Proctor et al., "Outcomes for Implementation Research: Conceptual Distinctions, Measurement Challenges, and Research Agenda," *Administration and Policy in Mental Health and Mental Health Services Research* 38, no. 2 (2011): 65-76.

[74] Altarum Institute and RTI International for the U.S .Department of Agriculture, *Addressing the Challenges of Conducting Effective Supplemental Nutrition Assistance Program Education (SNAP-Ed) Evaluations: A Step-by-Step Guide*. Sheryl Cates, et al. 2014. http://www.fns.usda.gov/research-and-analysis

measured through self-reporting and observations.[75] Fidelity is impacted by administrative changes and turnover.[76]

Implementation Cost

The cost of an implementation effort varies according to (1) treatment complexity, (2) implementation strategy complexity, and (3) setting. Cost-effectiveness is salient throughout implementation: early for adoption and feasibility, middle for penetration, and late for sustainability.[77]

Penetration

Penetration is the integration of a practice within a setting during the middle to late stages of implementation, and is necessary for an intervention to be successful in terms of reach.[78] Reach is defined as the percentage and risk characteristics of persons who receive or are affected by a policy or program.[79] SNAP-Ed evaluation materials refer to reach as helping to quantify the proportion of the target population participating in a program.[80] Penetration is often measured quantitatively as the number of providers who deliver the intervention out of the total number of providers expected to deliver the intervention. Higher penetration may lead to greater long-term sustainability.[81]

Sustainability

Sustainability is the extent to which an intervention is maintained or institutionalized within a setting's ongoing operations. It is marked in the late stages of implementation by (1) a transition from temporary to permanent funding, (2) repetitive reinforcement of the intervention through inclusion in organizational or community procedures and behaviors, and/or (3) integration into all

[75]Enola Proctor et al., "Outcomes for Implementation Research: Conceptual Distinctions, Measurement Challenges, and Research Agenda," *Administration and Policy in Mental Health and Mental Health Services Research* 38, no. 2 (2011): 65-76.
[76] Rachel E. Blaine et al., "Using School Staff Members to Implement a Childhood Obesity Prevention Intervention in Low-Income School Districts: The Massachusetts Childhood Obesity Research Demonstration (MA-CORD Project), 2012-2014," *Preventing Chronic Disease* 14, no. 3 (2017): 1-14.
[77]Enola Proctor et al., "Outcomes for Implementation Research: Conceptual Distinctions, Measurement Challenges, and Research Agenda," *Administration and Policy in Mental Health and Mental Health Services Research* 38, no. 2 (2011): 65-76.
[78]Enola Proctor et al., "Outcomes for Implementation Research: Conceptual Distinctions, Measurement Challenges, and Research Agenda," *Administration and Policy in Mental Health and Mental Health Services Research* 38, no. 2 (2011): 65-76.
[79]Russell E. Glasgow, Thomas M. Vogt, and Sean M. Boles, "Evaluating the Public Health Impact of Health Promotion Interventions: The RE-AIM Framework," *American Journal of Public Health* 89, no. 9 (1999): 1322-1327.
[80] Altarum Institute and RTI International for the U.S .Department of Agriculture, *Addressing the Challenges of Conducting Effective Supplemental Nutrition Assistance Program Education (SNAP-Ed) Evaluations: A Step-by-Step Guide*. Sheryl Cates, et al. 2014. http://www.fns.usda.gov/research-and-analysis
[81]Enola Proctor et al., "Outcomes for Implementation Research: Conceptual Distinctions, Measurement Challenges, and Research Agenda," *Administration and Policy in Mental Health and Mental Health Services Research* 38, no. 2 (2011): 65-76.

subsystems of an organization.[82] Barriers to long term sustainability include staff turnover, lack of leadership from principals, and lack of a champion.[83]

Implementation Science served as a particularly useful framework for this project for three reasons. First, this study takes place in a district where schools take on a variety of educational models and serve a diverse population of students. Implementation outcomes are useful in evaluations that need to account for the variation in school and community contexts: "Examining implementation outcomes (e.g., extent to which an intervention is adopted by teachers) provides context for intervention outcomes (e.g., change in children's BMI) and is needed to ensure that interventions are effectively adopted, translated, and sustained in community settings."[84] Second, this project employs qualitative case study methods, which are used in conjunction with Implementation Science: "qualitative data, reflecting language used by various stakeholders as they think and talk about implementation processes, is important for validating implementation outcome constructs."[85] Across the literature, qualitative methods often include semi-structured interviews to capture the language used by various stakeholders, which can aid in validating implementation outcome constructs.[86] Finally, SNAP-Ed guidance suggests that formative research, process studies, and outcome assessments are useful for evaluating different phases of health and nutrition programming and can inform the ongoing improvement of health and nutrition programming. Formative research develops the implementation of intervention programs and process studies measure the implementation of intervention programs, while outcome assessments examine the extent to which an intervention program achieves its goals.[87] Outcome assessments of an intervention will not show positive outcomes if the intervention was not implemented well.

[82]Enola Proctor et al., "Outcomes for Implementation Research: Conceptual Distinctions, Measurement Challenges, and Research Agenda," *Administration and Policy in Mental Health and Mental Health Services Research* 38, no. 2 (2011): 65-76.
[83] Rachel E. Blaine et al., "Using School Staff Members to Implement a Childhood Obesity Prevention Intervention in Low-Income School Districts: The Massachusetts Childhood Obesity Research Demonstration (MA-CORD Project), 2012-2014," *Preventing Chronic Disease* 14, no. 3 (2017): 1-14.
[84] Rachel E. Blaine et al., "Using School Staff Members to Implement a Childhood Obesity Prevention Intervention in Low-Income School Districts: The Massachusetts Childhood Obesity Research Demonstration (MA-CORD Project), 2012-2014," *Preventing Chronic Disease* 14, no. 3 (2017): 2.
[85]Enola Proctor et al., "Outcomes for Implementation Research: Conceptual Distinctions, Measurement Challenges, and Research Agenda," *Administration and Policy in Mental Health and Mental Health Services Research* 38, no. 2 (2011): 71.
[86]Enola Proctor et al., "Outcomes for Implementation Research: Conceptual Distinctions, Measurement Challenges, and Research Agenda," *Administration and Policy in Mental Health and Mental Health Services Research* 38, no. 2 (2011): 65-76.
[87]Altarum Institute and RTI International for the U.S .Department of Agriculture, *Addressing the Challenges of Conducting Effective Supplemental Nutrition Assistance Program Education (SNAP-Ed) Evaluations: A Step-by-Step Guide*. Sheryl Cates, et al. 2014. http://www.fns.usda.gov/research-and-analysis

Appendix B

This appendix, Appendix B on Collective Impact, can be found in all four reports in this series on SNAP-Ed funded school-community partnerships.

Collective Impact

Collective impact addresses complex problems where the answer is not known and no single entity holds the resources or authority to drive the required change.[88] The concept of collective impact stems from the idea that "large-scale social change comes from better cross-sector coordination rather than from the isolated intervention of individual organizations."[89] There are five conditions of collective impact:[90]

(1) A common agenda that includes a shared vision for change, a shared understanding of the problem and goal, and a joint approach for problem solving.
(2) Shared measurements that involve measuring results based on the same criteria. This facilitates identifying patterns and coming to solutions.
(3) Mutually reinforcing participant activities that are different from, but supportive of and coordinated with, the actions of other participants. In other words, each participant plays a different role based on what they are capable of and where they excel.
(4) Continuous and frequent communication that serves to develop trust among differing organizations and build common vocabulary.
(5) Backbone support organizations that manage the collaboration of participating organizations; for example, handling logistical and administrative details.

The literature on collective impact has helped shape our understanding of the long-term vision of the overall Case Studies project, particularly how shared measurements can be defined and used,[91] as well as common challenges to achieving collective impact among partnership organizations. This literature has also informed how we designed the study, our interview and observation protocols, and our analysis.

[88] John Kania and Mark Kramer, "Collective Impact," *Stanford Social Innovation Review* Winter (2011): 36-41.
[89] John Kania and Mark Kramer, "Collective Impact," *Stanford Social Innovation Review* Winter (2011): 38.
[90] John Kania and Mark Kramer, "Collective Impact," *Stanford Social Innovation Review* Winter (2011): 36-41.
[91] For more information on how shared measurements can be defined and used related to the Eat Right Philly program see report four of this series of four reports, "Measuring Implementation for Collective Impact," located at www.philasd.org/research.

Appendix C

This appendix, Appendix C on the methods and data used in the ERP 2018-19 case study project, can be found in all four reports in this series on SNAP-Ed funded school-community partnerships.

Methods and Data

The ERP community partners seek to understand how to leverage programming and resources to better achieve SNAP-Ed goals given the factors that hinder or facilitate implementation. Case studies are especially useful for this purpose when it is impossible to separate variables from the context and understanding multiple perspectives is required.[92, 93] Case studies are also helpful to understand and explore "the process and dynamics of change."[94]

The aim of case study research is "particularization," not generalization.[95] Thus, randomized sampling is not desirable for this research method; rather, the aim should be to examine a "strategic selection of cases."[96] Instead of examining the "typical case," we should look for "critical cases" that are rich in detail.[97] To that end, we created a tiering system to categorize all partners' schools into three tiers, quantifying the available qualitative data on nutrition lessons and other programming in each school. We then chose one "critical case" for each tier for each partner, for a total of 19 schools.

We created an initial tiering system to ensure that the schools where we conducted research had varying levels of programming. Tier 1 schools were schools with an intensive ERP presence, including in-class nutrition lessons as well as additional programming such as produce stands, lessons offered to parents/caregivers, backpack programs, health fairs, after-school cooking clubs, and school breakfast promotions. Tier 2 schools had less intensive programming, and Tier 3 schools had the most limited ERP presence. Schools were selected based on their tier level to ensure the inclusion of one school per tier and per partner. Our study schools had a variety of other characteristics, including grades served, enrollment, geography, and demographics.

We collected qualitative data from a variety of stakeholders at the 19 schools in our sample during the 2018-19 school year. First, we conducted semi-structured interviews with three to seven key staff per site (e.g., classroom teachers, principals, cafeteria staff, nurses, and health and PE teachers) and ERP program staff, for a total of 119 interviews. Additionally, a total of 41 fourth-grade and fifth-grade students participated in seven focus groups in Tier 1 schools. We also observed 138

---

[92] Robert K. Yin, Case Study Research: Design and Methods, 4th ed. (Thousand Oaks: Sage Publications, 2008).
[93] Helen Simons, Case Study Research in Practice (London: Sage Publications, 2009).
[94] Helen Simons, Case Study Research in Practice (London: Sage Publications, 2009). 23.
[95] Sharan Merriam, Qualitative Research: A Guide to Design and Implementation (San Francisco: Jossey-Bass, 2009), 24.
[96] Bent Flyvbjerg, "Five Misunderstandings About Case-study Research," Qualitative Inquiry 12, no. 2 (2006): 229.
[97] Bent Flyvbjerg, "Five Misunderstandings About Case-study Research," Qualitative Inquiry 12, no. 2 (2006): 229.

hours of nutrition lessons, recess, lunchtime, and school events. Finally, we conducted a document analysis of statements of work, budgets, grant reporting data, tracking and fidelity tools, and curricula.

We composed analytic memos and met regularly to discuss common codes, categories, concepts, and themes[98] emerging from the data at all stages of data collection. In the first stage of data analysis, we coded interview transcripts using open coding, where any code ideas were recorded to capture all insights and connections.[99] We then developed and revised a working codebook through several iterations of focused and open coding of interview data, resulting in a final codebook of 19 root codes and 25 subcodes.[100] We mapped implementation outcomes onto the codes we saw emerge from the data when applicable. Implementation outcomes are the effects of purposeful actions to implement new programming.[101] There are eight conceptually distinct implementation outcomes: acceptability, adoption, appropriateness, feasibility, fidelity, implementation cost, penetration, and sustainability. These outcome categories provide useful short- and medium-term indicators for the successful implementation of ERP programming, which in turn can provide context for evaluations of the effectiveness of the intervention itself.[102] They are useful in evaluations that need to account for the influence of contextual factors when implementing change.[103] The codebook included a definition and examples for each code to increase inter-rater reliability.

In the second stage of data analysis, we imported our codebook into a web-based data analysis software[104] and began focused coding of interview data from Tier 1 schools, revising the codebook as needed. Focused coding takes a more deductive approach, applying codes that represent pre-defined categories.[105]We took a case study approach to coding,[106] treating each tier as a case in order to compare findings across tiers. When a variety of interview transcripts had been coded representing different participant roles (e.g., school nurse, teacher, ERP staff, school administrator) we began to establish inter-rater reliability through Dedoose's training feature as measured by a

[98] Marilyn Lichtman, *Qualitative Research in Education: A User's Guide,* 3rd ed. (Los Angeles: Sage Publications, 2013).
[99] Robert M. Emerson, Rachel I. Fretz, and Linda L. Shaw. *Writing Ethnographic Fieldnotes*, (Chicago: University of Chicago Press, 2011).
[100] Robert M. Emerson, Rachel I. Fretz, and Linda L. Shaw. *Writing Ethnographic Fieldnotes*, (Chicago: University of Chicago Press, 2011).
[101] Enola Proctor et al., "Outcomes for Implementation Research: Conceptual Distinctions, Measurement Challenges, and Research Agenda," *Administration and Policy in Mental Health and Mental Health Services Research* 38, no. 2 (2011): 65-76.
[102] Enola Proctor et al., "Outcomes for Implementation Research: Conceptual Distinctions, Measurement Challenges, and Research Agenda," *Administration and Policy in Mental Health and Mental Health Services Research* 38, no. 2 (2011): 65-76.
[103] Rachel E. Blaine et al., "Using School Staff Members to Implement a Childhood Obesity Prevention Intervention in Low-Income School Districts: The Massachusetts Childhood Obesity Research Demonstration (MA-CORD Project), 2012-2014," *Preventing Chronic Disease* 14, no. 3 (2017): 1-14.
[104] Dedoose Version 8.0.35, web application for managing, analyzing, and presenting qualitative and mixed method research data (2018). Los Angeles, CA: SocioCultural Research Consultants, LLC www.dedoose.com.
[105] Robert M. Emerson, Rachel I. Fretz, and Linda L. Shaw. *Writing Ethnographic Fieldnotes*, (Chicago: University of Chicago Press, 2011).
[106] Marilyn Lichtman, *Qualitative Research in Education: A User's Guide,* 3rd ed. (Los Angeles: Sage Publications, 2013).

pooled Cohen's Kappa between 0.6 and 0.8, which constitutes good agreement.[107,108] Each coding team member completed several rounds of training tests using excerpts from a variety of interview transcripts until inter-rater reliability was established. The team discussed results and made changes to the codes, codebook descriptions, definitions, and examples after every test until saturation, when we felt we were no longer making changes to the codebook that moved our data analysis forward.

In the third stage of data analysis, all data across all three tiers was coded by two team members for relevant themes using Dedoose, starting with interview data by tier, followed by observational and focus group data. The team discussed codes and made changes to the codebook throughout the coding process, collapsing codes or creating new codes as needed. In addition, we used Dedoose's qualitative analysis tools to identify salient categories that needed to be further divided into concepts, or subcodes, for analysis. Initially data were analyzed across the three tiers of schools in order to identify common implementation outcomes or other common concepts and developing themes in analytic memos. The team met regularly to discuss our memos and list salient topics for an integrative report that would clarify and relate the analytic memos.[109] In order to focus specifically on PSE implementation, we realized that in order to compare schools with similar levels of PSE programming, we would need to re-tier the 19 case study schools only based on the current data on PSE programming during the 2018-19 school year (which are somewhat different from the original tiers because those included both Direct Education and PSE programming, and used the previous year's data). We separated the schools into four tiers based on each schools' level of programming and support/buy-in from school staff and administration. At this point in the data analysis process, we presented our methods, codebook, and findings from our analytic memos to ERP directors and staff. This served as a form of member checking as ERP was invited to ask probing questions and provide feedback.

Integrative report writing was an iterative process of individual and collaborative interpretation and writing. Each team member drafted a report section based on related themes. We drafted our sections individually, but in shared documents where we could provide feedback to team members throughout the writing process. We met regularly to share drafts and provide feedback, which "confirmed and crosschecked" our decisions.[110] After we had established drafts, we again presented our findings to ERP directors and staff for feedback, which was incorporated into this final report. Finally, this report was read by SDP Office of Research and Evaluation staff outside of the Health

[107] Richard J. Landis, and Gary G. Koch. "The Measurement of Observer Agreement for Categorical Data." *Biometrics* 33, no. 1(1977): 159-174.
[108]Joseph L. Fleiss, "Measuring Nominal Scale Agreement Among Many Raters." *Psychological Bulletin* 76, no. 5 (1971): 378-382.
[109] Robert M. Emerson, Rachel I. Fretz, and Linda L. Shaw. *Writing Ethnographic Fieldnotes*, (Chicago: University of Chicago Press, 2011).
[110] Trena M. Paulus, Marianne Woodside, and Mary F. Ziegler, ""I Tell You, It's a Journey, Isn't It?" Understanding Collaborative Meaning Making in Qualitative Research," *Qualitative Inquiry* 16, no. 10 (2010): 858.

and Nutrition team who provided critical feedback. The following is a summary of the phases of data collection and analysis.

Phase I: Tiering and Case Study School Selection (Summer 2018)

In order to help ERP community partners understand how to leverage programming and resources to better achieve SNAP-Ed goals, we quantified available qualitative data on nutrition lessons and PSE programming in each school to categorize schools into one of three tiers:

Tier 1: Schools with an intensive ERP presence
Tier 2: Schools with less intensive ERP programming
Tier 3: Schools with limited ERP presence

We then chose one "critical case" for each tier and each partner for a total of 19 schools. Schools were selected based on their tier level to ensure the inclusion of one school per tier and per partner. The study schools had a variety of other characteristics, including grades served, enrollment, geography, and demographics.

Phase II: Data Collection (2018-19)

We collected qualitative data from a variety of stakeholders at the 19 schools in our sample during the 2018-19 school year (Table C3).

Table C3. Data collection

Data Collection Activity	Participants and Activities
Semi-Structured Interviews (119)	• 3-7 key staff per site (e.g., classroom teachers, principals, cafeteria staff, nurses, and health and PE teachers) • ERP Nutrition Educators and Directors
Focus Groups (7)	• 41 fourth-grade and fifth grade students
Observations (138 Hours)	• Nutrition Education Lessons • PSE Activities • School Activities (e.g., recess, breakfast/lunch, physical education classes)
Document Analysis	• Statements of Work • Grant Reporting Data • Tracking and Fidelity Tools • Curricula
Other Data	• District-wide Survey 2018-19 • Support Census 2019

Phase III: Codebook Creation and Data Analysis (Fall 2019)

We composed analytic memos and met regularly to discuss common themes emerging from the data at all stages of data collection. We developed and revised a working codebook through several iterations of coding and discussions, resulting in a codebook of 19 root codes and 25 subcodes. The codebook included a definition and examples for each code to increase inter-rater reliability.

After finalizing the codebook and importing it into web-based data analysis software (Dedoose Version 7.0.23), we began to establish inter-rater reliability through Dedoose's training feature as measured by a pooled Cohen's Kappa between 0.6 and 0.8, which constitutes good agreement.[111, 112] Each coding team member completed several rounds of training tests using excerpts from a variety of interview transcripts until inter-rater reliability was established.

Finally, the team coded all available data and continued to write analytic memos to explore common concepts and themes. The team met regularly to discuss our memos and list salient topics for a final integrative report, and presented our methods, codebook, and preliminary findings to ERP directors and staff for feedback.

PSE Grouping and Analysis

After data collection and preliminary analysis, we realized that in order to compare schools with similar levels of programming, we would need to group the 19 case study schools based on actual ERP programming during the 2018-19 school year. After considering the amount of ERP programming, as well as the level of involvement of school staff in implementing program components, we separated the schools into four groups (Table C4).

[111] Richard J. Landis and Gary G. Koch. "The Measurement of Observer Agreement for Categorical Data." *Biometrics* 33, no. 1(1977): 159-174.

[112] Joseph L. Fleiss, "Measuring Nominal Scale Agreement Among Many Raters." *Psychological Bulletin* 76, no. 5 (1971): 378-382.

Table C4. The groups representing levels of PSE programming in the 19 case study schools

Group	Description	# Schools
Group 1	Schools with a high level of programming and support/buy-in from staff and administration. These are schools where staff members take on a larger role in programming, and the schools have more potential to make PSE changes because of the level of staff involvement.	5
Group 2	Schools with a medium to high level of programming. Programs are mostly ERP-led and have less involvement from school staff, which means there is less potential for PSE changes.	4
Group 3	Schools with a medium to low level of programming. Programming is mostly Direct Education, and any PSE is ERP-led with little to no staff involvement. ERP staff report actively trying to increase programming in these schools and struggle to increase engagement and buy-in.	5
Group 4	Schools with little to no programming, and ERP is not trying to increase activities due to a lack of capacity, ERP staff turnover, or other higher-level programming decisions.	5

2018-19 District-wide teacher survey

In addition to case study interview data with ERP and school staff, ORE used data from the 2018-19 District-wide teacher survey[113] to analyze differences in the school culture, leadership, and staff capacity that determined the ability of the school to implement *any* interventions across and between schools and PSE Groups. We selected three District-wide teacher survey questions to highlight key factors that might influence a school's ability to implement innovations, including student behavior, principal leadership, and staff time constraints:

1. To what extent is student behavior a challenge to student learning at your school? (*A great challenge, a moderate challenge, a slight challenge, not a challenge*)
2. The principal at this school creates buy-in among faculty. (*Strongly Agree, Agree, Disagree, Strongly Disagree)*
3. To what extent is the lack of teacher planning time built into the school day a challenge to student learning at your school? *(A great challenge, a moderate challenge, a slight challenge, not a challenge)*

[113] The District-Wide teacher survey asks SDP teachers their perspective on numerous topics related to their work. For more information on the SDP District-Wide teacher survey see https://www.philasd.org/research/programsservices/district-wide-surveys/.

These three District-wide teacher survey questions were used to look at differences in question responses by school and by PSE Group in order to determine the extent to which attributes of a school (student behavior, principal leadership, and teacher planning time) affect their capacity to implement new programming.

2018-19 School Support Census

We used the School Support Census to understand (1) how visible ERP is across the District and in the 19 case study schools and (2) how many schools identified health and wellness as an area where their school needs support. In the Fall of each school year, the School Support Census asks Principals of 215 SDP schools (excluding charter schools) to confirm which partners from the previous school year are maintaining support in the current school year and what new partners are working in their schools. The School Support Census also asks Principals to select from a list of general need areas (e.g., health and wellness supports, behavior supports, or support with sports) and indicate if their school is in current need of support in that area. Principals identify each area on a scale of "no need" to "slight" to "moderate" to "critical."[114] In the School Support Census, nutrition is grouped together with other health and wellness issues, such as sexual health. In 2018-19, 207 Principals responded to The School Support Census. There are limitations to the School Support Census data. While a Principal not identifying ERP as a partner might indicate that ERP is not as visible in that school, it could also be a one-time oversight by that Principal or an indication that ERP communicates more with other staff at that school. In addition, because nutrition is grouped together with other health and wellness issues, such as sexual health, Principal responses may indicate a need for support related to other health issues at their school, apart from nutrition.

[114] For more information on The SDP School Support Census see https://www.philasd.org/research/programsservices/projects/school-support-census/.

Appendix D

This appendix, Appendix D listing the Codebook used in the ERP 2018-19 case study project, can be found in all four reports in this series on SNAP-Ed funded school-community partnerships.

Codebook

Table D5. Codebook for ERP 2018-19 case study project data analysis

Category/Code	Subcodes
Key Quote	N/A
Program Structure	Importance of Frequency/Visibility Lack of Awareness/Confusion Decision Making Description Staffing
Coordination/Communication (School Level)	N/A
Direct Education	N/A
PSE	Activities (What ERP is Doing): *Hydration* *Movement Breaks* *Produce Stands* *Backpacks* *Event Tabling* *Healthy Fundraisers* *Healthy Celebrations* *Gardening* *Promotion*
ERP Parent/Family Engagement	N/A
Taste Test	N/A
Opportunities (What ERP Could Do)	N/A
Successful Outcomes	N/A
Ease/Difficulty of Implementation	N/A
Family/ Neighborhood Context for Health/Nutrition	N/A

School/District Context	School Climate Competing Priorities Parent Engagement School Staff Turnover
Health/ Nutrition Context	District Food Service Wellness: School Wellness Teams, SHI, Wellness Policy School: *Health/PE class* *Recess/Movement breaks*
School Staff	School Staff Roles Satisfaction/Acceptability School Staff Buy-in
Relationships	N/A
Student Reactions to ERP	Engagement Acceptability Awareness
Resources/ Materials	N/A
Nutrition Educator Delivery	N/A
Sustainability	N/A

Appendix E

Organizational Readiness

Organizational readiness is the extent to which an organization is willing and able to implement a particular change or innovation.[115] Organizational readiness is a key factor in determining whether the implementation of new policies, programs and practices will be successful and helps to identify key barriers to implementation.[116] Proposed models for measuring organizational readiness to implement an innovation typically involve factors related to whether organizational members value an innovation, whether they perceive themselves and/or their organization as capable of implementing the innovation, and the general context in which organizational members operate.[117, 118, 119, 120, 121]

For the purposes of our analysis, we rely on a heuristic of organizational readiness (R=MC^2) proposed by that suggests readiness to adopt an innovation includes three distinct components:[122]

1. **Motivation** refers to the perceived attributes and incentives that lead to the desirability to use an innovation, and includes beliefs about the innovation as well as beliefs about how much support for the innovation exists within the organization.
2. **General Organizational Capacity** refers to attributes that impact the ability of the organization to implement any innovation. This includes organizational culture and climate, as well as leadership and staff capacity.
3. **Innovation-Specific Capacity** refers to the conditions necessary for an organization to implement a particular innovation with quality. Every specific innovation requires a set of knowledge and skills to implement, and programs can build innovation-specific capacities through efforts like training and technical support.

---

[115] Jonathan P. Scaccia et al., "A Practical Implementation Science Heuristic for Organizational Readiness: R= MC2," Journal of Community Psychology 43, no. 4 (2015): 484-501.
[116] Christopher M. Shea et al., "Organizational Readiness for Implementing Change: A Psychometric Assessment of a New Measure." Implementation Science 9, no. 1 (2014): 1-15.
[117] Jonathan P. Scaccia et al., "A Practical Implementation Science Heuristic for Organizational Readiness: R= MC2," Journal of Community Psychology 43, no. 4 (2015): 484-501.
[118] Christopher M. Shea et al., "Organizational Readiness for Implementing Change: A Psychometric Assessment of a New Measure." Implementation Science 9, no. 1 (2014): 1-15.
[119] Paul D. Flaspohler et al., "Ready, Willing, and Able: Developing a Support System to Promote Implementation of School-based Prevention Programs," American Journal of Community Psychology 50, no. 3-4 (2012): 428-444.
[120] Sara R. Jacobs, Bryan J. Weiner, and Alicia C. Bunger, "Context Matters: Measuring Implementation Climate Among Individuals and Groups," Implementation Science 9, no. 46 (2014): 1-14.
[121] Abraham Wandersman et al., "Bridging the Gap Between Prevention Research and Practice: The Interactive Systems Framework for Dissemination and Implementation" American Journal of Community Psychology 41, no. 3-4 (2008): 171-181.
[122] Jonathan P. Scaccia et al., "A Practical Implementation Science Heuristic for Organizational Readiness: R= MC2," Journal of Community Psychology 43, no. 4 (2015): 484-501.

The heuristic distinguishes between capacity and readiness, and acknowledges that just because an organization (i.e., a school) has the capacity to implement an innovation does not mean they have sufficient collective motivation. The three components are distinct but interrelated; for example, an individual's capacity may influence his/her motivation toward change. However, the dynamics between the components may vary depending on the particular innovation, making it difficult to predict and generalize readiness across different innovations.[123]

While external programs that are trying to implement changes within sites might not have as much direct influence over General Organizational Capacity, they can and should devote time and resources to build motivation and innovation-specific capacity.[124] There are ways to increase organizational member perceptions of an innovation's value, for example by matching the innovation to an identified need within the organization or by linking the innovation to an already existing program.[125] In addition, programs can offer training, technical assistance, and resources to build the capacity of individuals and organizations to implement a specific innovation.[126]

It is also important to note that readiness can change over time, and should not be considered a one-time dichotomous measure of "ready" versus "not ready." It is a program's role to increase readiness and monitor changes throughout implementation. Readiness can increase with more support and assistance, and it can also decrease if key staff leave or new priorities complete with the innovation.[127] While considering organizational readiness can help programs allocate resources, deeming an organization "not ready" can remove resources from organizations most in need of help.[128]

Common Factors that Influence Organizational Readiness

The following tables provide a list of factors that have been shown to influence motivation, general organizational capacity, and innovation-specific capacity. The factors in the tables are not meant to be exhaustive, but should point to key variables in each of the readiness components. The tables were adapted from *A Practical Implementation Science Heuristic for Organizational Readiness*.[129]

[123] Jonathan P. Scaccia et al., "A Practical Implementation Science Heuristic for Organizational Readiness: R= MC2," Journal of Community Psychology 43, no. 4 (2015): 484-501.
[124] Jonathan P. Scaccia et al., "A Practical Implementation Science Heuristic for Organizational Readiness: R= MC2," Journal of Community Psychology 43, no. 4 (2015): 484-501.
[125] Paul D. Flaspohler et al., "Ready, Willing, and Able: Developing a Support System to Promote Implementation of School-based Prevention Programs," American Journal of Community Psychology 50, no. 3-4 (2012): 428-444.
[126] Jonathan P. Scaccia et al., "A Practical Implementation Science Heuristic for Organizational Readiness: R= MC2," Journal of Community Psychology 43, no. 4 (2015): 484-501.
[127] Jonathan P. Scaccia et al., "A Practical Implementation Science Heuristic for Organizational Readiness: R= MC2," Journal of Community Psychology 43, no. 4 (2015): 484-501.
[128] Paul D. Flaspohler et al., "Ready, Willing, and Able: Developing a Support System to Promote Implementation of School-based Prevention Programs," American Journal of Community Psychology 50, no. 3-4 (2012): 428-444.
[129] Jonathan P. Scaccia et al., "A Practical Implementation Science Heuristic for Organizational Readiness: R= MC2," Journal of Community Psychology 43, no. 4 (2015): 484-501.

There are several factors that influence motivation and can be used to increase motivation to implement an innovation by influencing perceptions and collective expectations of the innovation (Table E6).

Table E6. Factors that influence motivation (non-exhaustive)

Influences on Motivation	Definition
Relative Advantage	Degree to which a particular innovation is perceived as being better than what it is being compared against
Compatibility	Degree to which an innovation is perceived as being consistent with existent values, cultural norms, experiences, and needs of potential users
Complexity	Degree to which innovation is perceived as relatively difficult to understand and use
Trialability	Degree to which an innovation can be tested and experimented with
Observability	Degree to which outcomes that result from the innovation are visible to others
Priority	Extent to which the innovation is regarded as more important than others

There are several general organizational capacity factors that should be considered for implementation of an innovation to be successful and sustainable over time (Table E7).

Table E7. General organizational capacities (non-exhaustive)

Types of General Capacities	Definition
Culture	Expectations about how things are done in an organization; how the organization functions
Climate	How employees collectively perceive, appraise, and feel about their current working environment
Organizational Innovativeness	General receptiveness toward change
Resource Utilization	How discretionary resources are devoted to innovations
Leadership	Whether power authorities articulate and support organizational activities
Structure	Processes that impact how well an organization functions on a day-to-day basis
Staff Capacity	General skills, education, and expertise that the staff possesses

There are several broad factors related to innovation-specific capacity. Every new program, policy, or innovation will have its own particular set of knowledge and skills needed to implement it with quality (Table E8).

Table E8. Innovation-specific capacities (non-exhaustive)

Types of Innovation-Specific Capacities	Definition
Innovation-Specific knowledge, skills, and abilities	Knowledge, skills, and abilities needed for the innovation
Program Champion	Individual(s) who put charismatic support behind an innovation through connections, expertise, and social influence
Specific Implementation Climate Supports	Extent to which the innovation is supported; presence of strong, convincing, and demonstrable management support
Interorganizational Relationships	Relationships between a) providers and support systems *and* b) between different provider organizations that are used to facilitate implementation