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Barriers and Enablers to the Implementation of School Wellness Policies: An Economic Perspective

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Abstract

Background.—Local wellness policies (LWPs) are mandated among school systems to enhance nutrition/physical activity opportunities in schools. Prior research notes disparities in LWP implementation. This study uses mixed methods to examine barriers/enablers to LWP implementation, comparing responses by student body income.

Method.—Schools ($n = 744$, 24 systems) completed an LWP implementation barriers/enablers survey. Semistructured interviews ($n = 20$ random subsample) described barriers/enablers. Responses were compared by majority of lower (50% free/reduced-price meals; lower income [LI]) versus higher income (HI) student body.

Results.—In surveys, LI and HI schools identified common barriers (parents/families, federal/state regulations, students, time, funding) and enablers (school system, teachers, food service, physical education curriculum/resources, and staff). Interviews further elucidated how staffing and funding served as enablers for all schools, and provide context for how and why barriers differed by income: time, food service (HI schools), and parents/families (LI schools).

Conclusions.—Findings support commonalities in barriers and enablers among all schools, suggesting that regardless of economic context, schools would benefit from additional supports, such as physical education and nutrition education resources integrated into existing curricula, additional funding, and personnel time dedicated to wellness programming. LI schools may benefit from additional funding to support parent and community involvement.

Keywords

school wellness policies; nutrition policy; disparities; low-income; schools

INTRODUCTION AND BACKGROUND

Federal legislation mandated that school systems receiving federal funding have a local wellness policy (LWP) in place beginning in July 2006 (Child Nutrition and WIC Reauthorization Act, 2004). In 2010, the Healthy, Hunger-Free Kids Act (HHFKA) further required that LWPs emphasize implementation, increase community/parent engagement, and improve transparency through public monitoring and reporting (Healthy Hunger-Free Kids Act, 2010). This was reinforced by an HHFKA final rule released in 2016, which requires participating schools to meet expanded LWP requirements beginning in 2017 (Food and Nutrition Service, U.S. Department of Agriculture, 2016).

Local wellness policies are integral to improving health and wellness in schools. LWPs can contribute to the prevention of childhood obesity (Agron, Berends, Ellis, & Gonzalez, 2010) as children spend a significant part of their day in schools. Child health has been linked to school food and physical activity environments. For example, access to à la carte snacks and vending machines not only have an inverse association with fruit/vegetable consumption, and a positive association with fat intake (Kubik, Lytle, Hannan, Perry, & Story, 2003) but also have been associated with higher body mass index among elementary school students (Fox, Dodd, Wilson, & Gleason, 2009). Additionally, targeted wellness programming in schools has been shown to increase time spent in physical activity, without deterring from academics (Bublitz & Rhodes, 2017).

Policies that target environmental changes have been highly effective in improving nutrition-related problems, such as obesity (Dietz, Bland, Gortmaker, & Molloy, 2002). Strong LWPs can improve facets of the school nutrition and physical activity environment, including policies that require nutritionally healthy meals, limit access to energy-dense snacks and sugar-sweetened beverages, and set standards for the timing and intensity of physical activity (Story, Nannery, & Schwartz, 2009). Studies have shown significant increases in the number of fresh fruits served and the percentage of schools requiring healthy foods at class parties after LWP implementation (Belansky et al., 2010).

Recent studies have shown that LWP implementation levels in schools are low, inconsistent, or nonexistent (Hager et al., 2016; Sánchez et al., 2014). Some factors linked to discrepancies in LWP implementation, which can serve as barriers or enablers, include funding, time, resources, programming support, administrative support (Agron et al., 2010; Sánchez et al., 2014), and cafeteria choices (Sánchez et al., 2014). Additional factors include staff and parent understanding of how to apply LWPs, as well as accountability for enforcing LWPs in the school setting (Sánchez et al., 2014). Poorly written LWPs, with limited strength and comprehensiveness, can also be a barrier (Lucarelli et al., 2015; Schwartz et al., 2012).

Although research has examined factors that could influence the implementation process, little is known about whether socioeconomic disparities exist in implementation. A recent study examined the role of a majority low-income or majority Hispanic/African American student body in LWP implementation. After adjusting for school system clustering, both low-income and majority Hispanic/African American schools demonstrated lower LWP implementation, compared to schools that were majority White and higher income (HI; Hager et al., 2016). Schools with a higher percentage of lower income (LI) students were less likely to have a lunch serving of fresh fruit/vegetables (Finkelstein, Hill, & Whitaker, 2008; Profili et al., 2017), recommended health services, and physical activity resources (Balaji, Brener, & McManus, 2010). A greater understanding of the barriers and enablers to LWP implementation among schools with differing school-level socioeconomic characteristics and how barriers/enablers differ by these characteristics is needed.

To gain a better understanding of the factors that may be associated with the implementation process, we examine how the economic context of schools (majority low or high-income student body) relates to the perceptions of schools/administrators, which in turn relate to LWP implementation. Specifically, we assessed (1) school administrator perceptions of barriers/enablers to LWP implementation and (2) commonalities and differences in barriers/enablers among schools with a majority HI or LI student body.

METHOD

Procedures and Sample

This study uses a partially mixed, concurrent quantitative–qualitative design (Nastasi, Hitchcock, & Brown, 2010) in which elements of the quantitative results are merged with qualitative results. This concurrent triangulation places equal weight on both methodologies to allow for a comparison of quantitative and qualitative results in order to identify discrepancies and expand on results (Plano Clark, Huddleston-Casas, Churchill, O’Neil Green, & Garrett, 2008). The university and state department of health institutional review boards approved this study.

Quantitative Sample.—Online surveys assessing LWP implementation and barriers/enablers were sent via e-mail to 1,356 schools in one state. Excluded schools were: nonpublic, part-time, alternative, or exclusively prekindergarten or special education. Surveys were to be completed by an administrator or by the person responsible for supporting school-level LWP implementation.

Qualitative Sample.—Of those who completed the survey ($n = 744$), 170 (representing 22/24 school systems) agreed to a second contact. These 170 schools had a higher mean free/reduced-price meals rate (FARMs; 57.5% vs. 49.6%, $t = 3.4$, $p = .001$) and were more likely to have a majority (75%) African American or Hispanic student body (33.5% vs. 19.3%, $\chi^2 = 15.1$, $p < .001$), compared to the remaining 574 schools. Respondents (administrators who agreed to a second contact) were stratified by school system and type (elementary, middle, high); within these strata, respondents were selected for an interview using a randomization program (respondents from up to three schools per system).

Following randomization, respondents representing 42 schools were selected for an interview.

Measures

Quantitative measures included a prepopulated list of barriers and enablers to LWP implementation based on prior literature. Qualitative measures included open-ended probes for barriers and enablers to assess respondent-driven perceptions and interpretations of barriers and enablers within their schools, and not based on a prepopulated list. Study measures are described in detail below.

Quantitative Survey.—The school survey, in part, consisted of two lists of commonly cited barriers and enablers to LWP implementation, revised from a subsection of the School Nutrition Policies and Practices Survey (Schwartz et al., 2012). More information on the full survey can be viewed elsewhere (Maryland School Wellness Partnership, n.d.). Respondents were asked to select the top three barriers and enablers to LWP implementation from each list. List 1 focused on individuals and entities (e.g., food service, teachers, students), and List 2 focused on activities and processes, including food served at class parties and training on implementing nutrition/physical activity education. Responses were recoded to determine barriers and enablers that were endorsed (1) or not (0). Test–retest results ($n = 57$), administered approximately 1 month apart, yielded 75.1% item-by-item agreement for barrier/enabler questions.

Qualitative Interviews.—A brief, semistructured telephone interview protocol was developed based on two main questions to describe the (1) biggest overall barrier and (2) biggest overall enabler to implementing wellness policies and practices related to healthy eating and physical activity in the school (with accompanying probes, e.g., “Can you tell me more about that?” and “Can you elaborate with an example?”). Interviews lasted on average 13.38 minutes ($SD = 6.71$).

School Characteristics.—The percentage of students within each school eligible for FARMs (a proxy for income) was provided by the Maryland State Department of Education (2016). Schools with >50% FARMs eligibility were coded as LI, and schools with <50% FARMs eligibility were coded as HI.

Analysis

Quantitative analysis was conducted using IBM SPSS Statistics Version 20. Items with the highest endorsed frequencies (see Table 1) were selected for analysis from each of the four lists (individuals/entities—barrier list and enabler list; activities/processes—barrier list and enabler list). Chi-square analyses were conducted to assess differences in barriers and enablers among schools with majority HI and LI student bodies. Additionally, to provide greater context for the quantitative findings, chi-square analyses were used to examine differences in barriers and enablers by school type (elementary, middle, high). For qualitative analysis, interviews were transcribed and analysis was conducted using Atlas.ti (Version 7), including an iterative process of conceptualization, coding, and categorizing (Schutt, 2014). Three analysts (two doctoral-level analysts and one research assistant) read

the first five interviews independently to form an initial conceptualization of major themes. Next, analysts discussed convergences and discrepancies in their initial conceptualizations, came to a final agreement of major thematic categories, and developed a working codebook consistent with overarching themes. Each analyst then coded all interviews independently. Codes were merged, and analysts again discussed convergences and discrepancies until consensus was reached. Emergent themes were considered prominent if mentioned by 15% of schools (3 out of 20 schools).

RESULTS

There were several similarities and differences in the identification of barriers/enablers across quantitative and qualitative methodologies. Figures 1 and 2 provide a visual comparison of quantitative and qualitative barriers/enablers by HI and LI schools. As shown in Figure 1, staff, time, funding, and parents/families were identified as barriers to LWP implementation both quantitatively and qualitatively. Food service staff was identified as a barrier qualitatively but not quantitatively, and several items emerged as barriers quantitatively that were not discussed in interviews: federal/state regulations, the community, and food served at parties. Figure 2 shows that staff was the only common enabler in both methods, and funding was identified as an enabler in interviews but not in quantitative surveys. The school system, teachers, food service, and physical education (PE) curricula and resources were uniquely identified as enablers quantitatively and not in interviews. Below, barriers and enablers identified via quantitative analyses are presented, followed by qualitative results. Qualitative themes are presented as barrier-related themes, followed by themes that serve as both barriers and enablers (no themes were identified solely as enablers).

Quantitative Barriers/Enablers

A total of 744 (55%) schools responded to the survey, 357 from HI schools and 387 from LI schools; most were elementary schools (62%), followed by high schools (15%) and middle schools (15%); 7% were combined elementary/middle schools; and 1% was a middle/high school (combination schools were excluded from analysis by school type). Most respondents were principals or assistant principals (91%), followed by teachers (5%), nurses (2%), and counselors (2%).

Top barriers and enablers for each of the four lists are presented in Table 1. In the individual/entities barrier list, the Top 5 most commonly endorsed barriers to LWP implementation, in order, included the following: (1) parents/families, (2) federal/state regulations, (3) students, (4) community, and (5) the school system. Within groups, HI and LI schools shared parents/family, federal/state regulations, and students as top barriers. Chi-square results indicated a significant difference in the selection of parents/families by LI schools (46.8%] compared to HI schools (39.8%, $p = .03$), and a significant difference between HI schools (38.9%) that selected federal/state regulations compared to LI schools (30.7%, $p = .01$).

On the activities/processes barrier list, the Top 5 barriers included (1) time, (2) funding, (3) à la carte snack items, (4) party foods, and (5) staff. Within groups, HI and LI schools both identified time and funding as top barriers. In addition, HI schools identified staff and LI

schools identified food at parties (Figure 1). One significant difference emerged: compared to LI schools, more HI schools endorsed à la carte snack items (32.5% vs. 25.1%, $p = .02$) as a top barrier.

The Top 5 enablers for individual/entities were (1) the school system, (2) teachers, (3) food service, (4) federal/state regulations, and (5) a designated person to coordinate wellness policies. Both HI and LI schools identified the school system, teachers, and food service as top enablers (Figure 2). There was a significant difference in how the school system was rated for HI schools (43.1%) compared to LI schools (34.1%, $p = .01$).

For activities/processes, the Top 5 enablers were (1) PE curriculum, (2) staff, (3) PE resources, (4) nutrition education, and (5) à la carte snack items. Again, both groups shared the Top 3 enablers—PE curriculum, staff, and PE resources (Figure 2) and one significant difference emerged: reporting of PE curriculum was significantly different for HI schools (34.5%) compared to LI schools (27.9%, $p = .03$).

When examined by school type, differences emerged for perceptions of students, foods served at class parties, PE curriculum, and à la carte snacks. Students were endorsed as a barrier by 42.3% of middle schools, 37.8% of high schools, and 24.8% of elementary schools ($p < .001$). Elementary schools were more likely to endorse “foods served at class parties” as a barrier (32.2% vs. 22.5% middle school, and 22.5% high school; $p = .03$). Significant differences emerged for PE curriculum (perceived as an enabler by approximately one third of elementary and middle schools and as an enabler by only 21.6% of high schools, $p = .046$) and à la carte snacks (perceived as an enabler by 34.2% of high schools, 25.2% of middle schools, and 18.5% of elementary schools ($p = .001$)). Several factors were identified as both barriers and enablers. From the individuals/entities list, federal/state regulations and the school system were both top barriers and enablers, and from the activities/processes list, à la carte snack items and staff to implement programs/activities were listed as both top barriers and enablers.

Qualitative Barriers/Enablers

Among respondents selected for interviews, 20 (out of 42) agreed to participate (47.6%), representing 15 school systems, 12 from HI schools, and 8 from LI schools. Schools that participated in the interview did not differ from contacted, nonparticipating schools based on FARMs rate and race/ethnicity. Most schools were elementary (60%), followed by high (30%) and middle schools (10%). Respondents included principals (70%), assistant principals (15%), health or PE teachers (10%), and 1 other teacher involved in wellness activities (5%).

Barriers

Time: HI schools described time as a barrier to wellness activities due to the demands of competing curriculum requirements and teacher evaluations. These demands prevent staff from organizing wellness activities, exemplified by an HI school that stated that the biggest barrier is “Time during the school day, staffing ... to find the time to do this, [and] finding time within the kids’ schedule, so that they’re not missing their major academics,” and

another HI school said, “There’s just so much curriculum we need to cover that it’s difficult [to organize wellness activities].” LI schools mentioned time as a barrier only with regard to having to restrict events that engage parents to evenings.

Food service.: Food service barriers were mentioned only by HI schools, and included difficulty communicating with the food and nutrition department, poor quality of foods served, limited options for and lack of education on healthier choices, and having access to vending machines with calorie-dense foods.

Both Barriers and Enablers

Staff.: All schools identified staff as enablers. This included teachers, PE/health teachers, food service, nurses, administration, and counselors. LI schools described teacher-based wellness activities, such as fitting physical activity into their classroom lessons. For example, “They [teachers] can fit it [PE] in with other curricula and take the children out periodically so they have additional time on the equipment.” HI schools discussed teachers as role models for the school and community, modeling common interests and positive attitudes. For example, “We are all into sports. ... [w]e all love sports, so I think our attitudes are enabling”; HI schools also mentioned the importance of teacher-led initiatives that recognize student wellness accomplishments (e.g., “We’ll have recognition for them at the end of the year, and people come up and get their prizes and tell their stories”), and sharing school initiatives to serve as a model for other schools. HI schools said community health was important to all staff: “It’s just a community ... [staff] are more than aware of it, they live it.” Moreover, HI schools discussed having staff in roles dedicated specifically to wellness (e.g., PE department chair, health assistant, health director).

Regarding staff, HI schools noted that there was limited buy-in and commitment from the staff as a whole. Relying on staff to carry out wellness activities is a challenge because “[s]ometimes, teachers don’t get out of here until 6:30. It takes a special kind of teacher to be here from 8 or 9 in the morning to 6:30, and then go home and grade a paper.” Similarly, an LI school mentioned staff as a barrier because staff did not coordinate physical activities outside of typical PE classes.

Funding.: HI schools discussed barriers such as general funding for LWP implementation from the school system, the expense of healthy foods, and the loss of funding for recreational/intramural activities. In reference to needing financial support from the school system, an HI school commented,

I’ve had to go look for grants outside the school system to do what the school system wants us to do. They’re going to have to put some money into it, not say, ‘we want you to’ and ‘we expect you to’ without the procurement of financing.

In contrast, funding was a common enabler among LI schools, which mentioned the helpfulness of grants that funded exercise equipment and professional development. LI schools also mentioned benefits of free breakfast programs, fund-raising efforts, and external donations for parent workshops.

Parents/families.: Parents and families were viewed as both a barrier and an enabler. Both HI and LI schools recognized parents/families as an enabler in relation to their volunteer activities, such as starting a community garden, and as one HI school reported, “A parent volunteer who would come in once a week ... she would help me with promoting [the wellness initiative] throughout the year.” On the other hand, LI schools noted parents/families as barriers in that parents give their children poor quality foods (e.g., calorie-dense, processed foods) and that some parents have the perception that school wellness initiatives undermine parents’ authority. One LI school commented, “The biggest barriers [are] outside of the school ... helping our kids to understand what good healthy food looks like and how preparing these meals appropriately leads to good health.” Another LI school shared, “Probably the biggest barrier we’ve had is parents. ... They perceive it as us telling their children that they are not cooking the proper meals.”

DISCUSSION

The results of this study reveal many commonalities in barriers and enablers identified to LWP implementation for all schools, including staff, time, and funding. Findings also indicated differences in HI and LI administrator perceptions of barriers and enablers to LWP implementation, such that federal/state regulations and à la carte snack items were more prominent barriers for HI administrators, and parents/families were more prominent for LI administrators. In relation to enablers, the school system was more prominent for HI administrators compared to LI administrators. It is of note that no barrier or enabler item was endorsed by a majority of participants, illustrating that there was not consensus across respondents and barriers/enablers might vary by the local context.

All schools, regardless of economic context, noted the importance of support from staff, students, and the community as well as resources such as time and funding. School staff play an essential role in wellness, regardless of the socioeconomic makeup of the school. The identification of staff as both a barrier and an enabler in quantitative and qualitative results is not surprising. Properly trained staff are a resource for policy implementation that can facilitate the capacity for action (De Boer & Bressers, 2011). For example, as demonstrated in interviews with HI schools, personnel with a designated role for wellness activities, such as a “wellness champion” can be instrumental in enhancing LWP implementation as well as serving as a bridge between the school, community, and school system (Hager et al., 2016). As demonstrated by quantitative results, staff can also serve as a barrier (Schwartz et al., 2012), which was reinforced during interviews, in that staff have competing job requirements.

Time was a common barrier for all administrators in surveys and for HI schools in interviews due to competing activities, curricular requirements, and the focus on teaching evaluations. Time as a limitation to wellness activities has been supported by other mixed-methods and qualitative studies (Agron et al., 2010; Sánchez et al., 2014). Although PE and nutrition education resources were endorsed as top enablers among all schools, interviews revealed that curriculum requirements in general were a major barrier to LWP implementation due to time limitations in the school day. This finding indicates that PE and

nutrition education resources may be helpful, as long as there is time and space to incorporate them into the daily schedule.

Funding, a common theme for both HI and LI schools and throughout the literature (Agron et al., 2010; Budd, Schwarz, Yount, & Haire-Joshu, 2012; Schwartz et al., 2012), can serve as a barrier or an enabler within a school. For example, HI administrators expressed that limited funding can make establishing and maintaining high nutrition standards challenging for food service staff (Agron et al., 2010), and LI administrators mentioned having funding for specified wellness activities (i.e., purchasing exercise equipment, professional development, free/subsidized meal programs) as essential for enhancing opportunities for wellness, particularly in low-income communities (Belansky et al., 2010).

Schools serving a predominantly LI student body are at higher risk for not fully implementing their school system's LWP compared to schools serving an HI population (Finkelstein et al., 2008; Hager et al., 2016), highlighting the need for a better understanding of the mechanisms that are associated with implementation for schools with limited resources. Parents and families emerged as a top barrier for all schools both in surveys and in interviews. Qualitative results highlight differences in perceptions of parental feeding practices at home, as well as the potential benefits of further involvement from parents in wellness-related volunteer roles. Although parents were perceived as barriers by LI schools, parents from LI communities themselves likely experience barriers, such as lack of child care and transportation (Yoder & Lopez, 2013), and have few health-related resources (e.g., access to affordable, nutrient-dense foods, and safe space for play; Davison & Birch, 2001), which can limit their knowledge and capacity to be supportive of LWPs in the school setting. HI schools, on the other hand, may have a greater capacity for LWP implementation due to the support and resources they acquire from informal sources in the community and school system, as well as formal sources within the school, such as designated wellness coordinators, as evidenced in interviews (e.g., PE department chair, health director).

Barriers for HI schools related to federal and state regulations may be linked to the lack of funding associated with wellness policy mandates, as well as the limited authority federal regulations have on foods sold outside of federal meal programs (Longley & Sneed, 2009). Because LI schools tend to have a high proportion of students participating in federally subsidized meal programs, it is possible that federal and state regulations present as a barrier for HI schools as they did not have clear nutritional standards for foods sold outside of federal programming. This may also provide some explanation for the challenges related to à la carte snack items noted among HI administrators prior to the implementation of Smart Snacks (Nutrition Standards in the NSLP and School Breakfast Programs Rule, 2012). On the other hand, HI schools noted school system support as an enabler, as school systems and district health councils can serve as a support to facilitate policy development at the school level (French, Story, & Fulkerson, 2002).

When examined by school type, results show that food served at class parties were more frequently identified by respondents in elementary schools, PE curriculum was more frequently identified as an enabler for elementary and middle schools, and à la carte snack items were more frequently endorsed as an enabler for high schools. These findings align

with prior research that shows that certain practices might be more common by school type, such that higher grade levels (middle schools and high schools) tend to have less healthy food environments compared to elementary schools (e.g., more access to vending machines and à la carte items; Finkelstein et al., 2008). Interestingly, more high schools indicated à la carte snack items were an enabler. It is of note that just over one third of high schools endorsed this as an enabler, possibly because revenue from competitive foods such as à la carte items is often used to support other food services or school programming. However, wellness policy implementation rates have been similar across grade levels (Schwartz et al., 2012), further indicating that improvements are needed across all grade levels.

There are several limitations of the present study. As this was a cross-sectional study, causality cannot be established. Furthermore, the quantitative sample may not be representative of the views of other schools, as the study took place in one state and results may not be generalizable. The qualitative sample was small, with higher representation of administrators from HI schools ($n = 12$) compared to LI schools ($n = 8$). It is of note that significant chi-square results had small effect sizes and should be interpreted with caution. Other potential factors that may be related to LWP implementation, such as school system-level policies, school size, and other demographics were not included in the study, and the contribution of these elements should be explored in future research. We presented information on differences in barriers/enablers by school type using quantitative data to provide additional context to findings; however a full mixed-methods analysis of the manner by which barriers/enablers differ by school type, inclusive of in-depth interviews, was outside the scope of this article. Studies should also explore variations in barriers/enablers by geographic location, as schools in rural, urban, and suburban settings may have distinct experiences with LWP implementation. Finally, the policy context of this study should be noted. The survey and interviews took place focusing on the 2012-2013 school year, therefore following the National School Lunch Program meal pattern changes in 2012 stemming from the HHS/USDA (Nutrition Standards in the NSLP and School Breakfast Programs Rule, 2012), but before Smart Snacks in 2014 (NSLP and School Breakfast Program: Nutrition Standards for All Foods Sold in School Rule, 2014). Smart Snacks stipulate nutritional standards for competitive foods, such as à la carte snack items and foods served at class parties. Consequently, respondents' perceptions of these items as barriers in this study should be interpreted with caution, and future research should reassess the role of snack foods as barriers/enablers in light of this legislation.

There are also many strengths of the present study. Prior studies have reported on barriers and enablers to LWP, relying on either quantitative or qualitative methods, not both. They have shed light on the effectiveness of LWPs based on their strength and comprehensiveness (Lucarelli et al., 2015), the role of external factors such as school system support (Hager et al., 2016) and the community (Sánchez et al., 2014), as well as barriers/enablers in rural communities (Sánchez et al., 2014). This study advances the school wellness promotion field by incorporating a statewide mixed-methods triangulation design, and by elucidating the entities that shape implementation in both HI and LI socioeconomic settings. The investigation of the similarities and differences in barriers and enablers reported by HI/LI schools serves as an example of the merits of considering socioeconomic factors to LWP implementation.

IMPLICATIONS AND CONCLUSIONS

Similarities in barriers and enablers suggest that all schools, regardless of income level, require system-level support, including funding, personnel with time dedicated to LWPs, PE and nutrition education curricula and resources, and support for healthier food options. Regardless of the economic context, all schools would benefit from interventions that allow additional time and space for wellness activities. Given the barrier of competing curriculum requirements, schools may benefit from PE and nutrition education resources that uniquely integrate into existing curricular requirements to support teachers in their current roles. For example, existing research has found support for integrating physical activity within classroom instruction (Martin & Murtagh, 2015). Additional funding to support wellness programming as well as a designated wellness coordinator may help provide support to address barriers associated with time and staffing, as it would allow teachers and administrative staff to remain focused on their existing roles and responsibilities. Having a specific school-level health council or wellness team with a designated coordinator has been recommended to enhance school wellness (Centers for Disease Control and Prevention, 2013).

Although proper funding is essential for all schools, LI schools may benefit from additional funding as administrators discussed specific areas of need, such as purchasing exercise equipment. Higher rates of funding for LI school communities may be particularly beneficial as safe places for play and physical activity are often limited or nonexistent in low-income communities (Davison & Birch, 2001). Furthermore, funding may also serve as an enabler for LI communities to facilitate family and community involvement by way of provisions for transportation, meals, and childcare.

The importance of supports from the surrounding community as a whole is evidenced through HI schools that noted supports from the community and the school system as enablers. This indicates that enhancing supports and programming to facilitate the involvement of communities, school systems, and parents and families may be instrumental in enhancing LWP implementation levels for LI schools as well.

Gaining an initial understanding of implementation barriers and enablers from administrator perspectives is an essential first step in understanding top-down policy initiatives such as the Child Nutrition and WIC Reauthorization Act and the HHFKA. Future research should examine the perceptions of those in roles other than administrators, with an emphasis on perceptions of families and community affiliates. Research should also examine LWP implementation disparities by other socioeconomic characteristics such as variations in local, state, and federal per-pupil funding. Efforts should be undertaken to test interventions that minimize barriers and promote enablers in relation to the perspectives and resources available to both HI and LI schools.

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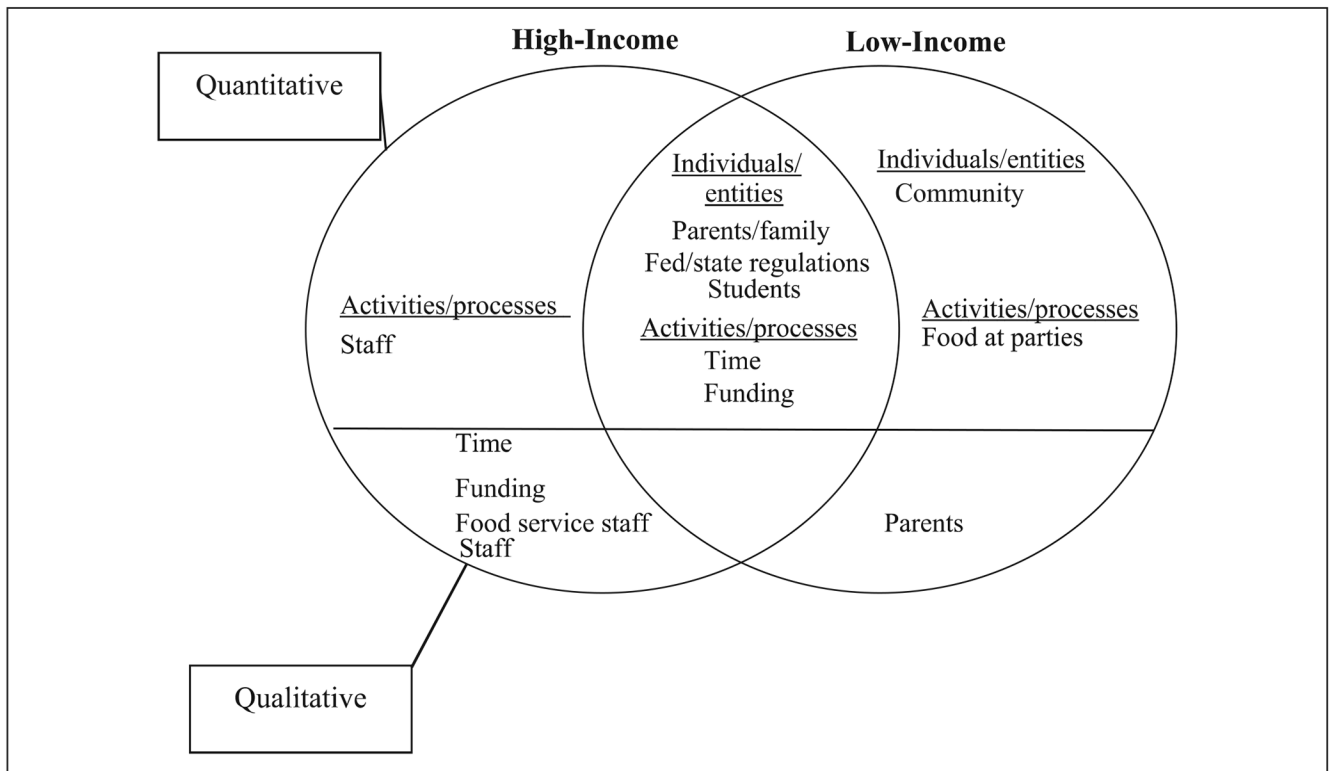


FIGURE 1. Similarities and differences in perceptions of barriers to LWP implementation by student body income level
 NOTE: LWP = local wellness policy.

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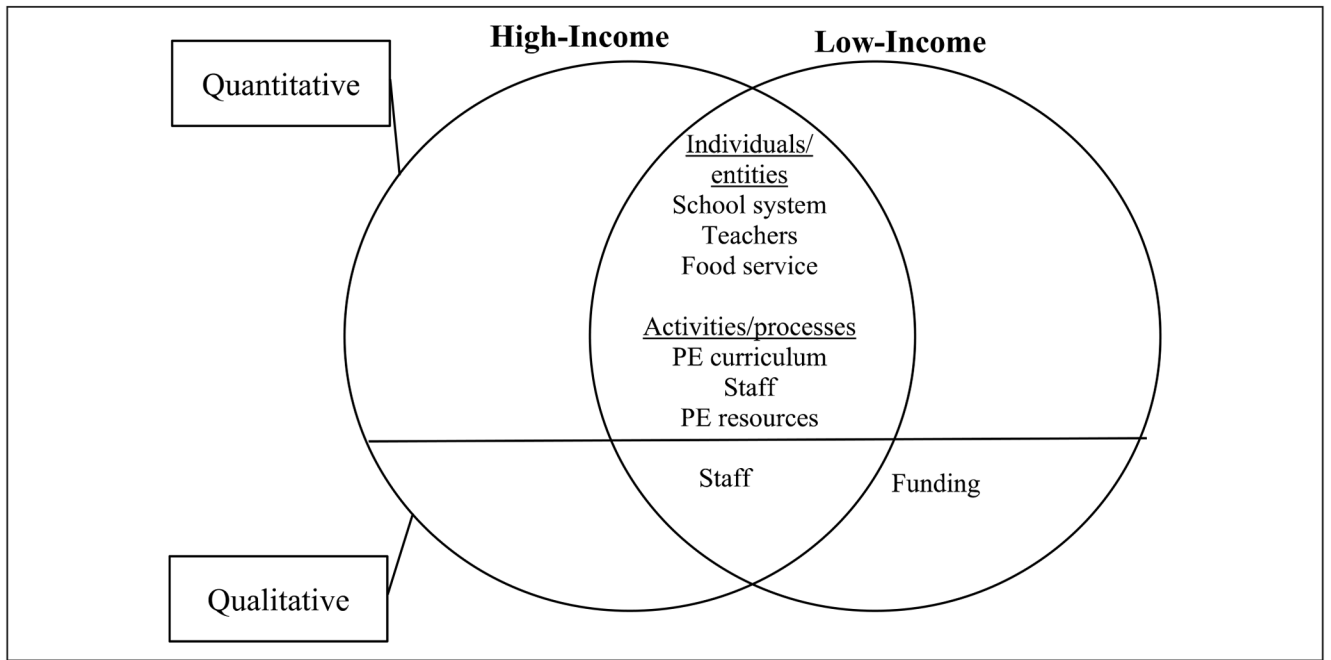


FIGURE 2. Similarities and differences in perceptions of enablers to LWP implementation by student body income level

NOTE: LWP = local wellness policy; PE = physical education.

TABLE 1
Barriers to LWP Implementation and Difference by Income Status of Student Body and School Type, % (n)

Barriers and Enablers	Endorsed (n = 744), % (n)	HI (n = 357), % (n)	LI (n = 387), % (n)	p	Phi	Elementary (n = 460), % (n)	Middle (n = 111), % (n)	High School (n = 111), % (n)	p	Phi
Barriers: Individuals/entities										
1. Parents/families	43.4 (323)	39.8 (142)	46.8 (181)	.03*	.07	46.1 (212)	44.1 (49)	36.9 (41)	.22	.07
2. Federal/state regulations	34.7 (258)	38.9 (139)	30.7 (119)	.01*	-.09	37.8 (174)	27.0 (30)	36.9 (41)	.10	.08
3. Students	29.4 (219)	31.9 (114)	27.1 (105)	.09	-.05	24.8 (114)	42.3 (47)	37.8 (42)	<.001*	.16
4. Community	25.4 (189)	23.2 (83)	27.4 (106)	.11	.05	22.4 (103)	32.4 (36)	26.1 (29)	.08	.09
5. School system	22.0 (164)	23.2 (83)	20.9 (81)	.25	-.03	21.5 (99)	18.9 (21)	22.5 (25)	.78	.03
Barriers: Activities/processes										
1. Time to plan and coordinate	43.0 (320)	44.8 (160)	41.3 (160)	.19	-.04	43.9 (202)	36.9 (41)	45.9 (51)	.33	.06
2. Overall funding	38.0 (283)	39.8 (142)	36.4 (141)	.19	-.03	37.2 (171)	43.2 (48)	34.2 (38)	.35	.06
3. À la carte snack items	28.6 (213)	32.5 (116)	25.1 (97)	.02*	-.08	27.8 (128)	38.7 (43)	26.1 (29)	.06	.09
4. Foods served at class parties	28.6 (213)	28.6 (102)	28.7 (111)	.52	.001	32.2 (148)	22.5 (25)	22.5 (25)	.03*	.10
5. Staff to implement programs and activities	27.7 (206)	29.4 (105)	26.1 (101)	.18	-.04	28.5 (131)	28.8 (32)	22.5 (25)	.43	.05
Enablers: Individuals/entities										
1. School system	38.4 (286)	43.1 (154)	34.1 (132)	.01*	-.09	36.3 (167)	46.8 (52)	42.3 (47)	.09	.08
2. Teachers	36.6 (272)	38.4 (137)	34.9 (135)	.18	-.04	36.9 (182)	35.1 (39)	30.6 (34)	.19	.07
3. School food service staff	35.3 (263)	33.9 (121)	36.7 (142)	.24	.03	34.8 (160)	39.6 (44)	36.9 (41)	.61	.04
4. Federal/State regulations	30.5 (227)	28.3 (101)	32.6 (126)	.12	.05	30.0 (138)	31.5 (35)	27.0 (30)	.75	.03
5. Key person designated to coordinate implementation and monitoring of wellness policies	26.3 (196)	24.9 (89)	27.6 (107)	.22	.03	27.2 (125)	25.2 (28)	20.7 (23)	.37	.05

NOTE: LWP = local wellness policy; HI = higher income; LI = lower income.