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Impact on staff of improving access to the school breakfast program: a qualitative study

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Abstract

BACKGROUND—Project BREAK! was designed to test the efficacy of an intervention to increase student participation in the reimbursable School Breakfast Program (SBP). Two schools developed grab-n-go menus, added convenient serving locations, and allowed eating in the hallway. This follow-up study investigated faculty and staff perspectives of how the SBP changes influenced schools.

METHODS—Project BREAK! high schools were located near Minneapolis, Minnesota, enrolled over 1200 students each and were 70%–90% white. Interviews with school personnel (N=11) and focus groups with teachers (N=16) from the 2 intervention schools were conducted. The Diffusion of Innovation (DOI) framework guided the question development.

Human Subjects Approval Statement

Informed consent was obtained in person from all participants at the time of data collection. The Institutional Review Board at University of Minnesota approved the research protocol and interview questions.

RESULTS—Analysis of the interviews identified the following DOI constructs as most prominently mentioned by school personnel and teachers: advantages for students and faculty/staff, minimal staff time required, communication of the changes, support of social relations between students and faculty/staff and trialability of the program.

CONCLUSION—There appears to be numerous advantages for both students and school personnel to improving SBP access. The relative advantages of Project BREAK! appear to outweigh the negatives associated with extra time and effort required by staff. Communication about the changes is an area that needs strengthening.

Keywords

school breakfast; diffusion of innovation; qualitative research

The US Department of Agriculture's School Breakfast Program (SBP) started as a pilot project in 1966 and was made permanent in 1975.¹ In 2010, the SBP operated in over 88,000 schools and served over 11.6 million children daily.¹ Yet, the SBP is underutilized nationally and less than half of low-income children participate.^{2,3}

Evidence shows there is an increased likelihood of higher nutrient intakes and more healthful diets among children and adolescents who consume breakfast.^{4,5} Yet 10% to 30% of children and adolescents skip breakfast, with breakfast skipping being more prevalent in girls, older children, and youth from lower socioeconomic backgrounds.⁴⁻⁶ Children and adolescents report a number of reasons for skipping breakfast, including not having enough time to eat in the morning, preferring to sleep rather than eat breakfast, not feeling hungry, or skipping breakfast as a strategy to control body weight.^{5,7-9} There is significant evidence of increased frequency of breakfast consumption protecting against overweight or obesity and breakfast consumers having a lower body mass index (BMI) compared with those who skip breakfast.^{5,10} Additionally, participation in the SBP has been found to be associated with a lower BMI.¹¹

Breakfast consumption is associated with enhanced academic performance and cognitive ability.^{4,5,12} Evidence most strongly suggests a positive relationship between breakfast consumption and memory, but other benefits include increased concentration, creativity, reasoning, vocabulary and problem solving.⁵ Additional benefits of breakfast consumption, and in particular participation in the SBP, include improved school attendance and positive effects on students' psychosocial function.^{4,5}

The Diffusion of Innovation Theory (DOI) provides a framework that schools can apply when making changes to programs, such as the SBP.^{13,14} This framework describes how a novel idea is disseminated over time, emphasizing key characteristics of the process of implementation.¹⁵ The authors are unaware of any research to date that explores the aspects of expanding the SBP and using the DOI to guide the evaluation.

Previous reports identified key school personnel and staff as critical players in the expansion of the SBP. Key personnel include the principal as a vital leader and enabler of policies and the foodservice director and managers as holding critical know-how and power to make

appropriate changes.^{16,17} A number of other faculty and staff members, such as school nutrition personnel, custodians, teachers, and nurses, can be involved in a team approach to making changes to the SBP.¹⁸

Project BREAK! was the parent study to this project. The purpose of Project BREAK! was to test a 6-month pilot intervention, beginning at the start of the 2009–10 school year, to improve student participation in the reimbursable SBP through improving and expanding the SBP in high schools. Two intervention high schools added a convenient serving location in the school atrium that offered a grab-n-go menu more in line with the 2009 Institute of Medicine School Meals report (eg, more whole grains, low fat dairy) and encouraged SBP consumption by allowing eating in the hallway. The authors concluded that improving the availability of a healthy breakfast and accessibility to the SBP is feasible, efficacious and particularly beneficial to students most at risk for breakfast skipping, ie, girls, low income youth (Nanney, Coulter, Wang, et al unpublished data).

Little is known about the influence of changes to the SBP from the point of view of key school personnel. The purpose of this study was to investigate how the changes made to the SBP influenced Project BREAK! schools from the perspectives of key personnel through the DOI framework. This knowledge will support the future development of strategies that maximize the potential benefits of the SBP, especially when considering the scalability of the intervention.

METHODS

Semi-structured interviews and focus groups were used in this qualitative study. The interviews and focus groups explored key personnel perceptions on how the changes to the SBP influenced the Project BREAK! schools. Whereas the goals were the same for all school personnel employing different methodologies maximized the number of participants who could contribute to the research.

Participants

The 2 Project BREAK! intervention high schools were located in suburban and outlying school districts in Minnesota. At baseline, enrollment was over 1200 students for each school and ranged from 70% to 90% white. School-level total student SBP participation ranged from 3% to 8% and free and reduced priced meal enrollment ranged from 17% to 26%. In-person and over-the-phone interviews were conducted with key personnel (N=11). Key personnel included a principal, assistant principal, head maintenance, local foodservice managers, district foodservice directors, and a school nurse. Interviewees were contacted via email to arrange for interview times. A total of 9 interviews were conducted with 7 being one-on-one and the other 2 being two-person interviews. Focus groups were conducted with teachers (N=16) from the 2 Project BREAK! intervention schools. The principal or assistant principal arranged for one teacher focus group at each school. Invitations to participate were based upon which teachers were most likely to be exposed to students participating in the SBP (ie, before school duties, taught a first hour class), how involved the teacher was with the SBP changes, and who was available during the time of the focus group. There were 10 focus group participants at one school and 6 participants at the other. Conducting focus

groups, rather than interviews, with teachers drew teachers with differing schedules together in a way that would not disrupt the school day and allowed for more viewpoints, increased diversity of participants, and richer data. Table 1 highlights demographic, attitude, and behavior information about the respondents.

Instruments

The research team developed the interview questions, which were designed to capture the influences of the SBP changes on school personnel. The same questions were asked during the interviews and focus groups. Table 2 highlights how the DOI guided the question development.¹⁴ This framework was chosen because the theory constructs fit well with the determinants schools face when tackling programmatic changes.^{19,20} A semi-structured, open-ended questioning format was used to allow for additional questions or clarification by the interviewer. Face validity of the questionnaire was established through pilot testing the questions with an assistant principal whose school had made similar SBP changes during the previous school year.²¹

Procedure

Informed consent was obtained at the time of the interviews. One researcher conducted all interviews and focus groups. A second research team member attended the focus groups as a note taker. The focus groups and interviews were conducted in the spring of 2011, at the end of the intervention school year. Interviews averaged 25 minutes and focus groups averaged 45 minutes. Interviews and focus groups were audio-recorded, then transcribed verbatim.

Data Analysis

Transcripts for both the semi-structured interviews and the focus groups were analyzed using NVivo9 software (2010/QSR International), which facilitated easy reviewing of the codes and data. Thematic coding was done on each full transcript. The analysis was informed by grounded theory, which allowed for the emergence of themes from the data. The social constructivist version of grounded theory encourages reflection between analysis and existing theory,²² so the themes were then organized by reflecting on the theoretical constructs, which influenced the organization of the themes into main and subthemes. Data and emerging codes were reviewed with a qualitative researcher multiple times during the analysis, which allowed for areas of any new ideas or different perspectives to be discussed and add depth to the analysis. Interview and focus group responses were categorized by content and theme and then summarized. Hard copy transcripts of the summarized responses were reviewed independently by 2 researchers and any discrepancies were resolved, with greater than 90% reliability of theme analysis and development. These same 2 coders utilized similar processes with agreement upon DOI constructs prominently mentioned.

RESULTS

Main themes are detailed below with the following DOI constructs being most prominently mentioned by key school personnel and teachers: relative advantage, communicability, time required, social relations and trialability.

Setting the New SBP Scene

Key personnel responses concerning the changes made to the SBP reflected the relative advantage construct. All respondents discussed the changes made to the SBP. In addition to continuing with breakfast service in the main cafeteria, each school created a “Breakfast to Go” line near the main entrance. This line provided grab-n-go options, making breakfast more convenient and accessible to students by allowing them to purchase breakfast on their way to class without having to go out of their way to get breakfast in the cafeteria. Four interviewee respondents and respondents in both focus groups felt that the food choices offered at the new serving line were more nutritious than they remembered seeing in past years. Policy changes were also implemented that allowed students to eat in the hallways of the schools and one school allowed eating in the classrooms, as discussed by 5 interviewee respondents and both focus groups.

“What we were seeing last year ... was those twisty caramel rolls that everybody was buying. Now I’m seeing people with cereal and fruit and milk, much better.”

Nurse interview

Process of Implementation

The process of implementation theme included advantages and challenges that reflected the relative advantage construct.

Advantages—One major advantage described by a majority of respondents (N=5 and both focus groups) was a greater awareness of the SBP among students, faculty and staff. Having a breakfast line at the main entrance of the school increased program visibility, as mentioned by 8 interviewee respondents and both focus groups. A number of respondents (N= 5 and both focus groups) found that the changes built relationships among students, staff and the community. The program changes were featured in the local news and brought a positive story and recognition to the districts, including interest from other districts in making similar changes to their SBP. The initial kickoff for the SBP at the beginning of the year was very social and respondents (N=4 and both focus groups) felt more of a sense of community among students at that time than there had been before. The building of relationships represents both the relative advantage and social relations constructs of the DOI.

“We see more kids and we know the kids maybe a little bit better... Some of them more on a first name basis than we probably would’ve if we wouldn’t have been doing this.”

Maintenance interview

“I think the camaraderie with the staff and students was great. They said the first adult they may see in the morning greeted them.”

Local Foodservice interview

Teachers and one principal respondent observed students encouraging other students to eat breakfast. Several respondents (N=3 and both focus groups) felt that students were very respectful of the process and there was no additional waste and trash after the changes were made to the SBP. One nurse stated that school staff members were bringing her breakfast

components that students had purchased but did not eat, such as fruit or milk. The nurse was then able to give the food to students who came to her with hunger related issues, such as stomach aches.

Challenges—A main finding that reflected the DOI construct of communicability was that communication was a weakness of this intervention. Four respondents and both focus groups felt that students and staff needed more communication about the program should have started at the beginning of the school year and Project BREAK! intervention, rather than waiting until the spring to do the major marketing campaigns.

“Initially I just got an email saying you’re invited to a meeting on... breakfast... It wasn’t really... described to me what was going on and what... the process was or thinking was.”

Maintenance interview

The logistics of making changes to the SBP is another area respondents (N=5) found challenging. Maintenance and foodservice respondents mentioned technical difficulties associated with the changes, such as having access to electricity at the main entry. Maintenance and foodservice respondents also agreed that having the right equipment for serving breakfast, such as food warmers and coolers, and having to move equipment to the new location each day was a challenge.

Influence of the Intervention

Faculty/staff—Nearly all respondents commented that there was minimal time and work associated with the changes to the SBP, although the importance of the DOI construct of time required was made apparent in interviews with local foodservice and maintenance staff. These staff members were most affected by the changes and had to adapt to a new routine that included adjusting employee schedules to accommodate the changes.

“It’s probably fifteen minutes to a half an hour every day that there’s additional stuff to do there. I have not noticed that it’s taken away from anything else that we normally do or anything like that.”

Maintenance interview

Additionally, local foodservice staff members had the opportunity to be creative within their jobs, which represented the DOI trialability construct. Staff members created new recipes and ideas to make the program successful.

“I think it impacted them [foodservice staff] on the premise that it somewhat pays to change things up... in the long run, they can come back and see that they’re actually targeting more students by being flexible and trying something new.”

District Foodservice interview

District level foodservice respondents initially had to devote time to planning the SBP changes and how they would be implemented. Once the program began, their roles became more supportive and there was not additional work for them due to the program.

Principal and teacher respondents felt that the changes made to the SBP did not influence their days or cause extra work for them. The role of the principal was to be supportive and help to facilitate the changes, whereas the role of teachers was to be a role model for students with regards to eating breakfast and encouraging breakfast consumption.

Students—All respondents identified a positive influence (ie, relative advantages) on students related to the changes to the SBP. A number of respondents (N= 3 and both focus groups) felt that many students did not eat breakfast at home because of the early school start time of 7:30 AM, but the changes to the SBP prevented students from having to choose between sleeping longer or taking the time to eat breakfast.

“The kids they get up late and then they rush to get to school and they don’t have breakfast...I hear from my students that they like breakfast, they don’t like missing breakfast so it’s nice to have the option to grab something here.”

Teacher focus group

“I used to... have at least a couple of kids who ... would come in and be really stressed out about not having eaten anything and can I excuse them to go down to the machine or whatever. I had none of that this year.”

Teacher focus group

Principal, maintenance and teacher respondents felt that the changes increased awareness of the benefits of eating breakfast among students and influenced student behavior in a positive way. Teacher and principal respondents felt that students were more alert, focused and engaged in class than in previous years. Teacher respondents who worked with students with emotional and behavioral disorders noticed fewer outbursts from the students in the morning.

“I didn’t have as much of those types of issues... the heads down, the lethargic behavior, those types of things, I didn’t see that as much this year.”

Teacher focus group

District foodservice, nurse and teacher respondents, felt the changes influenced low socioeconomic status (SES) students positively because there seemed to be a stigma attached to eating breakfast in the cafeteria, but eating in the hallway appeared to be more acceptable to students.

“The breakfast program sometimes can be construed as for the low income students... when you bring breakfast to the entryway where all the students are coming in and anybody can grab it, there is not type of singling out or any type of identification... it’s a little bit more of a level playing opportunity.”

District Foodservice interview

Lessons Learned

Suggested improvements—Respondents had a number of suggestions about what could have been done differently or improved, which showed the potential for increasing the trialability of the SBP. Respondents (N=7 and both focus groups) generally felt that the

communication of the program, with regards to both marketing and communication about the changes, could have started earlier in the school year and continued throughout the year. These respondents felt that communication about the program changes needed to be better relayed to students, parents and staff.

“At first they (students) were questionable, they didn’t know what was going on and that goes back to the marketing... Once they caught on to the concept, they responded to it very well.”

District Foodservice interview

Other improvements suggested include designating a seating area so students could sit down while eating, making the atmosphere more warm and friendly by playing music during breakfast service, having a mobile breakfast cart travel the hallways, adding a small breakfast *a la carte* area with healthy options, having a SBP drive-thru, serving breakfast outside occasionally, providing pre-made bags of breakfast for students, having students run the “Breakfast to Go” line as a project to gain hands on experience and having students serve one day to show their appreciation to foodservice staff.

Advice for other schools—Respondents gave advice for other schools that may want to make similar changes to their breakfast programs. It was considered important to involve faculty and staff in the very beginning to gain their support by 4 respondents. For example, one suggestion was to involve school nurses from the beginning so they can track illness events to monitor program influence on students.

“I think one of the things that went well is... we did have key administration involved from the get-go. We had key administration that were supportive of the concept.”

District Foodservice interview

Respondents (N=1 and 1 focus group) suggested involving teachers as cheerleaders for the program and role models for students. District foodservice respondents also suggested prioritizing the improvements that would be made to the SBP and working to keep it new and exciting for students. All respondents agreed that they would like to see the SBP changes continue for the students.

“There’s all kinds of things you can select and choose from to... improve an aspect of your school. This is definitely one that I would suggest you go for.”

Principal interview

DISCUSSION

Results of this study provide useful information from the perspectives of key school personnel on how changes to the SBP may influence schools. The numerous benefits of breakfast consumption, and in particular participation in the SBP, show a need for schools to work towards improving student participation in the SBP.^{4,5,10–12,23} This study looked beyond the objective and survey data collected from Project BREAK! to determine intangible benefits to students and influence of the SBP on faculty and staff members at the

intervention schools. The findings indicate that key school personnel perceived expansion of the SBP to be advantageous to students and themselves, whereas communication about the changes to the SBP needed to be improved. The time and effort required by faculty and staff was viewed as a minor challenge by participants that was one outweighed by the advantages to students.

The increased convenience and accessibility of the SBP not only increased student participation, but also provided a number of other benefits to students. Study findings, in regards to perceived benefits for students, are consistent with other literature on this topic, particularly in relation to benefiting students who did not have time to eat breakfast at home or have a conventional breakfast at school.^{18,24} Additional benefits noted in the literature include the students being more engaged and less disruptive, decreased disciplinary referrals, less tardiness, increased sense of student responsibility and a sense of community within the school.^{18,24}

Communication to students and staff members is important when making changes to a program within a school and improving communication could have improved program success. Good promotion and marketing of the SBP are among the key elements of success identified by the School Nutrition Association.¹⁹

Respondents noticed how the changes affected their jobs, but it is interesting to note that foodservice and maintenance key personnel, whose jobs were most affected by the changes, felt that the relative advantages of the program to the students greatly outweighed any negatives associated with extra time and effort on their part. Another study found that when changes were made to the school food environment, food service staff were optimistic about the changes even though they thought the changes required more effort on their part.¹⁶ Within the literature, reports from other schools implementing SBP changes (ie, a second breakfast service and breakfast in the classroom) found that although there were concerns about increased maintenance responsibilities prior to implementation, maintenance staff adjusted well to the new programs and were strong supporters of the programs.^{18,24}

This study found that the changes made to the SBP increased the sense of community in the school and lead to increased interaction between students and staff members that otherwise may not have happened. The findings from this study concur with findings from another study about changes to the SBP reducing stigma for the students who choose to eat breakfast.²⁵ This is especially important since, as mentioned by a number of respondents, the SBP is oftentimes seen as a food support program for low-income students. Being able to get past the stigma associated with the SBP could potentially benefit all students, especially those who are on the free or reduced meal program.

Respondents discussed different experiments they tried with the SBP, such as new recipes and cooking techniques. This is an important construct to consider, especially for schools that are looking to make similar changes to their SBP, because it shows the flexibility (ie, trailability) of the program. Respondents described the importance of a program where schools can make changes to the SBP that fit their needs. This flexibility is also consistent with SBP expansion best practices.^{18,19}

Limitations

Although this study provides rich data from key personnel within the schools about making changes to the SBP, the practical community approach taken with the study mean there are important limitations that must be acknowledged. The researchers spent a short period of time with key informants, which did not allow for researchers to exhaust all DOI constructs in the study. Whereas 45 minutes is a brief time for a focus group, and one focus group had 10 participants rather than the ideal 6 to 8 participants, this research occurred in the context of a community setting in a way that would maximize participation and cause the least disruption in the school day. Also, the section on perceived influence on students came from the vantage point of faculty and staff rather than from students themselves. Another limitation to this study was that teacher focus group participants were chosen and invited by the principal or assistant principal rather than being randomly selected. Additionally, only one focus group was conducted at each school, while focus group research typically includes 3 or 4 focus groups with a particular audience;²⁶ there may not have been clear saturation of the results because of the limited number of focus groups. A more rigorous mixed method design potentially could have yielded different results.

Conclusion

This study investigated how key personnel at Project BREAK! schools perceived changes to the SBP, drawing on the DOI Theory. The study provides crucial information for other schools looking to expand their SBP including a broad range of benefits. The application of the DOI constructs found that the advantages and social relations were a major strength of the program, with the challenges involved with the time and effort required by faculty and staff being greatly outweighed by the advantages of the program. A major lesson learned from this study is that when making changes to a school program, it is important to keep key staff involved from the beginning and provide ample communication about the changes that will be taking place. The trialability of this study shows that depending on how innovative the school is, it could be flexible with the changes it makes through improving just one aspect of the SBP or making a number of changes to the SBP; improving the SBP can be done on any scale. Addressing these findings could make a positive contribution to future scalability of the program, by allowing future and more extended implementation that is sensitive to the lessons that emerged from this research. A future study should conduct qualitative research with students to see how SBP changes influence them. Future research should also focus on how the SBP can be further improved to benefit even more students, with a major area to consider being the communication of the intervention to key players to improve the success of similar programs.

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IMPLICATIONS FOR SCHOOL HEALTH

The SBP offers students the opportunity to improve their dietary intakes, body weight and academic performance. Schools should be encouraged to improve access to their SBP to make it easier for students to get and eat the school breakfast. This research highlights that changes made to the SBP can be accepted by administrators, teachers and staff, even when extra time and effort was required of those members. In addition, a SBP that is more visible may also contribute to improved social relationships between students and school personnel.

Table 1

School Personnel Participant Demographic Information

	All Participants	Key Personnel Interviewees (N=11)	Teacher Focus Group Participants (N=16)
Average age (years)	45.2	47.5	43.5
Average time in current position (years)	7.7	6.9	8.3
% of female participants	77.8% (N=21)	72.7% (N=8)	81.3% (N=13)
% of respondents who have attended graduate school	63% (N=17)	27.3% (N=3)	87.5% (N=14)
% of respondents who breakfast daily	63% (N=17)	63.6% (N=7)	62.5% (N=10)
% of respondents who reported never eating Breakfast	11.1% (N=3)	27.3% (N=3)	0% (N=0)
% of respondents who report consuming school Breakfast in the past Month	7.4% (N=2)	18.2% (N=2)	0% (N=0)
% of respondents who strongly agree with the statement "I think eating breakfast is important"	93% (N=25)	100% (N=11)	87.5% (N=14)
% of respondent who strongly agree with the statement "Eating breakfast improves concentration in students"	85.2% (N=23)	90.9% (N=10)	81.3% (N=13)
% of responders who strongly agree with the statement "Eating breakfast helps improve academic performance in students"	77.8% (N=21)	81.8% (N=9)	75% (N=12)

Table 2

Diffusion of Innovation Guided the Interview and Focus Group Questions Administered to Key School Personnel Participants

Diffusion of Innovation Theory Constructs	DOI constructs operationalized for the SBP	Key personnel and teacher questions
Relative Advantage	Advantages of the new SBP delivery practice, including: convenience, student satisfaction, etc.	<ul style="list-style-type: none"> What went well with implementing the changes to the program?
Compatibility	Is the new SBP delivery practice consistent with values and needs of the school?	<ul style="list-style-type: none"> What went well with implementing the changes to the program? How did the changes to the program impact your job?
Complexity	Is the new SBP delivery practice easy to understand and use? Is it simple and well-defined?	<ul style="list-style-type: none"> What are the challenges you observed with implementing the changes to the program? How did the program impact your job?
Trialability	How can the school experiment with the new SBP delivery practice?	<ul style="list-style-type: none"> What ideas do you have for improving the program?
Observability	How visible are the results of the new SBP delivery practices?	<ul style="list-style-type: none"> What are your impressions of the changes made to the breakfast program? <p>What went well with implementing the changes to the program?</p>
Modifiability	How easy would it be to modify the new SBP delivery practice to suit the needs of the school?	<ul style="list-style-type: none"> What ideas do you have for improving the program?
Reversibility/Sustainability	How easy would it be to continue or discontinue the new SBP delivery practices?	<ul style="list-style-type: none"> Would you encourage continuing with the changes made to the program? Why or why not? What ideas do you have for improving the program?
Communicability	How was the new SBP delivery practice communicated to students and faculty/staff?	<ul style="list-style-type: none"> What are your impressions of the changes to the breakfast program? What could have been improved with the implementation of the changes to the program?
Time Required	How did the changes to the SBP influence time?	<ul style="list-style-type: none"> How did the changes to the program impact students? How did the changes to the program impact your job?
Impact on Social Relations	How did the new SBP delivery practice influence student/teacher/staff interactions?	<ul style="list-style-type: none"> How did the changes to the program impact students? How did the changes to the program impact your job?