School nutrition directors' experiences and perceptions of expanding the school breakfast program in Kansas

by

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Abstract

The School Breakfast Program (SBP) is a federally assisted meal program with the primary goal of providing a nutritious breakfast to children that arrive at school without adequate nourishment essential for learning. Kansas has nationally recognized Child Nutrition Programs; however, like many states, the SBP remains underutilized compared to the National School Lunch Program. Improving access to the SBP has the potential for positive student academic and health outcomes. Innovative breakfast delivery models that offer breakfast after the start of the school day, including grab-and-go, second chance breakfast, and breakfast in the classroom, have been demonstrated to effectively increase participation in the SBP.

The purpose of this study was to explore innovative breakfast delivery models and the impacts of expanding the SBP in Kansas schools. The Diffusion of Innovation theory was used to guide focus group question development and data analysis. The sample included school nutrition directors (SNDs) representing public-school districts participating in the USDA-supported SBP and currently operating an innovative breakfast delivery model, for a minimum of the past school year.

Qualitative data were collected from four synchronous online focus groups consisting of three to seven participants. The final sample size was 19 SNDs. Thematic analysis was conducted on each transcript to identify significant themes, frequencies, and patterns in responses. Key findings included themes related to the relative advantages over the traditional breakfast program, compatibility with district values and student needs, supportive social systems and communication channels, modifiability of the innovative breakfast models, impacts on students, and program sustainability.

This study underscores the value of school administrator support and collaboration with stakeholders in the school environment when expanding the SBP. Innovative breakfast delivery models were commonly modified to meet the evolving needs of the schools and to improve program efficiency. Participants perceived their innovative breakfast delivery models as sustainable due to increased program participation, satisfaction, and revenue. Many school districts observed positive impacts on students, including fewer nurse visits and improved behaviors in schools. Expanding the SBP into the school day appears to have a positive impact on the school environment by improving student and staff relationships. These findings provide stakeholders with information and supporting evidence that can be used to improve the implementation of innovative breakfast delivery models to increase SBP participation.

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Chapter 1 - Introduction

Many children start the school day without eating breakfast, even though a significant amount of research has demonstrated that children who consume breakfast regularly are more likely to be healthier and perform better in school (Adolphus et al., 2016; Gleason & Dodd, 2009; Wesnes et al., 2012). There are several reasons students skip breakfast, such as lack of food at home or available time in the morning (Hearst et al., 2016; Widome et al., 2009). The School Breakfast Program (SBP) is a federally funded program that was implemented with the Child Nutrition Act of 1966 and permanently authorized in 1975 (Gunderson, 2014). The program's primary goal is to provide a nutritious breakfast daily to children who might arrive at school without adequate nourishment necessary for learning (Ralston et al., 2017). The SBP can help reduce food insecurity in youth (Fletcher & Frisvold, 2017). Fortunately, more schools are now offering a breakfast program. About fifteen years ago, just over 78 percent of schools in the United States operated a breakfast program that also participated in the National School Lunch Program (NSLP) (Food Research & Action Center (FRAC), 2004). Whereas, in the 2017-2018 school year, over 93 percent of schools that participate in the NSLP also offer school breakfast (FRAC, 2019c).

The SBP is traditionally offered to students before the school day begins, which research has demonstrated creates many barriers for students to access breakfast at school (McDonnell et al., 2004). While a majority of schools offer a SBP, the limited accessibility to breakfast before school has attributed to considerably lower participation in the SBP than the NSLP (McDonnell et al., 2004). There is strong evidence that supports meals served after the school day begins through an innovative breakfast delivery model (i.e., breakfast after the bell) overcomes the barriers of the traditional breakfast model (FRAC, 2019c). Innovative breakfast delivery models

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include grab-and-go, second chance breakfast, and breakfast in the class (BIC) (FRAC, 2017b). The grab-and-go model distributes meals to students in hallways or cafeterias as students go to their first class. Service for a second chance breakfast usually occurs between the first and second periods from a designated location. Breakfast in the classroom is served after the official start of the school day. These innovative breakfast delivery models can be implemented without significant changes made by the school or school food service department and have shown to be financially sustainable (Hearst et al., 2018; Shanafelt et al., 2019). Since the 2007 school year, the average daily school breakfast participation has increased by nearly 50 percent among low-income children (FRAC, 2017b). Much of the success in increasing school breakfast participation can be credited to the implementation of innovative breakfast models.

Despite substantial growth in participation and availability of the SBP nationally, the SBP continues to be underused compared to the NSLP. Nationwide, over 14 million students were served breakfast on an average school day, whereas over 29 million students participated in the NSLP on average in the 2017-2018 school year (School Nutrition Association [SNA], n.d.). Nationally, only 57 low-income children consume school breakfast for every 100 low-income students who participate in the NSLP (FRAC, 2019c). The Food Research & Action Center's goal is for every state to serve 70 low-income students breakfast for every 100 who eat school lunch (FRAC, 2017a). Increasing SBP participation and reaching FRAC's goal could provide breakfast to 2.8 million more students a year (FRAC, 2019c).

Many of these innovative models, such as BIC and grab-and-go have been increasing breakfast participation rates in schools for nearly two decades (Conklin et al., 2004; FRAC, 2004). While more schools across the nation are evolving and embedding the innovative

breakfast delivery models into the school day, many states, including Kansas, have low breakfast participation and slower adoption of these innovative models.

Justification

Kansas has nationally recognized Child Nutrition Programs but lags in school breakfast participation. While Kansas has seen a steady increase in school breakfast participation, it ranks in the bottom half of the nation for breakfast participation (FRAC, 2019c). A significant body of literature provides evidence that increasing participation can occur through implementing an innovative breakfast delivery model (e.g., grab-and-go, second chance, and breakfast in the classroom). A growing number of Kansas schools have experienced success with innovative breakfast delivery models, but the majority of Kansas schools have not implemented these effective models. The objective of this study is to obtain more knowledge and insight as to how and why Kansas schools choose to adopt one or more innovative breakfast delivery models and what factors have facilitated program expansion. This study could assist other programs in expanding their SBP, while also providing the state agency with information to continue to support Kansas schools that could ultimately increase statewide SBP participation in Kansas.

Purpose

The purpose of this study was to explore factors that facilitated and influenced the implementation of innovative breakfast delivery models in Kansas schools. This study also investigated the potential impacts and outcomes of expanding the School Breakfast Program. Focus groups were conducted to obtain data from school nutrition directors using the Diffusion of Innovations (DOI) theory as a foundation to guide question development.

Research Questions

1. What are the motivators for expanding the School Breakfast Program through an innovative

breakfast delivery model in Kansas schools?

Primary variables of interest:

- Increased SBP participation
- Reduced food insecurity
- Increased program revenue
- Student academic, behavior, and health outcomes

2. What are the strategies used to overcome perceived and known barriers to expand the School

Breakfast Program through an innovative breakfast delivery model in Kansas schools?

 Primary variables of interest:

- Gaining stakeholder support
- Scheduling factors and loss of instructional time
- Cost of implementation and additional resources
- Sanitation concerns

3. What are school nutrition directors' perceptions of how expanding the School Breakfast

Program through an innovative breakfast delivery model in Kansas schools has impacted

students?

Primary variables of interest:

- Student academic, behavior, and health outcomes
- Student satisfaction with the SBP

4. What are school nutrition directors' perceptions of the short- and long-term sustainability of

the innovative breakfast delivery models?

Primary variables of interest:

- Program sustainability given the future uncertainty of changes in school
administration, budget constraints, and school nutrition standards

Significance of Study

The results of this study provide evidence and insight to improve SBP participation in Kansas. The purpose and objectives also align with the current needs and objectives of the Kansas State Department of Education Child Nutrition and Wellness, which is seeking to increase a known deficiency in SBP participation statewide.

Limitations of Study

This study collected information through online focus groups. While focus groups provide a great deal of rich data, there are several limitations that must be recognized. There was a small sample size of 19 school nutrition directors (SNDs). This study is limited by only including a convenience sample of SNDs. It would have been advantageous to include a variety of stakeholders, including administrators, teachers, parents, and students from school districts with different socioeconomic backgrounds and located in various geographical locations in the state of Kansas. The sample of SNDs that chose to participate in the focus groups may have differed from those who chose not to participate. Willingness to participate in the focus groups may have reflected their attitude towards the innovative breakfast models. The findings of this study cannot be generalized to the population as a whole.

Definition of Terms

Innovative breakfast delivery models: Also referred to as alternative breakfast models or breakfast after the bell (BAB). A non-traditional breakfast delivery model that expands the school breakfast program by making it part of the school day. (e.g., Grab-and-go, second chance breakfast, and breakfast in the classroom) (No Kid Hungry, n.d.-c, 2018; Soldavini & Ammerman, 2019; Spruance et al., 2019)

> **Breakfast in the Classroom (BIC):** breakfast is eaten in the classroom after the official start of the school day. Breakfasts are delivered to classrooms by students or staff from the cafeteria via coolers or insulated rolling bags.

> **"Grab-and-go" to the classroom Breakfast:** Prepackaged breakfasts are distributed to students in high-traffic areas such as hallways, entryways, or cafeterias throughout the school.

> **Second Chance Breakfast:** Typically, between the first and second periods, students can get breakfast from a designated location. Schools can serve breakfast in the same manner as they would with traditional grab-and-go to the classroom, or they can open up their cafeterias to serve breakfast during an extended break if time allows.

Diffusion of Innovation Theory: The process by which an innovation is communicated over time through specific channels among members of a social system (Rogers, 2003). The theory includes four main elements that work together to explain how and why diffusion occurs: 1) innovation characteristics, 2) communication channel, 3) time, and 4) social system (Rogers, 2003). Innovation characteristics are attributes that a potential adopter or organization perceives the innovation to have; this includes relative advantage, compatibility, complexity, trialability, and observability (Rogers, 2003).

Free or reduced-price meals (i.e., low-income students): Children from families with incomes between 130 and 185 percent of the Federal Poverty Level (FPL) are eligible for reduced-price meals. Children from families with incomes at or below 130 percent of the FPL are eligible for free school meals (FRAC, 2019c).

Food Insecurity: Access to adequate food is limited by a deficiency of money and other resources. (Coleman-Jensen et al., 2018)

Local Education Agency (LEA): The local school's governing body (i.e., the board of education), referred to as the sponsor or Local Education Agency (LEA), administers the Child Nutrition Programs (Kansas State Department of Education, Child Nutrition and Wellness, 2014; U.S. Department of Agriculture, 2018).

School Connectedness: The belief by students that teachers, other adults, and peers in the school care about their learning as well as about them as individuals (Centers for Disease Control and Prevention, 2009).

Traditional school breakfast delivery model: Students receive breakfast in their school cafeteria before school begins (No Kid Hungry, n.d.-c).

Universal free school meals: (i.e., meals free to all students) including the Community Eligibility Provision (CEP), Provision 2, and locally funded universal free meals "non-pricing" (No Kid Hungry, n.d.-e).

Chapter 2 - Review of Literature

History of the School Breakfast Program

As a matter of national security to safeguard the children's health and wellbeing, Child Nutrition Programs were established by the federal government in 1946 with the National School Lunch Program (NSLP) (Gunderson, 2014). To further meet the nutritional needs of children, the School Breakfast Program (SBP) was enacted as a pilot program by the Child Nutrition Act of 1966, "in recognition of the demonstrated relationship between food and good nutrition and the capacity of children to develop and learn" (42 U.S.C. 1771) (Gunderson, 2014). In 1975 the SBP received permanent authorization, and Congress declared its intent that the program "be made available in all schools where it is needed to provide adequate nutrition for children" (Food and Nutrition Service, 2013).

The SBP is a federally assisted meal program found in public schools, nonprofit private schools, and residential childcare institutions (Food and Nutrition Service, 2019). Participating schools and institutions must provide reduced-price and free breakfasts to eligible children and serve meals that meet federal nutrition standards based on the Dietary Guidelines for Americans (Food and Nutrition Service, 2019). The SBP is administered at the federal level by the Food and Nutrition Service, U.S. Department of Agriculture (USDA), and is usually administered by state education agencies at the state level, which operates the program through agreements with local education agencies (LEA) (i.e., sponsors) (Food and Nutrition Service, 2019). The LEA and individual schools are responsible for determining the menus, the specific food items served, how meals are prepared, and when meals are served to students (Food and Nutrition Service, 2017). Breakfast policies decided by the LEA can be a determinant of school breakfast consumption and participation among students (Hearst et al., 2018).

Food Insecurity

Food insecurity and hunger is a continuing problem in the United States. Nearly 16 percent of households with children were considered food insecure in 2017 (Coleman-Jensen et al., 2018). Food-insecure households are those with low or very low food security that had difficulty at some time during the year, providing adequate food for all members due to a deficiency of resources (Ralston et al., 2017; U.S. Department of Agriculture, 2018). In 2017, 40 million people lived in food-insecure households, and over 12 million were children (Coleman-Jensen et al., 2018). The prevalence of food insecurity is substantially higher for households in major cities of metropolitan areas (13.8 percent) and for, households located in rural (nonmetropolitan) areas (13.3 percent), and lower in suburban and other urban areas outside major cities (9.4 percent) (Coleman-Jensen et al., 2018).

A recent study concluded that food insecurity could contribute to multifaceted psychological distress in children ages seven to 14 years (Leung et al., 2020). To help address food insecurity in children, the US federal government established nutrition assistance programs to provide a nutritional safety net for low-income families by providing meals to children that would not have access to food at home (Coleman-Jensen et al., 2018). A study by Bartfeld and Ahn (2011) found that access to the SBP significantly improved marginal food insecurity of low-income third-grade students (Bartfeld & Ahn, 2011). However, this study did not find that the SBP necessarily lessen food insecurity once hardships had passed the food insecurity threshold. Another study supported the findings that the SBP has the potential to decrease the rate of food insecurity in elementary-age children (Fletcher & Frisvold, 2017).

Studies have found that youth from food-insecure homes consume breakfast less frequently and are more likely to skip breakfast, compared to youth from food-secure homes

(Grutzmacher & Gross, 2011; Widome et al., 2009). Similarly, in a study by Khan et al., (2011), food-insecure middle school students were less likely to consume breakfast at home. However, food-insecure students were more likely to participate in the SBP; this resulted in no differences in the overall frequency of breakfast consumption between food-secure and food-insecure students (Khan et al., 2011). By addressing challenges and barriers to expanding the SBP, participation rates could potentially increase (Bartfeld & Kim, 2010). Increasing SBP participation could be an effective way to maintain food security in children (Bartfeld & (Bartfeld & Ahn, 2011) and possibly even reduce the risk of food insecurity for low-income households (Fletcher & Frisvold, 2017).

Breakfast Consumption and Relationships to Academic, Behavior, and Health Outcomes

Several studies have indicated that breakfast has a positive impact on adolescents' overall health and academic achievement. However, breakfast is the most frequently skipped meal. As children transition into adolescence, regular breakfast consumption decreases (ALBashtawy, 2017; Barton et al., 2005; Bruening et al., 2011). The National Health and Nutrition Examination Survey found that 20 percent of children ages 9-13, and over 30 percent of teenagers ages 14-18 regularly skipped breakfast (Deshmukh-Taskar et al., 2010). A five-year longitudinal study Project EAT conducted in Minnesota found that 42 percent of high school students in this study consumed breakfast fewer than two days per week (Bruening et al., 2011). This study by Bruening et al., (2011) suggests that early adolescence is a significant time to establish regular breakfast habits, and the SBP program can be a beneficial way to promote consistent breakfast consumption in youth.

Children and adolescents that consume breakfast have better cognitive performance, memory, and attention (Adolphus et al., 2016; Murphy et al., 1998; Wesnes et al., 2012). Similarly, a cross-over trial by Widenhorn-Müller, Hille, Klenk, and Weiland (2008) demonstrated positive short-term effects of breakfast on cognitive functioning but found no effect on sustained attention among the study population of high school students. However, self-reported alertness in the entire study population improved significantly (Widenhorn-Müller et al., 2008).

An extensive survey of 9,912 middle and high school students examined the association of breakfast consumption, academic performance, and school connectedness (Sampasa-Kanyinga & Hamilton, 2017). School connectedness was defined in a report by the Center for Disease Control and Prevention (2009) as the students' belief that teachers, other adults, and peers in the school care about their learning and them as individuals. Research has identified that when students feel connected to their school, they have a higher probability of engaging in healthy behaviors and succeeding academically (Centers for Disease Control and Prevention, 2009). Sampasa-Kanyinga and Hamilton (2017) suggested that middle and high school students who consumed breakfast regularly (i.e., five days a week) are at greater odds of higher school connectedness and academic performance. A study by Murphy et al., (1998) found strong evidence that a higher rate of participation in the SBP is related in the short-term with enhanced student functioning on a broad range of psychosocial (i.e., the interrelation of social factors and individual thoughts and behaviors) and academic measures (Murphy et al., 1998).

Many studies have shown that eating breakfast is related to healthier body weight in adolescents (Fiore et al., 2006; Flores et al., 2019; Koca et al., 2017). Participation in the SBP was associated with significantly lower body mass index (BMI) than students that consumed

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school breakfast less frequently or not at all (Gleason & Dodd, 2009). Students that consume school breakfast have higher nutrient intake compared to those that skip breakfast (Au et al., 2018). This cross-sectional study by Au et al. (2018) found that students who ate school breakfast every day consumed more fruits, vegetables, dietary fiber, whole grains, and dairy than students who ate school breakfast four or fewer days of the week.

Traditional School Breakfast Delivery Model and Participation

Traditionally, the SBP is offered in the cafeteria before the school day begins. However, this model has not been widely effective in attracting students to participate in the SBP. Commonly cited barriers for participation with before-school models is that students lack time to eat in the morning (Askelson et al., 2015; Hearst et al., 2016) and inability to arrive early to school early due to bus schedules or conflicting events (Askelson et al., 2017; McDonnell et al., 2004). Longer bus rides create substantial challenges for students living in rural areas to access breakfast before the school day begins (Hoffman et al., 2018). Two studies involving midwestern high school students indicated a lack of hunger first thing in the morning as a common barrier to consuming breakfast (Hearst et al., 2016; Olsta, 2013). Other barriers include parents' and students' lack of knowledge and awareness of the benefits of breakfast consumption (Hearst et al., 2016; Lopez-Neyman & Warren, 2016). Several studies have also linked low SBP participation with a perceived stigma that school breakfast is only for students approved for free and reduced-price meals (Askelson et al., 2015; Bailey-Davis et al., 2013; Basch, 2011; Lopez-Neyman & Warren, 2016; McDonnell et al., 2004). The advantage of the traditional breakfast service model is that it requires the direct approval of fewer stakeholders because meals are only being served and eaten in the school cafeteria.

Innovative School Breakfast Delivery Models and Participation

One of the most effective strategies for increasing participation is to expand the SBP and make breakfast part of the school day through an innovative breakfast delivery model rather than only offering breakfast in the cafeteria before school (FRAC, 2019c; Lambert et al., 2007). Innovative breakfast delivery models, also known as breakfast after the bell include grab-and-go, second chance breakfast, and breakfast in the classroom (BIC) (FRAC, 2017a). On average, schools that implement the grab-and-go, second chance breakfast, or BIC breakfast models can reach 59 percent, 58 percent, and 88 percent participation, respectively (No Kid Hungry, n.d.-c). These innovative school breakfast delivery models overcome the barriers of timing, accessibility, and stigma that prevent children and adolescents from participating in school breakfast (FRAC, 2019c).

A randomized group trial by Hearst et al., (2018) found offering breakfast as a grab-and-go or a second chance model in addition to student-led breakfast promotions decreased common student reported barriers (e.g., time constraints, lack of hungry early in the morning, and menu acceptability) to eating school breakfast. The results of a cross-sectional study found that breakfast delivery models positively associated with SBP participation were BIC and BIC plus grab-and-go for elementary and high school students, and grab-and-go and a second chance for middle and high school students (Soldavini & Ammerman, 2019). Additionally, Soldavini & Ammerman (2019) found a positive impact on participation by serving breakfast free of charge to all students by utilizing a universal free breakfast model alone. However, in this same study serving free meals to all in combination with an innovative model was associated with higher odds of students participating in the SBP compared to using only one of these models alone. While serving meals free to all is an advantageous way to increase school breakfast participation,

not all schools can afford to cover the cost to offer universal free meals or qualify for the community eligibility provision (Moeltner et al., 2018).

A large study conducted in the 2013 school year that included 446 urban elementary schools found that when BIC was implemented the mean participation rates was 73.7 percent compared to a mean participation rate of 42.9 percent for schools that used the traditional model (i.e., breakfast in the cafeteria) (Anzman-Frasca et al., 2015). Rural Midwest high schools that implemented a grab-and-go only component observed increased student participation in the SBP from baseline to the school year of intervention (13 percent to 22.6 percent) (Larson et al., 2018). Larson et al. (2018) also found that participation in SBP increased among low-income students from 13.9 percent to 30.7 percent and full paid students from 4.3 percent to 17.2 percent. Olsta (2013) reported that a Midwest suburban high school had a 400% increase in breakfast participation by extending breakfast service hours in the cafeteria after the start of the school day and by implementing a mobile grab-and-go breakfast cart that delivered school breakfast during the morning study hall classes. The use of innovative breakfast delivery models has been successful in both rural and urban schools.

Studies have shown positive impacts of increasing SBP participation by implementing an innovative breakfast model. A 2004 study indicated that increasing school breakfast participation was associated with fewer visits to the school nurse, particularly in the morning (Bernstein et al., 2004). Food Research and Action Center (FRAC) surveyed secondary school principals from 67 school districts in 31 states that had implemented an innovative breakfast delivery model. Many positive outcomes were associated with innovative breakfast models, such as fewer tardy students, visits to the school nurse, and disciplinary referrals (FRAC, 2015). Expanding the SBP

with the BIC model has been linked to increased school attendance in elementary students (Anzman-Frasca et al., 2015).

Barriers and Challenges with Innovative School Breakfast Delivery Models

Adopting an innovative school breakfast delivery model can present challenges and barriers for schools to overcome. Perceived barriers and concerns commonly reported regarding expanding the school breakfast program are lack of support from key stakeholders (e.g., school leaders, teachers, sanitation staff, and school nutrition directors and staff), scheduling and loss of instructional time, sanitation, and cost (FRAC, 2017a; No Kid Hungry, n.d.-b).

Frigge et al. (2018) found that the lack of cooperation from school administration and other staff was detrimental to successfully implementing and integrating an innovative SBP in the high school setting. Askelson et al. (2017) surveyed school administrators in a Midwest state with low school breakfast participation to understand their perceptions of the SBP. Results indicated that school breakfast was not often a priority to fit within the academic day (Askelson et al., 2017). In this same study, school administrators were asked to identify all the breakfast delivery models they would consider using in their district. Over 70 percent selected the traditional method, and 49 percent selected grab-and-go. Only 9-12 percent would consider a second chance type of breakfast service. In a similar study, more than half of the participating school administrators indicated that they did not feel it was necessary to increase breakfast participation rates, and one-third of the administrators in the study did not favor expanding the breakfast program with an innovative model (Spruance et al., 2019). Another survey of kindergarten through 12th-grade teachers found a preference for the traditional SBP model over other innovative breakfast models (E. B. Krueger et al., 2018). In this study by Krueger et al. (2018), BIC was the least preferred breakfast model; however, teachers who indicated they were

using BIC had a significantly higher preference for this model than teachers that used the traditional or other innovative SBP models. It may be possible that schools that have not implemented an innovative breakfast delivery model perceive barriers more challenging to overcome.

For educators, there is frequently a tension between the time needed to assist the breakfast service and the expectation to teach "bell to bell" (FRAC, 2017a). Research results have been mixed on loss in instructional time. Teachers reported the amount of instructional time required for the BIC program as a primary challenge and dislike of this breakfast model (E. B. Krueger et al., 2018; Stokes et al., 2019). Salomon (2009) found that less than half of the respondents reported a loss of instructional time as the main barrier with BIC. A survey of secondary school principals indicated that teachers observed no loss in instruction time with the grab-and-go model (FRAC, 2015). In an earlier survey, principals reported that teachers saw an increase in instructional time due to students not leaving class because of hunger-related concerns (e.g., headaches and stomachaches) (FRAC, 2013). Laws passed by state legislatures in five states have supported BIC efforts by stating time spent eating BIC contributes towards instructional time if accompanied by other education-related activities (e.g., taking attendance, reading, and collecting assignments) (No Kid Hungry, n.d.-d). Trying to fit an innovative breakfast model into the already constricted academic schedules can often present resistance to expanding the school breakfast programs. A report by No Kid Hungry Champaign found that innovative breakfast models can be facilitated in 10-15 minutes, and many schools have even incorporated the processes into passing periods that require no loss in classroom time (No Kid Hungry, n.d.-c).

Another common concern for serving breakfast after the bell is limited sanitation staff and time for post-breakfast clean-up (FRAC, 2013; No Kid Hungry, n.d.-b; Salomon, 2009; Stokes et al., 2019). A recent survey reported that only four percent of principals cited clean-up as an obstacle for implementing an innovative breakfast program (FRAC, 2015). By adding additional resources to manage the increase in waste, this barrier has been overcome by many schools (FRAC, 2017a; No Kid Hungry, n.d.-b). Similarly, food waste can also be a concern for innovative breakfast models, especially for BIC. Farris et al. (2019) reported that overall food waste from breakfast decreased from 43 percent when served in the cafeteria to 38.5 percent in schools that had implemented BIC. This study found a significant increase in fruit waste in the BIC model. Farris et al. (2019) stated that the amount of food waste could be reduced based on the type of fruit served and how it was prepared. Nevertheless, food waste can be relatively high in both the traditional and innovative breakfast models.

In the study by Frigge et al., (2018), school nutrition service directors reported challenges of maintaining staff enthusiasm for the program over time throughout implementation and student interest in the menu. Maintaining acceptability of the school breakfast menu by students, staff, and parents has been a challenge for both traditional and innovative breakfast models (Hearst et al., 2018; Huang et al., 2006; McDonnell et al., 2004; Stokes et al., 2019). Nutrition service directors and other school personnel agreed that communication between stakeholders as one of the primary challenges during the implementation and integration of the innovative breakfast program (Folta et al., 2016; Frigge et al., 2018; Haesly et al., 2014).

The location of the school can also be a barrier to implementing an innovative breakfast model. A study representing 6,732 secondary schools from 28 states in the U.S. found that schools in rural locations or small towns had significantly fewer healthy eating practices and

policies than urban locations (Nanney et al., 2013). The initial cost of implementing and

operating an alternative breakfast program is a commonly perceived inhibitor of expanding the

school breakfast program for both rural and urban schools (No Kid Hungry, n.d.-b; Shanafelt et

al., 2019). In an economic analysis study, all ten rural schools that expanded their school

breakfast program sold enough meals to remain cost-neutral. Schools experienced daily profits

ranging from $196 to $432, and on average, schools recovered startup costs within 30 days

(Shanafelt, Magliocco, Milbrath, Nanney, & Caspi, 2019). Shanafelt et al., (2019) found that

school size and initial expenditures affected the number of days to recover startup costs.

Success Factors with Innovative Breakfast Delivery Models

Many organizations and advocacy groups have identified strategies to effectively

implement an innovative breakfast delivery model to increase school breakfast participation.

Studies have found successful expansion the SBPs starts with involving, engaging, and

communicating with a wide range of stakeholders at all levels in the school social system

(Creighton, 2012; FRAC, 2017a; Frigge et al., 2018; Huang et al., 2006; Morris et al., 2010; No

Kid Hungry, n.d.-c). Key stakeholders identified to change the school breakfast environment

would include the school nutrition service director and staff, district administrators, principals,

teachers, nurses, custodians, students, parents, and community members (Creighton, 2012;

Haesly et al., 2014). Most nutrition service directors and principals described success in attaining

staff buy-in by discussing the changes, sharing their vision and objectives for the program, and

asking for their input early in the planning process (Frigge et al., 2018). Empowering students

and staff by including them in the development of the program can encourage participation and

may have supported the embedding of the innovative program in the school environment.

Student-center activities in a group-randomized trial by Hearst (2018) included student-led

marketing campaigns and student taste-testing of breakfast menu items. Student-focused activities appeared to provide peer support that encourages participation and improve student satisfaction with the taste and variety of school breakfast menu items (Frigge et al., 2018; Hearst et al., 2018).

Share Our Strength's No Kid Hungry Campaign developed a checklist that identifies key strategies to assist schools in the implementation of an alternative breakfast program. This list includes assembling a team of key stakeholders and provide training, connecting with other schools to learn best practices, identifying equipment needs, creating an implementation plan, and promoting the breakfast program (No Kid Hungry, n.d.-a). This checklist supports best practices and recommendations identified in studies conducted on innovative breakfast models (Frigge et al., 2018; Haesly et al., 2014). National organizations and advocacy groups like Share Our Strength's No Kid Hungry Campaign, FRAC, and the United States Department of Agriculture provide substantial resources to support schools' initiatives to expand their SBP to increase participation in schools. However, schools can be hesitant to make substantial changes to their programs (Askelson et al., 2017; Turner & Chaloupka, 2012).

Since 2011, several states have passed laws requiring schools to make breakfast available after the school day has begun. These laws vary by state and require schools with a certain percentage of students qualifying for free or reduced-price meals to offer Breakfast After the Bell (i.e., innovative breakfast delivery models) to all students (No Kid Hungry, n.d.-d). Providing financial incentives to schools to implement innovative breakfast models is another effective advocacy tactic that several states have taken to reduce the barrier of startup cost to expanding the SBP. States that offer financial incentives provide additional per meal state-funded

reimbursement or grants to encourage schools to adopt these innovative models (No Kid Hungry, n.d.-d).

Sustainability

Fundamentally, a school breakfast program has a more significant impact on the school and children the longer it can be sustained. Sustainability capacity is defined as "the ability to maintain programming and its benefits over time" (Calhoun et al., 2014; Schell et al., 2013). Limited research has been conducted on the long-term sustainability of innovative breakfast models (Frigge et al., 2018). It is essential to consider the viability of the innovative breakfast delivery models since the benefits these programs can only be provided to students if the school district continues the use of the program.

Participation in Kansas School Breakfast Programs

Impressively, about 93 percent of Kansas Schools operate an SBP. However, Kansas ranks in the bottom half, at 29th in the nation for school participation in the SBP in the 2017-2018 school year (FRAC, 2019d). On the FRAC School Breakfast Scorecard (2017-2018), Kansas was ranked 42nd in the nation for student breakfast participation with a ratio of 50 low-income students participating in school breakfast for every 100 low-income students participating in school lunch (FRAC, 2019c). Only 39 percent of students eligible for free and reduced-price meals ate school breakfast in the 2018 school year (Kansas State Department of Education, Child Nutrition and Wellness, 2019d). The majority of Kansas SBPs are offered before school (i.e., traditional breakfast delivery model). Although Kansas ranks in the bottom quarter nationally for SBP participation, Kansas has seen a steady increase in breakfast participation statewide and a substantial increase in schools that adopted innovative breakfast delivery models (Kansas Appleseed, 2018b).

The state education agency, Kansas State Department of Education (KSDE) Child Nutrition and Wellness (CNW), has continued to see an increase in the number of districts utilizing innovative breakfast delivery models. From 2016 to 2019, there was an increase of 49 districts using innovative breakfast models (Kansas State Department of Education, Child Nutrition and Wellness, 2019d). Nevertheless, there is still room for improvement. The state of Kansas has a total of 404 school districts (i.e., sponsor) that participate in Child Nutrition Programs. In the 2019 school year, only about a third of these districts reported utilizing an innovative breakfast model (Kansas State Department of Education, Child Nutrition and Wellness, 2019d).

Kansas rural populations account for over a quarter of the state's population (FRAC, 2019b). Rural locations have been associated with slower adoptions of healthy policies and practice (Nanney et al., 2013). This could be, in part, why Kansas is not growing as quickly as other states. About 47 percent of students in Kansas public schools were approved for free or reduced-price meals in the 2019 school year (Kansas State Department of Education, 2019). In Kansas, a public school must offer breakfast unless the Kansas State Board of Education has granted it a waiver. However, the state does not permit waivers from schools where 35 percent or more of students are eligible for free or reduced-price meals (Kansas State Department of Education, Child Nutrition and Wellness, 2019a). The decision to offer an innovative breakfast delivery model is up to the local school authority (i.e., school district).

Early innovators to implement breakfast after the bell in Kansas schools have seen great success. In the 2013 school year, Liberal High School reported serving an additional 200-300 breakfast meals a day after implementing a second chance breakfast in the High School (Kahler, 2014). Since implementing an innovative breakfast model in the 2016 school year, Seaman High

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School serves more second-chance breakfasts than the traditional breakfast (Kansas Appleseed, 2018a). Seaman School District recently expanded to the middle school and tributes their success to the involvement of nutrition service staff, teachers and school administration (Kansas State Department of Education, Child Nutrition and Wellness, 2019c)

From 2016 to the 2017 school year, many Kansas districts saw increased school breakfast participation among low-income students, 144 districts increased their ratio of low-income students receiving school breakfast for every 100 receiving school lunch, and 121 districts had higher average daily participation (Kansas Appleseed, 2018a). The 2018 Kansas Appleseed Breakfast report indicated that districts with the highest ratios of low-income students participating in SBP all had utilized one or more of the innovative breakfast models and offered breakfast meals free to all through universal free breakfast programs or the Community Eligibility Provision. In the school year 2017, 24 districts achieved the FRAC's goal of reaching 70 low-income children eating school breakfast for every 100 receiving school lunch (Kansas Appleseed, 2018a). The Kansas City, Kansas School District served over 80 low-income students' breakfast for every 100 low-income students that participated in the lunch program, and the district is among the top 10 districts in the nation (FRAC, 2019a). However, that is the only large district in Kansas to reach FRAC's goal of 70 percent of low-income students participating in the breakfast program for every 100 students participating in the NSLP (Kansas Appleseed, 2018a).

A 2017 report by Feeding America stated that the Kanas food insecurity rate for children is 18.3 percent, which means that nearly 1 in 5 children in Kansas struggle with hunger (Feeding America, 2017). In the 2019 school year, KSDE Child Nutrition and Wellness partnered with Share Our Strength (No Kid Hungry Campaign) and Midwest Dairy to provided 42 schools with

innovative breakfast delivery model grants to support the breakfast program expansion (Bush, 2018). Obtaining grants can help reduce the barrier of the cost associated with implementing an innovative breakfast model (Shanafelt et al., 2019). The state agency KSDE Child Nutrition and Wellness is taking many steps to educate and assist schools in implementing expanded breakfast programs by reducing some of the perceived barriers. Though Kansas schools are making advances in implementing strategies to increase breakfast participation, innovative breakfast models could be used at much higher rates throughout the state to provide more meals to children in Kansas (Kansas Appleseed, 2018a).

Summary

This chapter summarized relevant literature to provide background information to support the research conducted. A brief overview of the SBP history established that the purpose of this program is to provide all students access to nutritious meals in the morning. Previous research has demonstrated the benefits and positive health outcomes of breakfast consumption at school and confirmed the barriers to the traditional breakfast model. The literature provides evidence that innovative breakfast delivery models (i.e., grab-and-go, second chance, and BIC) overcome the barriers of the traditional breakfast model and are a critical component to increasing school breakfast participation. The review of the literature indicated the barriers and challenges to initiating an innovative breakfast delivery model. The literature also illustrated some key success factors when implementing an innovative breakfast model.

While there is a growing amount of literature and publications that demonstrate best practices and strategies, there is limited research on the effective methods used to embed a sustainable, innovative breakfast delivery model into Kansas schools. Therefore, this study will identify how and why Kansas schools implemented an innovative breakfast program. This study

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also will investigate the impacts and sustainability of an innovative breakfast program through the perceptions of school nutrition directors. The next chapter will outline the methodology used for this study.

Chapter 3 - Methodology

Introduction

This chapter presents the methods used to complete the study, including the target population, research design, the framework used to develop the discussion guide, and data analysis procedures. The purpose of this study was to explore school nutrition directors' (SNDs) experiences and perceptions of what factors facilitated and influenced the implementation of innovative breakfast delivery models in Kansas schools. This study also investigated the potential impacts and outcomes of expanding the School Breakfast Program (SBP). The Diffusion of Innovations (DOI) theory was used to guide focus group question development and data analysis. Instead of focusing on the barriers to expanding the SBP, which is widely outlined in the existing literature, this inquiry is an affirmative exploration and validation of what is currently working in Kansas school districts. This qualitative study focused on proactive steps used to implement and expand innovative school breakfast programs.

Population and Sample

The population of this study is SNDs of Kansas school districts that have implemented an innovative breakfast delivery model. The sample of SNDs for this study was identified through purposeful and convenience sampling procedures. To reach this population, Kansas State Department of Education (KSDE) Child Nutrition and Wellness provided records of public schools, private schools, and residential childcare institutions (RCCIs) in Kansas that reported using an innovative breakfast model in the 2018-2019 school year. The researcher compiled and assessed the information provided by the state agency to identify Kansas school districts that may meet the inclusion criteria for the study. The sample of this study included SNDs that confirmed their employment at a public-school district that participates in the USDA-supported

school breakfast program and currently operates an innovative breakfast delivery model, for a minimum of the past school year.

Focus Groups

This study utilized focus groups of SNDs to explore the influences and impacts of improving school breakfast participation through the implementation of an innovative breakfast delivery model. Focus groups involve five to ten people with identified common characteristics (e.g., occupation) (R. Krueger & Casey, 2015). Focus groups have a carefully planned discussion intended to obtain perceptions on a defined area of interest and led by a moderator in a non-threatening environment (R. Krueger & Casey, 2015). The use of focus groups offers interaction between participants, which also generates discussions that provide a more in-depth understanding of the topic (R. Krueger & Casey, 2000).

Focus group discussions provide the opportunity for SNDs to freely share their experiences and uncover factors that influence opinions and motivations (R. Krueger & Casey, 2015). Increasing school breakfast participation through an innovative breakfast model involves policy and environmental changes to meet the unique needs of each school (Hearst et al., 2018). Due to the customizable nature of innovative breakfast programs to individual schools, focus groups allow participating SNDs to discuss and articulate their experiences in developing effective and sustainable approaches when adopting an innovative breakfast model.

Several qualitative studies on the SBP have utilized focus groups of key stakeholders to investigate barriers to participation and implementation of the SBP (Lambert et al., 2007; McDonnell et al., 2004) and perceptions and experiences of various stakeholders that used an innovative breakfast model (Bailey-Davis et al., 2013; Folta et al., 2016; Haesly et al., 2014).

For this study, synchronous online focus groups were conducted by modeling video conferencing software methodology developed in prior research with Clinical Nutrition Managers (Howells & Sauer, 2015; Patten, 2016). A key limitation of the traditional focus groups is assembling a group of professionals in a single physical location. Technological advances in an internet-enabled country have reduced the limitation of location and made it possible to attract specific types of participants over a large geographical area (Howells, 2015; Stewart & Shamdasani, 2017). Using online focus groups have been associated with improved timeliness and cost-efficiency of the research (Howells & Sauer, 2015).

Conducting synchronous online interviews is a similar process to a traditional in-person focus group and requires a moderated discussion of a topic by a skilled moderator (O'Connor & Madge, 2003). Real-time audiovisual conferencing software allows participants to see and hear one another and respond to visual clues similar to a face-to-face group (Kite & Phongsavan, 2017). A study by Kite and Phongsvan (2017) compared synchronous online focus groups to traditional focus groups of college students and found that less data was produced in the online groups due to technical difficulties with the web conferencing service. However, the quality of the data obtained was equal to that of the traditional face-to-face groups (Kite & Phongsavan, 2017). To overcome this limitation, detailed instructions on how to use the video conferencing software was provided to the participants before the focus group meeting date to reduce technical difficulties and anxieties about using the conferencing system (Howells, 2015).

The use of real-time focus groups with video conferencing software is ideal for the dispersed population of this study. Most SNDs in Kansas are familiar with online communication tools because the state education agency offers a variety of online training sessions and webinars.

The state education agency has reduced the number of in-person training sessions due to the popularity and convenience of the online format.

Diffusion of Innovation Framework

Applying the Diffusion of Innovation (DOI) theory may help to expand our understanding of how districts were able to overcome barriers to increasing SBP participation in Kansas by implementing an innovative breakfast delivery model (Haesly et al., 2014). This theory provides a framework for describing how, why, and at what rate, new ideas are communicated through social systems and spread over time (Dearing & Cox, 2018; Rogers, 2003). Rogers (2003) defined innovation as an idea, practice, or object that is perceived as new by an individual or organization of adoption. Diffusion is the process by which an innovation is communicated over time through specific channels among members of a social system (Rogers, 2003). The theory includes four main elements that work together to explain how and why diffusion occurs: 1) innovation characteristics, 2) communication channel, 3) time, and 4) social system (Rogers, 2003). Innovation characteristics are attributes that a potential adopter or organization perceives the innovation to have; this includes relative advantage, compatibility, complexity, trialability, and observability (Rogers, 2003). Additional DOI concepts relevant to understanding the diffusion of innovative breakfast delivery models included modifiability and sustainability.

Table 3.1 describes the operationalized DOI concepts for the innovative breakfast delivery models. Rogers (2003) defined innovativeness as the degree to which an individual or organization is relatively earlier in implementing new ideas than the other members of a social system. The five adopter categories used to describe innovativeness based upon the time at

which an innovation is adopted include: innovators, early adopters, early majority, late majority,

and laggards (Rogers, 2003).

Table 3.1 Application of Diffusion of Innovations Theory Concepts

Diffusion of Innovation (DOI) Concepts	DOI Concepts Operationalized for Innovative Breakfast Delivery models
Innovation Characteristics	
Relative Advantage	The perception that a particular innovative breakfast delivery model has advantages over the traditional before-school breakfast delivery model (as it relates to convenience/accessibility, economics, program satisfaction, etc.)
Compatibility	The perception that a particular innovative breakfast delivery model is consistent with existing values, needs, routines, and practices of the school district.
Complexity	The perceived degree of difficulty to implement, use, and understand an innovative breakfast delivery model.
Trialability	The extent to which the innovative breakfast delivery model can be piloted or tried before a commitment to adopt.
Observability	The degree to which the results of the innovative breakfast delivery model are visible to others.
Communication Channels	Movement of an innovation-related message from one individual to another, including information source and stakeholders in the line of communication.
Social System	Interactions of stakeholders in the school environment engaged in joint problem solving, including both formal and informal social structures.
Time	Process of going from first knowledge to adoption. Rate varies depending on the innovativeness of the individual/organization adopting and their compared earliness/lateness in reference to others.
Additional DOI theory Concepts	
Modifiability (Reinvention)	The degree to which an innovation is changed or modified.
Sustainability	The degree to which an innovation continues to be used over time.

Sources used to develop operationalized DOI concepts for the SBP (Folta et al., 2016; Haesly et al., 2014; Lehnerd et al., 2019; Rogers, 2003)

The DOI theory has been used in other qualitative SBP studies to investigate faculty and staff perceptions of how implementing a grab-and-go breakfast model impacted school staff (Haesly et al., 2014). The DOI theory has also been used to interpret the perspectives of various stakeholders during the initial implementation of BIC (Folta et al., 2016). Additionally, the DOI theory and concepts were utilized as a framework in other school nutrition research related to farm to school programs, school wellness policy, and fruit and vegetable initiatives (Harriger et al., 2014; Jørgensen et al., 2014; Lehnerd et al., 2019).

Discussion Guide Development

The Diffusion of Innovation (DOI) theory was used to frame focus group questions and provided a useful framework for examining how and why the diffusion of innovative school breakfast programs have expanded in Kansas school districts. A semi-structured discussion guide was developed by applying guidelines recommended by Krueger and Casey (2015) and studies that conducted online focus groups (Breen, 2006; Howells, 2015; R. Krueger & Casey, 2015). It consisted of opening questions, introductory questions, key questions, and closing questions (R. Krueger & Casey, 2015). The focus group questions were derived from several sources, including previous diffusion research and other qualitative studies on the SBP, as well as the researcher's experience with the SBP (Frigge et al., 2018; Haesly et al., 2014; Lehnerd et al., 2019; Lowry, 2015) (Appendix A). Prior to project approval, the discussion guide was reviewed and assessed for clarity and understandability by an expert panel of four researchers experienced with research in Child Nutrition Programs.

Prescreening and Demographic Surveys

SNDs were invited by email to participate in the study (Appendix B). This email informed potential study participants of the purpose of the study. It contained the required information to comply with the approved protocol of the Institutional Review Board of Human Subjects. The initial email also explained how the focus group would be conducted and how the results of the focus group would be used. The pre-screening survey (Appendix C) ensured that the SNDs met the inclusion criteria and included questions to verify the employment of the SNDs, confirmed that the district was actively operating an innovative breakfast model, and inquired about changes in breakfast participation since implementation. Once the pre-screening survey was completed online or by phone, the respondent was sent the demographic survey through Qualtrics.

The survey inquired about the demographics of the respondent and information regarding the school district size, average participation in the breakfast and lunch programs before and after implementation, innovative model types currently used by the district, and grade-levels that have access to an innovative breakfast delivery model. Additional questions inquired about the perceived impacts of innovative breakfast models. The results of these impact questions were not discussed additionally in this study due to the small sample size and insufficient data provided from participants.

Participants were notified by email of the date and time for their specific focus group session and provided with the focus group questions (Appendix D), as well as further instructions on how to use the web-conferencing technology Zoom (Appendix E). The participant received an email 20 minutes before the start time of the focus group session that contained the Zoom link used to access the online meeting room.

Project Approval

Before conducting this study, approval from the Kansas State University Institutional Review Board was obtained. The approval letter is located in (Appendix F).

Pilot Study

A pilot study was conducted to obtain feedback on how the focus group questions came across to representatives of the target population (i.e., to check for meaning) (Breen, 2006). The pilot study also allowed the researcher to evaluate the feasibility of hosting the focus groups online with a sample equivalent to the target population. Emails addresses were obtained for 25 Kansas SNDs that had implemented an innovative breakfast delivery model within the past school year or were a private school district. The participants for the pilot study were recruited using the same methods as for the main study. Six SNDs completed the online pre-screening and demographic survey developed in Qualtrics. The pre-screening and demographic survey used for the pilot study also included a comment box at the end of the survey to solicit clarification of the survey instructions and questions. Four SNDs participated in the pilot study. There were no technical difficulties with the Zoom web-conference technology during the pilot study. The participants of the pilot study had no concerns or recommendations about the pre-screening and demographic survey or appropriateness of the focus group questions. Minor modifications were made to focus group questions based on the responses given to the focus group questions. For example, question eight was expanded to inquire about the changes in participation rates regarding the different meal categories (i.e., free and reduced-price meals).

Recruitment

Email addresses were obtained for 97 SNDs of Kansas public-school districts that had been identified as operating an innovative breakfast delivery model for at least one school year

from information provided by KSDE Child Nutrition and Wellness. Contact information for SNDs was obtained from the Kansas Education Data Reporting website KSDE Data Central and individual school websites.

An email invitation to participate (Appendix B) in the research study, along with the pre-screening survey was sent to all 97 SNDs (Appendix C). Twenty-three SNDs completed the pre-screening survey. Of the 23 SNDs that completed the pre-screening survey, five respondents declined to participate in the focus groups; two of the five stated they no longer offered an innovative breakfast model. Thirty-four SNDs were contacted by phone that had not completed the pre-screening survey to improve the sample size. Fourteen of the 34 completed the pre-screening survey over the phone; the remaining 20 declined mainly due to scheduling conflicts or did not respond.

Thirty-two SNDs were sent the demographic survey. Six SNDs did not complete the demographic survey, and three SNDs were found to be ineligible for the study due to not having implemented the innovative program for at least one school year. Four of the remaining 23 SNDs were unable to attend the day of their assigned focus group session. The final sample size was 19 SNDs, focus group 1 (n=4), group 2 (n=7), group 3 (n=5) and group 4 (n=3).

Data Collection

The focus group sessions took place between February and March 2020. Zoom web-conferencing technology was utilized to host four online focus groups with SNDs (n=19). The focus groups were scheduled for one hour. The actual duration ranged from 47 to 70 minutes, depending on the size of the focus group. Two researchers were present during focus group interviews. The author conducted the focus group interviews by following the discussion guide, and the other researcher handled any technical difficulties participants had with the Zoom web-

conferencing technology. Participants were made aware that attendance in the focus group

meeting served as consent to participate in the study. Participation in the study was voluntary.

Data Analysis

After the focus group sessions were completed, the discussions were transcribed verbatim

by the Zoom web-conferencing transcription service. The author reviewed each of the focus

group transcripts in-depth multiple times and corrected them to ensure the accuracy of the

computerized transcription by listening to the recording of the focus groups. The transcripts were

read independently by the author and two content experts familiar with school nutrition and

qualitative research. The content experts were uninvolved with the data collection. Codes were

assigned using the Diffusion of Innovation (DOI) theory to guide the deductive development of

themes and patterns for thematic analysis. The author and two researchers met on five occasions

to negotiate differences in the assessment of codes and to establish an agreement for the

identified themes. The transcripts were uploaded into NVIVO12.0 Plus (QRS International LTD,

2018) to analyze the data.

Chapter 4 - Findings

Introduction

This chapter reports the results of this qualitative study. It includes demographic data from focus group participants, aggregate data from school districts that participated, and findings in accordance with the research questions.

Demographics

Demographic Characteristic of Participants

The demographic profile of school nutrition directors (SNDs) that participated in the focus groups is presented in Table 4.1. Of the 97 SNDs invited to join the study, a total of 19 SNDs participated in four focus groups, group 1 (n=4), group 2 (n=7), group 3 (n=5), and group 4 (n=3). The majority of the SNDs were female (89%), and the highest level of education attained by the majority of the participants was a bachelor's degree or higher (52%). Over a quarter of the participants were credentialed as Registered Dietitian Nutritionists (26%). The author is aware that the categories for years in current position and years of experience are not mutually exclusive. However, this data can give a general understanding of the participants' work history. About one-third (36%) of participants were relatively new to their current position, having worked five or fewer years as the SND for their district. In comparison, just under half the participants (42%) were experienced in school foodservice management for 15 or more years.

Table 4.1 Demographic Profile of Focus Group Participants (n=19)

Characteristics	*n*	Characteristics	*n*
Gender		**Years in current position**	
Female	17	1 to 5 years	7
Male	2	5 to 10 years	4
		10 to 15 years	4
Highest education level		15 to 20 years	3
Bachelor's degree	9	More than 20 years	1
High School or GED	5		
Some college or Associate degree	4	**Years of experience in school nutrition**	
Master's degree	1	1 to 5 years	4
		5 to 10 years	4
Types of credential		10 to 15 years	3
Registered Dietitian Nutritionist	5	15 to 20 years	3
School Nutrition Specialist	2	More than 20 years	5
Certified Dietary Manager	1		
Other	1		

Demographic Characteristics of School Districts

Table 4.2 illustrates the demographic characteristics of the school districts represented in the study. A majority of the school districts were self-operated (89%). Based on the reported county, there was a relatively equal number of districts located in rural, small towns and metro areas, as defined by the Office of Management and Budget (OMB). The percent of low-income students in the districts were evenly distributed between 20-79%, with only one district above 80% of students qualifying for free or reduced-price meals. More than half (53%) of the school districts employed 20 or more foodservice employees. A majority of the districts had less than 5000 students (63%). A majority of the districts did not serve universal free meals (79%).

Table 4.2 Profile of School Districts

Characteristics	*n*	Characteristics	*n*
Food Service Type		Number of foodservice employees in the district	
Self-Operated	17	1 to 9	4
Contract Managed	2	10 to 19	5
		20 to 29	3
School District Location (based on county) [a]		30 to 39	2
Rural (less than 10,000)	6	40 to 49	0
Small Town (10,000 and 50,000 people)	7	>50	5
Metro (50,000 or more people)	6		
		Universal Free Meals	
Percent of low-income students in district[b]		No service sites offer universal free meals for breakfast	15
20-39	6		
40-59	6	Some service sites offer universal free meals for breakfast	2
60-79	6		
80-99	1	All service sites offer universal free meals for breakfast	2
Number of students in district			
less than 200	1	Implementation year	
200-499	1	Early-Majority	(8)
500-999	5	2018-2019 (1-year)	5
1000-4999	7	2017-2018 (2-years)	3
5000-10000	3	Early-Adopters	(7)
More than 10,000	2	2016-2017 (3-years)	4
		2015-2016 (4-years)	3
		Innovators	(4)
		2014-2015 (5-years)	1
		2013-2014 (6-years)	2
		2012-2013 (7-years)	1

[a] "Metro counties" are those contained within Metropolitan Statistical Areas, as defined by the OMB; each of which contains at least one Census Bureau-delineated urbanized area of 50,000 or more people. "Small town counties" are those contained within Micropolitan Statistical Areas, each containing at least one Census Bureau-delineated urban cluster of between 10,000 and 50,000 people. "Rural counties" consist of non-metropolitan and non-micropolitan areas. (Food Research & Action Center, n.d.)

The districts were grouped by their innovativeness and divided into three adopter categories (early-majority, early-adopters, and innovators), based on the year the first innovative breakfast model was implemented. Early-majority implemented the innovative breakfast delivery model within the last two years (n=8). Early-adopters implemented within the past three to four years (n=7). Innovators implemented five or more years ago (n=4).

Additional characteristics of the school districts are listed in Table 4.3. Participants worked in school districts of various sizes (ranging 323-49,375 students; M = 5982) with the average number of daily reimbursable meals for the School Breakfast Program (SBP), and National School Lunch Program (NSLP) reported at 2159 and 3966, respectively. The average daily participation in the SBP reported by participants was 37 percent, which is noticeably higher than the 2019-2020 statewide average of 25 percent. The reported average daily participation in the NSLP was 67 percent, only slightly higher than the statewide average of 63 percent. Due to a substantial number of participants not reporting participation data prior to implementation, it was not feasible to calculate an accurate change in participation rate before and after the implementation of an innovative model. Districts varied in the number of schools (ranging 3-90; M = 13). While all schools in the study participated in the SBP, the number of schools that had an innovative breakfast delivery model varied (ranging 3-87; M = 9).

Table 4.3 Additional Profile of School Districts

Characteristics	Mean	Median	Range
District enrollment[a]	5982	1819	323-49,375
Daily reimbursable meals in the SBP	2159	445	130-16,284
Daily reimbursable meals in the NSLP	3966	908	260-32,439
Daily participation in SBP % (Average daily SBP participation in Kansas %)[b]	37 (25)	38	12 - 85
Daily participation in NSLP % (Average daily NSLP participation in Kansas %)[b]	67 (63)	65	63-90
Schools in district	13	5	3-90
Schools that service breakfast	13	5	3-90
Schools with innovative breakfast delivery model	9	3	3-87

[a] 2019-2020 Total student enrollment for Kansas (Kansas Department of Education, 2019a)
[b] 2019-2020 Estimated average participation in SBP and NSLP statewide for Kansas in February 2020 (Food and Nutrition Service, 2020; Kansas State Department of Education, 2019)

Innovative Breakfast Delivery Models

The school districts represented in this study were at various stages of implementation based on the diffusion process. Only three SNDs reported having an innovative breakfast model in every school. There were 241 schools represented by the 19 districts in this study, and 175 (73%) reported having an innovative breakfast delivery model at various grade levels. Table 4.4 presents the total number of districts and schools utilizing an innovative model at the time of the study and compares it to the total number of districts and schools statewide that reported using an innovative model in the 2018-2019 school year.

Table 4.4 Total Districts and Schools with Innovative Breakfast Delivery Models

	Sample	Innovative (%)	Statewide	Innovative (%)
Total Districts	19	19 (100)	404[a]	141[a] (35)
Total Schools	241	175 (73)	1489[a]	446[a] (30)

[a] 2018-2019 school year data (Kansas Department of Education, Child Nutrition and Wellness, personal communication, November 18, 2019)

Table 4.5 presents the different innovative breakfast model types used at the various grade levels in the districts that participated in this study. Some districts reported using more

than one type of innovative breakfast model at a particular grade level. All districts (n=19) reported having an innovative breakfast model at one or more sites that serve students in the 9th-12th grades. The most common model used in this grade group was the second chance (n=17), followed by the grab-and-go model (n=6). Only one district reported having breakfast in the classroom (BIC) at the 9th-12th grade level. The majority of the districts reported operating an innovative breakfast model at the 7th and 8th grade level (n=14, n=17). Less than half of the districts reported offering an innovative breakfast model below the 6th grade (Range 7-9). BIC was the least used innovative breakfast model but used most often in grades Kindergarten-4th grade.

Table 4.5 Innovative Breakfast Delivery Models by Grade Level

Innovative Model Type(s)	Grade Level						
	K-3rd	4th	5th	6th	7th	8th	9th-12th
Breakfast in the Classroom (BIC)	2	2	1	1	0	0	0
Second Chance Breakfast	1	2	3	4	9	10	13
Grab-and-go	2	2	2	2	3	5	2
Grab-and-go, BIC	1	1	1	1	1	1	0
Grab-and-go, BIC, Second Chance	1	1	1	1	0	0	1
Grab-and-go, Second Chance	0	0	0	0	1	1	3
Total	7	8	8	9	14	17	19

Findings in Accordance with Research Questions

Themes were represented in terms of the Diffusion of Innovation (DOI) theory concepts, including characteristics of innovation (relative advantage, compatibility, complexity, tribality, observability), social systems, communication channels, modifiability, and sustainability. The DOI

concepts are defined and outlined in Appendix G. The three adopter categories used to describe the innovativeness of the districts based upon the time at which the first innovative model was adopted, including innovators (≥5 years), early-adopters (3 to 4 years), and early-majority (≤ 2 years) (Rogers, 2003).

Research Question 1 - What are the motivators for expanding the SBP through an innovative breakfast delivery model in Kansas schools?

Relative Advantage - Accessibility

The majority of the school nutrition directors (SNDs) (12 directors) explicitly noted that a prominent motivator to implement an innovative breakfast model was because of low breakfast participation or the "*gap between the number of students participating in breakfast and the number of students participating in lunch*" (District 10 early-adopter). Several SNDs discussed the difficulties that students faced when trying to access the breakfast program before the start of the school day and perceived the innovative breakfast models as advantageous in overcoming barriers of the traditional breakfast model to increase participation.

SNDs noted that the location of the cafeteria would deter participation in the school breakfast program (SBP); if the cafeteria was located in another building, basement, or not near where students congregate in the morning (7). Many participants also mentioned that the innovative model provides a more comfortable location for students to access the SBP (4).

> *"Our junior high has to walk to the high school for [the traditional] breakfast… and that's kind of intimidating… we don't have a huge number of junior high students that will do that…a huge number that will go in the hallway, get the [second chance] breakfast and then go to class. I think it's just a more comfortable environment for them and that way they don't have to interact with high school [students]."* District 3 (innovator)

> *"One of the main reasons we started [second chance breakfast] there was because at the time we had the freshmen separated out in a different building, and so there was a lot of*

traveling back and forth … they would miss out on breakfast, and because of sports, band, that kind of thing, so that helped." District 2 (early-majority)

Limited time in the morning was another common barrier discussed. SNDs noted that morning activities prevented students from participating in the SBP (6). The fact that many students arrive late or just before the start of the school day due to the bus schedules or parents not bringing students to school in time to access the traditional breakfast was noted by several (9). Many respondents also recognized that students that were not hungry before school, particularly students at secondary schools. The grab-and-go and second chance breakfast provides access to meals when students are ready to eat breakfast (10).

> *"I did a survey of the high school kids before we implemented … most of them were not eating breakfast at all…and the reason was they didn't get to school on time, or they weren't hungry … they didn't want to go sit down and eat. They wanted to be where their friends [were]."* District 4 (early-majority)

Compatibility

School nutrition directors expressed that expanding the SBP was consistent with existing values, needs, and practices of the school district. Participants indicated that implementing an innovative breakfast model was compatible with the values of the district and school leadership to provide students with the opportunity to eat breakfast (6).

> *"the principal at the time really wanted to feed the kids, and he was all about getting the kids fed."* District 8 (early-adopter)

> *"I think for us because it's what's good for the students and that's the bottom line in our district from the top down. It's good for the kids we'll do it, we'll have to find a way to make it work if one way is not working another way can. We do have full support of our admin, which is extremely helpful."* District 12 (early-adopter)

> *"…being in a very high free and reduced district, it's important for us to make sure their students have access to breakfast…know that they all come from unique backgrounds and they may or may not have eaten before school."* District 16 (innovator)

Respondents noted that the innovative breakfast model was perceived as a better solution to meet the needs of students, and this was influential in the decision to make breakfast part of the school day.

> *"I think that the kids really need a different way of eating breakfast. The traditional way just isn't doing it for them anymore, and they just need other options."* District 8 (early-adopter)

> *"...from the time they [students] get to school and the time they actually go to lunch was obviously a big distance, especially those kids like I talked about earlier that were getting to school early, so we were brainstorming with our staff. We knew about the second chance breakfast option ... a lot of my staff at the high school have kids and they saw that as a need."* District 7 (early-majority)

> *"The leader in it all being...the nurse, saying this needs to change. And so that was really helpful just people agreeing and seeing that there was a problem and we had a solution."* District 3 (innovator)

When asked what motivated the district to expand the school breakfast program, SNDs noted that the innovative model was adopted in-part through school wellness practices and initiatives to provide healthier options for students (5). District 3 participated in a wellness program that provided students with nutrition lessons and healthy snacks. The success of this program led to the implementation of a second chance breakfast, which has expanded to all the schools in the district.

> *"Absolutely was tied into coordinated school health and wellness policies, we have a very strong school health council and so we use those models…"* District 17 (innovator)

A minor theme indicated by SNDs was that the innovative model was compatible with routines or practices of the school. Schools in districts 14 and 15 fit the second chance breakfast into an existing morning break. A unique factor mentioned by one SND was the introduction of the breakfast in the classroom (BIC) model supported a school-wide redesign initiative.

> "*We started the breakfast in the classroom in January at our elementary as part of the Gemini to school redesign...and that's why the teachers approached me at that time about doing breakfast in the classroom."* District 8 (early-adopter)

Social Systems and Communication Channels

Learning about the innovative breakfast delivery models through various external social networks and communication channels motivated the expansion of the SBP. Hearing the successes of other schools at state meetings, conferences, or informal networking with other school districts were identified as an influential factor in expanding the SBP by several SNDs (8).

> *"I visited with different schools, that's how I got started…when they were saying how well it was working for their school."* District 9 (early-adopter)

> *"…meetings that the state had, that we went to, to try to get ideas…that was helpful for me to hear everybody else's thoughts on … what was working for them."* District 8 (early-adopter)

Several participants said the expansion of the SBP was initiated by district administrators learning about the innovative breakfast model directly from the state education agency (4). District 2 and 13 noted the state agency visited their district and met face-to-face with school leadership and other key stakeholders regarding improving their low school breakfast participation through adopting an innovative breakfast delivery model.

> *"[Child Nutrition and Wellness staff] came down and actually met with our administrators and said... this is what your school's doing...it's like, oh my gosh, we're not performing… it was a great meeting, and from there it just escalated."* District 13 (early-adopter)

SNDs also mentioned that administrators attended a conference hosted by the Kansas State Department of Education, where Child Nutrition and Wellness promoted the benefits of increasing access to breakfast programs by implementing an innovative breakfast model. The state agency provided further support to implement innovative models through grant opportunities.

"Child Nutrition and Wellness department attended a superintendent meeting to talk about second chance breakfast, innovative breakfast delivery and grants… that was the real catalyst…my superintendent actually came to me at that point …So that's what really got us started." District 5 (early-majority)

Many participants stated that the state agency grants motivated SBP expansion, allowing them to at least try the innovative model, and providing the means to buy the equipment to expand their programs.

"What went really well for us, though, is a getting the grant so that we could even just try it." District 19 (early-majority)

"I did have the opportunity to apply for … the grant funding and received that so … that's the other reason we've expanded" District 6 (early-majority)

Districts 2 and 4 expressed they were able to implement their first innovative breakfast program without additional funding, and district 4 mentioned they were able to sell enough meals to cover the cost of the grab-and-go breakfast cart. However, in both districts, obtaining the grant was described as a motivator to further expand the innovative breakfast program to reach more students.

Research Question 2 - What are the strategies used to overcome perceived and known barriers to expand the SBP through an innovative breakfast delivery model in Kansas schools?

Social Systems and Communication Channels

Many SNDs indicated low levels of complexity (i.e., challenges and barriers) when implementing and expanding their school breakfast programs (6). A prominent theme noted by SNDs was that expanding the school breakfast program is not something that can be done by the school nutrition department alone. Internal stakeholders in the school environment must be willing to engage in joint problem-solving to overcome barriers when expanding the SBP.

"it's not something that can be done by just food service. It is something that you have to have the buy in of absolutely everybody and keep it positive with them at all times." District 15 (innovator)

"school administrators and the principal the teachers, the custodians…those relationships are just really important." District 11 (early-adopter)

SNDs unanimously reported that superintendents and principals were instrumental in the expansion of the school breakfast program. Many SNDs mentioned they were interested in implementing an innovative model but initially lacked support from the administrators. In some districts, implementation of the innovative model was not initiated until there was a change in district or school administration that brought in someone who had experience with innovative breakfast models or supported increasing access to the SBP (3).

"I went to my principal, and he was not for it. He has now left, so I approached the new principal, and he was all for it. He had [second chance breakfast] in his last school and said it did great things." District 9 (early-adopter)

Respondents reported that having support from superintendents and principals reduced the complexity of gaining buy-in from other stakeholders, particularly teachers and custodians (8). Administrators set a precedent within their districts and schools that the innovative delivery model would be supported.

"…the most helpful is having the supportive administrator … he was able to really get … the rest of the staff that it affects, the teachers, the custodians… to kind of buy into it. And I think that was why our transition went so quickly." District 4 (early-majority)

"My superintendent didn't give them a reason to tell me no" District 19 (early-majority)

"The principal there was a little leery about it, but the superintendent…explained to him the participation and the reimbursement that we get back from it... and their principal over there has been very, very happy with the results." District 18 (early-majority)

In addition to having support from administrators, many participants expressed the importance of working with teachers as issues or complaints arise and problem-solving together (4).

"Any issues that were going on with teachers, just making sure that we have lots of open communication with me and trying to emphasize that this is a team effort. We're not just throwing this all on you to deal with." District 5 (early-majority)

"What we do is when teachers find out…this approach isn't working for us; we just talk it through with all of the stakeholders and try another solution." District 17" (innovator)

Several SNDs identified challenges with custodians and the additional waste that the innovative model created (5). Most SNDs overcame this barrier by communicating with the custodial staff and purchasing extra trash cans and cleaning supplies with grant funding or other foodservice funds (3).

"I talked to the director of buildings and grounds and … the custodial staff and just explained to them our principal was behind it 100% which helped… and purchased two extra trash cans." "You wouldn't think that's a very big deal… I think it showed them we cared about the extra trash." District 12 (early-adopter)

A few SNDs mentioned concerns with gaining foodservice staff buy-in and handling the increased workload. While several SNDs pointed out their foodservice staff was supportive of the changes to the SBP and did not complain about the additional work of the innovative breakfast model (4), others did have to find solutions to increase staff buy-in and overcome staffing concerns (5).

"We have awesome ladies in the kitchen that were just willing to try something new" District 3 (innovator)

"It was the food service staff that taking on the second chance breakfast was going to double their workload, and they didn't blink an eye as long as they knew that they were going to help the kids." District 15 (innovator)

"I had some staff push back too; they were afraid. How are we going to manage all of this…it was really just me saying we are doing it…we're going to figure it out together, but there is no choice in this, we are moving this direction." District 5 (early-majority)

"[second chance breakfast] has contributed to a bit of a staffing conundrum. So although we're seeing a great increase in ADP, filling our subs in the morning has become more of a challenge." District 10 (early-adopter)

Districts 1 and 3 reported that para-educators, teachers, or students helped stock and deliver the breakfast cart to classrooms or service sites. The additional help from stakeholders outside of food services relieved the workload of the school food service staff. District 1 noted a shift in the foodservice staff perception of the innovative breakfast once they observed how much students favored the second chance program.

> *"my cooks…are really short on their time. So he [principal] wanted to make his second chance breakfast to where me [director] and one of the teachers and …students that put the cart together for us."* District 13 (early-adopter)

Many districts recommended engaging the students by involving them in selecting menu items and agreed that it would be advantageous to conduct student surveys and taste-test new menu items to gain feedback from students (7).

> *"…talk to the students… have them involved in the process and do a lot of surveying and taste tests with them, give them ownership of the program"* District 5 (early-majority)

Marketing the program to students and staff was also mentioned by several SNDs as a strategy to increase program buy-in and participation (6). Directors discussed marketing the innovative breakfast program on menus posted online, in school bulletins, and by sending promotional emails to students and staff.

> *"First of all, we started marketing breakfast and the different models that we could use in the different schools and why breakfast was important."* District 13 (early-adopter)

A minor complexity that surfaced in one focus group was when students participated in both the traditional breakfast and second chance breakfast, or students who generally did not eat breakfast would accrue negative account balances. It would cause confusion among parents and students in understanding why their child owed additional money for school meals (3). One district reported that providing information about the second chance breakfast to parents at enrollment and sending notes home about account balances improved parents' understanding of

the program. A director in a different focus group noted that the delinquent debt for student meal accounts has increased since the implementation of the innovative breakfast but did not share how unpaid meal charges were communicated with parents and students.

> *"kids in the elementary schools… are upset if they can't have it because they have to have money on their account ... getting the knowledge to the parents as been kind of an issue and getting them to understand if they [students] eat traditional breakfast that's free but [are] charged if they have a second chance."* District 3 (innovator)

Trialability

A minor but notable theme reported across multiple focus groups was trialability or piloting the innovative model, which helped improve program acceptance and overcome stakeholder resistance to implementation (5). Piloting the innovative program allowed districts to try it out without having to commit to full adoption and was reported as a successful tactic to gain support from administrators, teachers, and food service staff for multiple districts.

> *"The teachers were kind of dead set against this when we first started. What about the trash... I kind of came up with the strategy of 'just give me a month… and we'll see how it goes.' And they [teachers] were willing to do that…when they [teachers] found out that hey, I'm not having to buy snacks for my class, it's not as messy as I thought it was going to be, I mean, everybody came around then."* District 1 (early-majority)

> *"I told her [teacher] we could just do a pilot program for two to three weeks, which is how we presented it at the one K-5th [grade] school. Doing it that way the teachers had an out, or the principal did, or I did, and it worked well."* District 12 (early-adopter)

One large district discussed the benefits of piloting the second chance program, which allowed them to make sure everything was operationally sound at the pilot schools before expanding to other schools in the district. The SND indicated that if there were issues, word would travel quickly to other schools in the district and implementing slowly at pilot schools improved the buy-in of the other schools.

> *"We did a second chance breakfast at four pilot schools… that kind of helped us get our bearings and to see how that would affect our central production kitchen."* District 10 (early-adopter)

It is worth mentioning that SNDs (2) stated that they piloted an innovative program, and it failed. One director piloted a grab-and-go breakfast in a different school district. Although they had support from school administrators, the custodian derailed their efforts. In District 14, the SND piloted a breakfast in the classroom program and did not gain support from the teachers to continue; however, this SND plans to take a different approach with this school to implement an innovative model in the near future.

> *"I did try breakfast in the classroom in our elementary ... we did a two-week trial, but the teachers were not for it at all, but I think I'm going to try to address that again, with maybe a grab-and-go instead."* District 14 (early-adopter)

Modifiability

Modifiability was a common theme associated with the strategies the district used to overcome program challenges and barriers to expand the SBP. Nearly all SNDs reported making modifications, including changing the location where breakfast was served or consumed, modifying service times, adding additional breakfast carts or multiple service lines, expanding the menu, changing meal prep times, or adjusting staffing schedules (16).

> *"And we're still changing it. We're still adding things on and taking away things and so I think you have to do that. You just have to be willing to say, okay, that's not working for us anymore. We're going to do it this way."* District 3 (innovator)

> *"We kind of keep evolving."* District 17 (innovator)

Most SNDs described ongoing efforts made by the school nutrition department and district to identify ways to improve the innovative breakfast program efficiency to get students to class on time (9). While many districts had the shared goal of increasing program efficiency, SNDs reported several different approaches and strategies. Both large and small school districts indicated the importance of being flexible and taking a "trial and error" approach to overcoming the challenges of finding the appropriate location and service method. For example, a small rural

high school initially delivered their second chance breakfast by cart to each classroom but received complaints from teachers that it was taking too much time. The breakfast cart was moved to a central location for students to access.

Similarly, in a large urban district, the second chance breakfast was offered in the PE hallway and then moved to the centralized location of the cafeteria. However, due to the size of the school and the growing popularity of the second chance breakfast, the SND reported that they had to modify the program again by adding three additional services locations. The multiple service locations in this school helped with the growing problem of students not getting to class on time.

> *"The kids from other academies were trying to get down to the PE hallway to get the food and then they were late ... now we are serving in the farthest academies and ... in the cafeteria and the snack bar... that helps them get them through and getting back to their classrooms."* District 13 (early-adopter)

Several SNDs mentioned concerns about the innovative breakfast model making students late to class (4), but they usually solved the issue by adding more service lines or changing service times. District 12 reported scheduling second chance breakfast after the first and second periods. One large high school improved traffic flow during second chance breakfast by roping off multiple service sites in a central location. Administrators assisted as well, to ensure students made it to class on time.

> *"tardies was a big deal, especially as we grew very quickly… with the help of our administrative team at the building ... a one-minute warning bell that rings ... we shut the windows, whether you've been served or not they have five minutes serving period ... with that extra minute so six minute passing period."* District 7 (early-majority)

Districts 6 and 18 noted that with school administrators' support, the district extended the passing period to give students additional time for the second chance breakfast. In District 6, school administrators extended the time for students to eat the second chance breakfast in the

cafeteria at the high school and junior high. Although teachers were not happy to lose a little instructional time, principals and custodial staff were pleased that the trash and mess were contained in one area.

> *"by allowing them that little bit of extra time, so they can eat in the cafeteria before they move on to class has helped ...and keeping the food out of the rest of the building, which was the biggest barrier."* District 6 (early-majority)

In another district, the junior high modified their program multiple times, from initially serving second chance breakfast in the gym, then allowing students to take breakfast back to the classroom. However, teachers complained about the food in the classroom. The SND reported the administrator's plans to provide students with additional time to consume the second chance breakfast in the cafeteria.

> *"So next year what we're going to do is after the second bell rings, they're going to go to the cafeteria and... they expanded their time a little bit in their schedule, so they'll eat in the cafeteria."* District 13 (early-adopter)

In contrast, a junior high went from eating in the commons to grabbing their second chance breakfast in the hallway and taking it to the classrooms because teachers were complaining of the time it took for students to get to class.

> *"Kids would grab it and go into the commons of the junior high and eat it in the commons. Well, they had the issue of trash ... and the teachers [were] like, it's taking way too long, we need them in the classroom. we said okay, no problem, they can grab it and go to their classroom."* District 3 (innovator)

Unexpectedly, a district recognized as an innovator of the breakfast in the classroom (BIC) model has transitioned to the grab-and-go to the classroom model. The SND discussed the challenges of relying on teachers to be responsible for identifying and monitoring reimbursable meals selected by students.

> *"Grab-and-go is a better solution for our school district; it's more of an accountable program. It's something that we control...teachers are probably the biggest challenge when it comes to accountability."* District 16 (innovator)

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District 12 also experienced success with a comparable grab-and-go to the classroom model that was implemented recently in an elementary school. In contrast, District 8 (BIC), and Districts 3 and 7 (second chance model), found it more efficient to take the meals to the classrooms by cart or wagon after modifying their program multiple times.

> *"We started in the classrooms, and then we moved into the cafeteria, and now after two years, it looks like we might move back to the classroom. So we just try to do what it takes to make everyone happy."* District 17 (innovator)

Many districts noted they are currently experiencing resistance from teachers and principals to implement breakfast in the classroom at the elementary level. Three districts discussed how they altered their traditional breakfast in the elementary schools by extending the service time of the traditional breakfast. This extra time allows students to finish eating in the cafeteria or to take breakfast to class if they are running late, depending on the school (3).

> *"What we have done is expanded that breakfast time an extra 10 minutes if kids come in late from the bus… kids can eat in the cafeteria or take it back to their classroom."* District 13 (early-adopter)

Several participants discussed minor challenges while developing their menus for the innovative model, such as figuring out how to keep food at the correct temperature during transportation to service sites. Many reported their menus started with a few simple heat-and-serve items and evolved. Gradually they have been able to expand variety to improve satisfaction and participation (7).

> *"My biggest challenge is probably trying to figure out the menu and what can we keep hot, what can we keep cold… what are kids actually going to want...over time we figured out what works it really wasn't too challenging."* District 4 (early-majority)

> *"As we figure out how to balance working lunch and the second chance breakfast together, figuring out our timing. We're adding more and more scratch-made items into our breakfast pattern"* District 5 (early-majority)

A minor unexpected challenge mentioned by Districts 14 and 15 was an observed decrease in their lunch participation after implementing the second chance breakfast at their high schools. District 15 overcame this by adjusting the timeframe the second chance breakfast was offered in the morning.

> *"...we have a morning break like [District 15] ...but ours was at like 10:20...the following year we backed it up an hour. So the kids would have that opportunity and not affect the participation of our first lunch because our first year it really did. But since we've backed it up, it's worked out really well."* District 14 (early-adopter)

Research Question 3 - What are school nutrition directors' perceptions of how expanding the SBP through an innovative breakfast model has impacted students?

Observability

Since the implementation of the innovative breakfast delivery model, many impacts on students were observed by various stakeholders in the school environment and described by the SNDs. One of the most notable outcomes reported by the SNDs (7) was a decrease in visits to the school nurse. Many cited that the school nurse and teachers have noticed fewer students complaining of stomachaches, headaches, and fatigue. Districts 3 and 13 revealed that schools in their districts had monitored student visits to the nurse's offices before and after implementation of the innovative breakfast model.

> *"One of our intermediate schools, they were compiling data as far as nurses' visits and referrals, and they have gone down since we implemented the second chance breakfast."* District 13 (early-adopter)

In addition to fewer students not feeling well at school, SNDs (2) mentioned that their districts had observed an increase in student attendance since the implementation of the innovative breakfast model. Respondents heard from teachers and administrators that students' behavior in school has also improved, as indicated by a decrease in disciplinary referrals (2), as

well as several observations of students acting more alert, attentive, and calmer while at school
(6).

> *"It's helped, like I said in the nurse referrals and the disciplinary referrals, our junior high principal is adamant that he's had less disciplinary referrals since we've started it. So it's really impacted the students in a variety of ways."* District 3 (innovator)

One district reported that negative student behaviors are more apparent when the school schedule does not allow for the second chance breakfast to be offered to students.

> *"We have a guest speaker or something, pep rally, we don't offer it [second chance breakfast] at all, and then we hear complaints about the kids being unruly and irritable ... which makes sense, they've gotten used to eating."* District 6 (early-majority)

A less prominent theme was improved academic performance in the classroom. While many made remarks that suggested a perceived improvement in the classroom, it was not clear as to how students had progressed academically (5). SNDs did note that the school district had observed increased student testing scores since the implementation of the innovative breakfast model (3).

> *"Just a good opportunity for them [students] to have access to food when they're actually hungry and we, too, had some positive indicators, visits to the school nurse, and improve test scores."* District 10 (early-adopter)

Relative Advantage - Positive Student-Staff Relationships

SNDs noted that one advantage of implementing an innovative breakfast model was the positive relationships formed between students and school nutrition staff, particularly the cashiers. (4). Districts 7 and 19 provided examples of how school nutrition staff positively interacted with and impacted students.

> *"... they've [cashiers] created relationships with these kids...a little girl last year when she graduated...wrote the sweetest note to one of our staff members who saw her every single day, just to say thanks for believing in me, thanks for always having a positive word for me. Thanks for... just making my day. And it's just those more touches that we*

get with the kids, the more intentional, we can be with all of those intangibles that that go along with beyond just feeding them." District 7 (early-majority)

"We have excellent staffing… we call her our grab-and-go, Grandma… kids who tell me…I like [the cashier], [she] gives out hugs…and these are seventh through 12th graders. I mean, she's formed relationships with them" District 19 (early-majority)

SNDs mentioned an advantage of the BIC model was that it created a community setting in the classroom, which provides a time for teachers to focus on social-emotional development and to model positive behaviors to students (2).

"The teachers are also working on like emotional things they get to check in that morning and say how their feelings that teacher can kind of give me extra help that they need. I think that's really helped the kids at the elementary kind of have a more family atmosphere." District 8 (early-adopter)

District 13 reported that communication between students and teachers had improved. The SND shared that at the intermediate school (i.e., middle school), students go to the cafeteria to pick up their second chance breakfast and take it back to consume in the classroom. The SND stated that the teachers have provided positive comments and noticed that communication between students and teachers has transformed by having students eat second chance breakfast in the classroom.

"Teachers really like it because it's more of a relaxed environment, everybody gets their breakfast…they said it's just really opened up communications." District 13 (early-adopter)

Research Question 4 - What are school nutrition directors' perceptions of the short- and long-term sustainability of the innovative breakfast delivery models?

Sustainability

Focus group participants were asked to discuss the future viability of the innovative breakfast delivery model. Unanimously, SNDs agreed that the innovative breakfast delivery

models were sustainable in their schools and planned to continue to offer breakfast after the bell

(19). Many districts have successfully expanded their innovative programs to other schools.

> *"Absolutely sustainable; this is our third year of doing it [second chance breakfast] …it's just what we do now."* District 7 (early-majority)

> *"Definitely sustainable, we had a fifth building that was not interested in participating, and because the others did so well, they decided…that they wanted to start it this year. And so now we have all of our middle and high schools doing the second chance breakfast."* District 5 (early-majority)

> *"We started at the high school several years ago...then when middle school …saw and heard of the successes…they asked us to do it, and then it's kind of trickled from there to where elementary school requested it as well."* District 17 (innovator)

SNDs shared ideas to maintain or improve program participation at schools that currently

have an innovative model by adding new service sites or changing the menu to make the

program more appealing to students (8). Most districts reported not having an innovative model

at every school, and the majority of these SNDs expressed their plans and interest to further

diffuse the innovative breakfast models into other schools that were only offering the traditional

breakfast (10).

> *"…I think it's [grab-and-go] very sustainable. I think it's the future of school breakfast …more districts are going to start to do more and even in my district will probably expand it… to other schools … and it just makes sense."* District 4 (early-majority)

Three districts with innovative breakfast models in their secondary schools discussed an

unexpected finding regarding the discontinuation of the traditional model. A high school in

District 4 went strictly to a grab-and-go delivery model, *"we did away with the traditional*

[breakfast model] completely there because that was what was successful." Both Districts 3 and

6 discussed the possibility of ending the traditional before school breakfast to give staff more

time to prepare the second chance breakfast, which has a much higher participation rate than the

traditional breakfast.

"The thing that we thought about even changing would be taking away traditional breakfast, if we continue to see a decline in numbers [at the traditional breakfast]. But definitely not getting rid of second chance breakfast, it has just worked out way too well." District 3 (innovator)

While SNDs all agreed that the innovative breakfast models in their districts would very likely continue, it is noteworthy to mention the few considerations discussed that could hinder the sustainability of these innovative programs. A foremost concern regarding the continuance of the innovative breakfast program was related to ongoing support and buy-in from school leadership and other stakeholders (3). A change in school administration was a more significant concern for SNDs that were expecting a leadership change in the near future.

"The concern we have now is that we're going to be going into another new principal at the high school and hope that he is as much for the kids as the current principal…" District 15 (innovator)

"Yes, absolutely sustainable as long as the administration stays happy with the time period, and then participation stays up, and I don't see any reason why it [second chance breakfast] would be changing as long as we can keep them happy, we'll keep feeding the kids." District 17 (innovator)

Although there was not a concern of participation drastically decreasing, some SNDs stated that a substantial drop in student participation would be something to consider moving forward (2). Districts 5 and 6 agreed that some of the popular menu items were expensive, and they may not be able to continue serving those items without an increase in reimbursement or making more menu items from scratch, which would require additional time for staff to prepare.

"I know that it [second chance breakfast] will continue like [District 6] said… the prepackaged breakfast items that the kids want, like the breakfast sandwiches…are priced ridiculously high for us to be able to offer in a reimbursable meal, which is part of the reason why we're looking at going to more scratch-made." District 5 (early-majority)

"…as previously mentioned, reimbursement rates really need to go up just for breakfast in general…we don't offer that much less for breakfast than we do for lunch, and there's a difference between those rates. I definitely see a need for that…what's gonna have to happen for us to really expand breakfast." District 6 (early-majority)

A unique factor that related to sustainability in District 8 and 16 was their participation in a universal free breakfast program (i.e., meals free to all students). The districts that served universal free meals agreed that if the schools did not qualify for the Community Eligibility Provision (CEP) or have a high enough low-income population to sustain a universal free breakfast model, they would have to make changes to maintain financial sustainability. Other districts that serve a low-income population of around 50 percent of students, which do not qualify for the CEP, agreed that a universal free program would be beneficial to increase breakfast participation (3).

> *"One thing that we have to keep our eye on in our elementary is the universal free, we're able to do it because our free reduced numbers are higher. So if our free reduced numbers go down, we have to watch it, make sure we're not losing money."* District 8 (early-adopter)

> *"If we qualified for the community eligibility, we'd get a lot more kids eating."* District 13 (early-adopter)

Relative Advantages

Economical

A common theme highlighted by respondents was the financial advantages of expanding their school breakfast program. The majority of SNDs commented that the innovative breakfast program was an advantageous way to increase program revenue (11).

> *"Of course, we had increased ADP [average daily participation]. That's going to kind of start hitting a stabilization point here pretty soon but increase revenues with a marginal increase in labor; it's been helpful to our bottom line."* District 10 (early-adopter)

> *"Yeah, very sustainable, our breakfast helps subsidize our lunch program, like [district 16] was saying, and sometimes lunch it is hard to breakeven, but breakfast we do pretty well. So the higher participation, the more funds."* District 13 (early-adopter)

An area of dissimilarity between school districts was whether an à la carte option (e.g. extra food or beverage items sold separately from the reimbursable meal) was offered during the innovative breakfast to students, particularly at secondary schools. Districts 4, 7, 11, 15, and 19

all viewed à la carte sales as a way to make additional program revenue and increase

participation in the SBP (5).

> *"Because they're [students] also then buying an extra bottle of water or they're buying…a second entree to go with it… So that's really how we've been able to sustain it." We've gone from averaging 100 breakfast to about 150-160 with a second chance [breakfast]…then an additional $150 to $200 a day in sales and a la carte, just in that five-minute window."* District 7 (early-majority)

Similarly, District 6 saw the potential to increase revenue and program sustainability if an à la

carte option was available. However, there were concerns about the logistics of staffing and still

having enough time to serve students the reimbursable breakfast.

> *"We would like to figure out how to handle staffing at second chance breakfast so that we can add à la carte because it's so much paid participation, we think there's some revenue we're missing."* District 6 (early-majority)

In contrast, District 12 had recently stopped offering à la carte items to obtain more reimbursable

meal sales and observed a noticeable increase in students purchasing reimbursable meals.

District 13 noted that they have under seven minutes to serve 300-400 students and do not have

time to offer an à la carte option and only offer the reimbursable meal.

Program Participation and Satisfaction

All participants reported observing an increase in participation at schools that had

implemented an innovative breakfast model. However, there was some variance in the amount of

increase experienced by each district. Three districts indicated a minimal increase in

participation, and some reported students had shifted from eating the traditional to the second

chance breakfast. Some directors attributed the lack of substantial change in SBP participation to

students purchasing à la carte items instead of the reimbursable meal. Others reported a modest

increase between 35-50 percent (3). A majority of SNDs reported a significant increase in SBP

participation and indicated, program participation doubling or tripling (13).

"Since implementing an innovative breakfast program, we've pretty much doubled our participation… We like it, the kids like it and I think it personally, it is just the best way to serve breakfast." District 16 (innovator)

"We've increased participant rates dramatically. We've about tripled our rates and at every school level." District 17 (innovator)

Many SNDs observed an increase in the number of low-income students participating in the SBP (11). Several commented there was a noticeable increase in the number of full-paid students (i.e., not eligible for free and reduced-price meals) regularly eating breakfast since implementation (11). SNDs indicated that they felt this increase in all students participating in the SBP helped reduce the stigma that the program is only for low-income students (5).

"I think the biggest thing for us as it busted that stigma that breakfast is only for free and reduced kids, and I have so many more paid students participating and second chance." District 7 (early-majority)

"It's increased for free and reduced-price meals... I really see at the elementary school that it's increased even more with the paid level. So many more kids are …eating breakfast with us…I think it might help alleviate some of the stigma attached to eating at school" District 17 (innovator)

Respondents made several comments about the satisfaction of the innovative models expressed by students and parents. Participants stated that parents provided positive feedback about the innovative breakfast programs being offered to students (4). SNDs noted that many students appreciate the opportunity to eat breakfast later in the morning (7).

"We have positive comments from the parents that they really like that we offer this second chance breakfast." District 17 (innovator)

"Just some positive…feelings from parents and students about how they feel about our program, about making sure that kids are first." District 7 (early-majority)

"I think it [second chance breakfast] created a lot of really good program by in because kids have been asking for this for a while…I've heard a lot of the kids say that they don't feel as hungry at the end of the day when they eat the second chance breakfast and lunch." District 5 (early-majority)

"The kids will go to the administration. They want that chance to be able to go down to eat…so now they'll [administration] work around their schedules to make sure that they

can keep that second chance breakfast open when they have special schedules." District 15 (innovator)

Chapter 5 - Discussion, Conclusions, and Recommendations for Future Research

Discussion

Innovative breakfast delivery models, including grab and go, second chance, and breakfast in the classroom (BIC), are methods through which schools are providing students access to the school breakfast programs (SBP). The purpose of this study was to explore school nutrition directors' (SNDs) experiences and perceptions of factors that influenced and facilitated the implementation of innovative breakfast delivery models in Kansas schools. This study also investigated the potential impacts and outcomes of expanding the SBP. The Diffusion of Innovation (DOI) theory guided this qualitative investigation. The current study confirmed previous research on the success factors and strategies that aid the expansion of the SBP. School districts were motivated to implement an innovative breakfast model due to compatibility with district values and the relative advantages related to improved access to the SBP. Strong social support systems and communication were common themes associated with overcoming barriers to expand and modify the SBP. Participants perceived their innovative breakfast programs as sustainable due to improved program participation, satisfaction, and increased revenue. Additional themes were related to the observed impacts on students' health, behaviors, and student-staff relationships.

Factors Facilitating Expansion of the School Breakfast Program

SNDs reported the primary motivator to implement an innovative breakfast delivery model was to increase breakfast participation by improving student access to the SBP. Many respondents identified how the innovative models overcame barriers to the traditional breakfast

model (e.g., inconvenient cafeteria location, limited time in the morning, bus schedules, and lack of hunger before school). These findings reaffirm the vast literature on the barriers to participation in the traditional before-school breakfast model (Askelson et al., 2017; Hearst et al., 2016; Hoffman et al., 2018; McDonnell et al., 2004). Also, participants indicated the innovative breakfast models as compatible with school district practices and values to meet the nutritional needs of students who may not eat breakfast before school. Prior research illustrated the importance of value alignment and considering student needs as a factor for successfully modifying the SBP (Frigge et al., 2018). An interesting finding was that school wellness policies and councils prompted and supported innovative breakfast efforts in some districts. School wellness policies and councils could be beneficial resources for districts seeking stakeholder support to expand the SBP.

A common theme reported in this study was the importance of a supportive social system in the school environment. Collaboration and communication between stakeholders (e.g., administrators, food service staff, teachers, custodians, students, and parents) were imperative to the success of SBP expansion and supported prior research findings (Creighton, 2012; Folta et al., 2016; Frigge et al., 2018; U.S. Department of Agriculture, n.d.). Not surprisingly, support from the superintendent or principal was instrumental in expanding the SBP. Previous research indicated that many school administrators in states with low breakfast participation do not prioritize increasing school breakfast participation even though they recognize the benefits of breakfast, including improved academic achievement and reduced hunger (Askelson et al., 2017; Spruance et al., 2019). A change in district or school-level administration can impact the adoption of an innovative program positively or negatively. A few SNDs reported it was not until there was a change in school leadership that brought in someone who had observed a successful

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program while employed in another district or valued providing students with better access to the SBP. The majority of SNDs in this study reported having the full support of school leaders. However, some SNDs indicated that school administrators did not provide support until the innovative breakfast models were endorsed and promoted by the state education agency. This finding is consistent with the results of a study by Spruance et al. (2019), which concluded that promoting innovative breakfast models in schools may not be effective until benefits from the innovative programs are promoted to administrators. These findings also support the promotion of the innovative breakfast models at the state-level can be an effective way to influence school administrators to implement innovative breakfast models.

Moreover, districts were also motivated to expand their SBP due to financial incentives in the form of grants disseminated by the state agency and other advocacy groups to help purchase equipment and defray startup costs. Financial incentives are a compelling motivation to encourage and assist districts to expand their school breakfast program (Morris et al., 2010; Shanafelt et al., 2019). Other states have experienced success by offering additional funding to offset startup costs to modify the SBP (No Kid Hungry, n.d.-d).

While many participants perceived few challenges expanding the SBP, frequently reported barriers also found in other studies included obtaining stakeholder buy-in and support, timing and location of meal service, and concerns with trash and mess. (FRAC, 2017a; Morris et al., 2010; Salomon, 2009; Stokes et al., 2019). Several reported that school leadership supported the innovative breakfast model by actively assisting with gaining stakeholder buy-in from teachers and custodians, in particular. In some cases, concerns from teachers and custodians included the loss of time in the classrooms and excessive trash. Several found that simply purchasing extra trash cans and cleaning supplies reduced the concerns of custodian staff.

Involving stakeholders before implementation and maintaining open communication to gain feedback, especially from teachers and students, appeared to be a primary contributing factor to overcoming barriers during SBP expansion. These strategies to overcome barriers to gaining stakeholder buy-in were similar to previous research findings (Frigge et al., 2018; Hearst et al., 2018).

There was strong agreement among participants to involve students in the menu-planning process through surveys, taste-tests, or informal communication to give students ownership of the program to increase participation. One district reporting having students help assemble the breakfast cart was a beneficial way to involve the students and reduce the workload of foodservice staff. While many SNDs mentioned marketing their program to students and school staff, none discussed having the students market the innovative breakfast model to their peers. Other studies have found it useful to have student-led marketing campaigns (Frigge et al., 2018; Hearst et al., 2018). A minor complexity discussed was communicating to students and parents about additional meal charges due to students eating both the traditional and second chance breakfast. Involving students in marketing the innovative breakfast may also help improve students' understanding of how the program operates. Other studies stressed the importance of communicating to students and parents about the program prior to implementation (Folta et al., 2016).

Not surprisingly, many SNDs experienced success in gaining stakeholder buy-in after piloting (i.e., trialability) the innovative model. Modifying the innovative model was another common theme related to the strategies used to overcome barriers and challenges. A primary concern was improving the efficiency of the innovative model. Many SNDs in this study reported changing the service location and delivery method multiple times to find the most

efficient process to distribute meals. Depending on the school, some found it beneficial to have an innovative breakfast in a central location (e.g., cafeteria) to reduce the trash in the rest of the school. Other schools had the students consume meals in the hallway or classroom. Surprisingly, several administrators provided additional time for the second chance breakfast at the secondary level because of the noticeable benefits these programs provided to the students. These findings indicate that innovative programs are customizable and can be feasible in most school environments when district stakeholders are willing to collaborate and evolve together. Other studies have recognized the importance of modifying and adapting the innovative models to meet the needs of the school as a best practice for expanding the SBP (Haesly et al., 2014).

Unexpectedly, a school district that has successfully operated breakfast in the classroom (BIC) for over five years at the elementary level is changing their BIC model to a grab-and-go to the classroom model, also defined as BIC plus grab-and-go in a study by Soldavini & Ammerman (2019). The study by Soldavini & Ammerman (2019) found that BIC plus grab-and-go was less frequently used then BIC. However, both models were positively associated with increased participation. This change reduced the teachers' responsibilities with the supervision of the meal distribution, which is commonly reported in the literature as a reason teachers dislike the BIC model (E. B. Krueger et al., 2018; Stokes et al., 2019). Additionally, students still benefit from the community setting of eating together in the classroom with this modification.

While districts in the study expressed overall stakeholder satisfaction with innovative breakfast models at the secondary level, many districts still struggled to implement and expand an innovative model at the elementary level due to teacher resistance. To overcome this barrier, several SNDs reported extending the service time of the traditional breakfast or shifting to a grab-and-go model at the end of the meal service to accommodate students arriving late to

school. Other studies identified the BIC model as having a more significant impact on SBP participation (Anzman-Frasca et al., 2015; No Kid Hungry, 2018). However, these innovative approaches to modifying and extending the traditional breakfast time are proactive steps to normalizing the SBP as part of the school day and could lead to further diffusion of other innovative models.

Sustainability and Continued Diffusion of Innovative Breakfast Delivery Models

Research involving the DOI theory has shown that innovations diffuse more quickly when they can be reinvented (e.g., modify) by the organization, leading to greater adoption and sustainability (Rogers, 2003). Few studies have researched the sustainability of innovative breakfast models (Frigge et al., 2018). It is essential to evaluate the sustainability of these programs because other states that were early-adaptors of innovative programs have halted or discontinued expanding these innovative breakfast models due to changes in leadership or loss of stakeholder support (Food Research & Action Center, 2020). The author is unaware of any research that explores the sustainability of innovative breakfast delivery models in Kansas school districts.

All participants indicated plans to continue their innovative breakfast model, and the majority had plans to further expand their innovative models to other schools in the district. There was strong agreement that these models are viable and perceived as the best way to serve breakfast due to the popularity with students and improved program revenue through reimbursable meals as well as additional à la carte sales in some districts. One director commented that their SBP subsidized their school lunch program. While most perceived the revenue generated from the innovative models as sustainable, it was mention that an increase in

reimbursement and expansion of the Community Eligibility Provision (CEP) would be beneficial to help with the high cost of some menu items and to further increase participation in the SBP.

In a study by Frigge et al. (2018), sustainability was monitored and measured through program participation. Findings of the current study also support that innovative breakfast models can increase school breakfast participation rates drastically (Anzman-Frasca et al., 2015; Conklin et al., 2004; Farris et al., 2019; Larson et al., 2018; Morris et al., 2010; Olsta, 2013). Participants commonly reported an increase in participation from students across all meal categories (i.e., free, reduced-price, and full-paid meals). Several participants detected a reduction in the stigma commonly associated with SBP. These findings parallel research that suggests innovative models potentially diminish the stigma that the SBP is only for low-income students (Hearst et al., 2018), which has been identified as a barrier to participation in the traditional breakfast (Askelson et al., 2015; Bailey-Davis et al., 2013; McDonnell et al., 2004). Typically, the BIC model has replaced the traditional breakfast at the elementary level. However, an unexpected finding was that secondary schools were considering discontinuing the traditional breakfast because of the success with the second chance or grab-and-go models. This supports the sustainability of these programs and could be an indication that these innovative models may become the standard practice in the SBP.

Changes in school leadership and teacher resistance did pose a minor concern to some districts, but overall there were relatively low concerns of discontinuing these innovative programs. SNDs reported high levels of satisfaction with these innovative models and indicated increasing support from key stakeholders as these programs diffuse in their districts. These findings suggest that innovative breakfast models are sustainable and can be successfully embedded in Kansas schools.

School Breakfast Expansion and Impacts on Students

In addition to increased accessibility of the SBP, expanding the SBP also provided many other advantages and benefits to students. Many school districts observed positive impacts on students' general health and behaviors in schools. SNDs indicated that school nurses, teachers, and administrators observed changes in student behavior (e.g., more alert, attentive, calmer) and fewer disciplinary issues. These observations align with previous research regarding the benefits of breakfast consumption and cogitative performance in children (Adolphus et al., 2016; Morris et al., 2010; Murphy et al., 1998; Wesnes et al., 2012; Widenhorn-Müller et al., 2008). Several of the participants reported notably fewer nurse referrals since the expansion of the SBP. Prior research supports these findings that breakfast participation can reduce nurse visits in schools due to hunger-related issues (e.g., stomachaches and headaches) (Bernstein et al., 2004; Food Research & Action Center, 2015). A few respondents reported other favorable indicators, such as improved school attendance and higher test scores, which were perceived as a result of expanding the SBP. Previous research has related improved school attendance and academic success to making breakfast a part of the school day (Anzman-Frasca et al., 2015; Bartfeld et al., 2019).

This study suggests a positive impact on the relationship between students and the school foodservice staff, particularly the cashier who interacts with the students daily at breakfast. A district reported that having middle-school students consume a second chance breakfast in the classroom improved communication between students and teachers. Similarly, other schools used BIC as a time for teachers to address social-emotional development and model positive behaviors to students in elementary schools. These findings coincide with other qualitative studies where respondents reported an increased sense of community led to more interactions

between students and school staff after the introduction of a grab-and-go and BIC model (Folta et al., 2016; Haesly et al., 2014). Improving the relationships between students and school staff can have a positive impact on students' health and academic success. Research has shown that students who consume breakfast daily have higher odds of school connectedness (i.e., feeling connected to their school). Higher school connectedness can lead to a higher probability of engaging in healthy behaviors and succeeding academically (Centers for Disease Control and Prevention, 2009; Sampasa-Kanyinga & Hamilton, 2017). Implementing an innovative breakfast model appears to improve the school environment by building positive relationships between students and school staff.

Conclusion

Kansas has nationally recognized Child Nutrition Programs; however, the school breakfast program (SBP) remains underutilized. The objective of the study was to gain insights on implementation, strategies to overcome barriers, and impacts of innovative breakfast delivery models. Online focus groups uniquely captured the experiences, perceptions, and best practices from Kansas school nutrition directors (SNDs). These online focus groups were an effective and cost-efficient platform to reach the target population. The majority of the school nutrition directors were able to engage using both the video and audio components of the web conferencing technology (n=12), which created a convenient and comfortable environment comparable to in-person focus groups. It is advisable to have a dedicated individual to handle technological difficulties, even though few issues transpired during this study. Future qualitative research studies with SNDs should consider using this online focus group methodology.

Results from this qualitative study confirmed previous research findings regarding innovative breakfast delivery models implementation and best practices to expand the SBP.

School districts were motivated to implement an innovative breakfast model due to program compatibility, increased participation, and improved access to the SBP. This study underscores the value of school administrator support and collaboration with other school stakeholders (e.g., teachers and students) within the school environment when modifying and expanding the SBP. The external social support that facilitated program expansion included networking with other schools, receiving grants, and state education agency support. Districts frequently modified innovative models to meet the needs of the school stakeholders and improve program efficiency. Several schools provided additional time for the second chance breakfast at the secondary level because of the noticeable benefits these programs provided to the students. Many school districts observed positive impacts on students, including fewer nurse visits and improved behaviors in schools. There was supporting evidence that expanding the SBP into the school day may have a positive effect on the school environment by fostering student and staff relationships.

The SNDs that participated in the focus groups perceived their innovative breakfast delivery model as sustainable due to improved program satisfaction, participation, and revenue. Nearly all districts represented in the study had plans to continue diffusing the innovative breakfast models to other schools to increase participation in the SBP. Continued support and promotion from the state education agency could be a driving force to further embed innovative breakfast programs into other school districts in Kansas. Additional federal or state reimbursement funding, as well as an expansion of the Community Eligibility Provision and universal free meals, may also provide these innovative models support to be expanded and sustained to increase participation in the Kansas School Breakfast Programs.

Future Research and Implications

Future research needs to continue to identify best practices of innovative breakfast delivery models in the ever-changing school environment. Mixed methods studies should include obtaining the perceptions and experiences of other key stakeholders in the school environment, particularly that of the students at all grade levels. A first-hand perspective from students could offer a better understanding of the benefits these programs are providing. Additionally, randomized-control trials and longitudinal-studies should be conducted to evaluate the short-term and long-term effects of innovative breakfast programs in Kansas schools. Future studies should target a more diverse set of potential impacts on student health and academics outcomes as well as evaluate the impacts of school connectedness in relationship to school breakfast consumption. An assessment of the reasons why some schools or districts have discontinued previously successful programs would be advantageous.

Conceptually, future studies could benefit from the use of the Appreciative Inquiry (AI) philosophy for change. The AI method engages stakeholders of an organization to examine what is working and to then identify what the organization would like more of (e.g., program participation) and how to achieve it, primarily when there is a desire to improve a process or program (Bushe, 2018). The findings from this study can provide state education agencies, districts, and schools with information and supporting evidence that can be used to improve innovative breakfast delivery model implementation, participation, and sustainability.

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Appendix A - Discussion Guide

Introduction: (2 minutes):

Welcome, my name is Kyleen Harris, and I am a graduate student at K-State State and former school nutrition director. Thank you so much for taking the time to participate in this focus group. Currently, I am working on a study regarding the school breakfast programs in Kansas. The objective of the focus group today is to discuss your experiences with innovative breakfast delivery models (i.e., breakfast after the bell), including grab-and-go - defined as a meal offered as student arrives to school and able to "grab-and-go" to the classroom with the meal, second chance – is a breakfast service offered later in the morning, and breakfast in the classroom. Joining me today is my major professor, Dr. Kevin Sauer. Dr. Sauer will be assisting with any technical difficulties with Zoom. Before we get started, I would like to briefly review some of the basics of how to use Zoom. If you hover your mouse over the main screen (my picture), then at the bottom of the screen, you will see a toolbar appear. On the left side of the toolbar, you will find your mute button. I ask that you please keep yourself muted until it is your turn to share your experiences. If you are joining by phone to mute/unmute push Star (*) 6. This helps reduce background noise. You will find the video button to the right of mute. We ask that you keep your video on. You will also find the chat button on the toolbar. If you are having difficulties, you can click chat, and the chatbox will appear on the right side of your screen and you may send us a message. We will also post the focus group questions in the chatbox for you to refer to during the discussion, but you may ask me to repeat the questions at any time. In the top-right corner of your screen, you can click the Gallery View button to see all the participants at once. Are there any questions on how to mute or use any of the Zoom features?

Disclosure (1 minute): This focus group is scheduled for approximately one hour.

However, please take your time when answering questions because your thoughts and experiences are important to me. Your identity and answers will remain anonymous upon completion of the study. If at any time you feel uncomfortable or wish to discontinue participating in this focus group, you may leave the focus group session. If you have any questions regarding this study, please contact me or Dr. Sauer. By joining the focus group today, you are consenting to participate in this research study. Please contact the Office of Research and Sponsored Programs, if you have questions regarding the use of human subjects. The contact information for these offices, as well as your rights regarding participation in this study, are in the notification emails that were sent to you. This focus group session will be recorded so that we may refer back to our discussion.

Guidelines (2 minutes): Today, I will be asking questions regarding innovative breakfast delivery models. Please share your experiences, thoughts, and opinions.

There are no wrong answers, but please realize that there may be different opinions within the group. Everyone's thoughts and experiences are important for me to hear. Thus, it is essential that only one person speaks at a time. Given that the focus groups are online, to initiate the discussion after each question, I will call on someone to start the discussion. Please be respectful of other group members. I encourage you to share your thoughts and experience during the discussion. I will ask after everyone has had a chance to share if anyone has additional thoughts,

experiences or opinions they would like to add. As I mentioned, the questions will be posted in the comment box for you to reference, or you may ask me to repeat or clarify the question. Does anyone have any questions regarding the focus group instructions?

Data Collection (54 minutes): See focus group questions below

Closing (1 minute): I would like to thank you for your participation. The long-term goal of my project is to increase knowledge on how to improve statewide participation in the school breakfast programs in Kansas schools

Focus Group Questions

Questions	Time est.
Opening questions: What is your name, and what school district are you employed at? What innovative breakfast delivery models do you currently use?	2:05-2:08
1. What has gone well with expanding your school breakfast program through an innovative breakfast delivery model? *(introductory question)*	2:08-2:15
2. What influenced or motivated the district's decision to implement an innovative breakfast model? *(key question)*	2:15-2:19
3. What specific advantages do you think expanding the breakfast program has provided? *(key question)*	2:19-2:23
4. What strategies did you use to overcome challenges when implementing an innovative breakfast model? *(key question)*	2:23-2:30
5. Think about how the innovative models in your district have changed over time. Did you have to change anything after implementing the innovative model to make students or other stakeholders more receptive to the program? If so, what were the changes? *(key question)*	2:30-2:36
6. In addition to increasing school breakfast participation, how has expanding the school breakfast program impacted the students? *(key question)*	2:36-2:41
7. In your opinion, is the innovative breakfast model sustainable or not sustainable? Do you feel the innovative models will continue in the foreseeable future, why or why not? *(key question)*	2:41-2:45
8. In general, how has participation rates changed over time since implementation, particularly how has participation rates changed for free and reduced-price meals since expanding the breakfast program? *(key question)*	2:45-2:49
9. What recommendations, if any, do you have for improving or expanding the innovative program in your schools to increase participation? *(key question)*	2:49-2:53
10. What criticisms, if any, do you have of the innovative breakfast delivery models?	2:53-2:55
Closing: What was most helpful in making changes to the school breakfast program? Do you have any other thoughts you can share about what went well with the implantation of an innovative school breakfast program?	2:55-2:57

Appendix B - Request for Participation Letter

Dear INSERT name of director,

My name is Kyleen Harris, a former Kansas school food service director. Currently, I am a graduate student at K-State. Your school district has been identified as having adopted an innovative breakfast delivery model (i.e., breakfast after the bell), including grab-and-go, second chance, or breakfast in the classroom. I am requesting your help with a research study that focuses on exploring factors that influenced the implementation of innovative breakfast delivery models and investigates the impacts of expanding the breakfast program in Kansas schools.

I am conducting focus groups (small group discussions) utilizing online videoconferencing technology and requesting your participation. The focus group will take approximately one-hour, with six to eight participants and the researchers. I will provide detailed instructions on how to use Zoom, the online videoconferencing technology. Your responses will remain anonymous upon completion of the study.

If you are interested in participating in the focus group or would like to learn more about the study before volunteering, please click the link below to complete the short survey (1-2 minutes) by February 7, 2020.

Follow this link to the Survey:

${l://SurveyLink?d=Take the Survey}

Or copy and paste the URL below into your internet browser:

${l://SurveyURL}

Individual responses to the survey will be confidential, and results will be reported as group data. I will schedule the focus group and send a short demographic questionnaire once I have received responses from all interested participants. Your participation is integral to the success of the study.

Your participation is voluntary, refusal to participate will involve no penalty, and you may discontinue participation at any time without penalty. Should you have any questions about the study, please contact Kyleen Harris at Kyleenk@ksu.edu or Kevin Sauer at ksauer@ksu.edu. If you have any questions about the rights of individuals in this study or about the way the study is conducted, you may contact the University Research Compliance Office at (785) 532-3224.

Thank you for your time and consideration. Your participation is sincerely appreciated,

Kyleen

Kyleen Harris, RDN, LD
Graduate Student | M.S. Nutrition, Dietetics and Sensory Sciences
Department of Food, Nutrition, Dietetics and Health
College of Health and Human Sciences | Kansas State University

Appendix C - Pre-screening and Demographic Surveys

Pre-screening survey

Q1 Are you the Food Service Director for District Name?

○ Yes

○ No

Q2 Do you currently operate an innovative breakfast delivery model (i.e. breakfast after the bell), including grab and go, second chance, or breakfast in the classroom?

○ Yes

○ No

Q3 How has breakfast participation changed in your district after the implementation of the innovative breakfast delivery model?

○ Participation has decreased

○ No change in participation

○ Participation has increased

○ Other - Please explain _____

Q4 Would you be willing to participate in a short one-hour online focus group to help us learn more about innovative breakfast delivery models in Kansas?

○ Yes

○ Maybe

○ No

Q5 What dates and times would you be available to participate in a one-hour focus group session? **You will only participate in <u>one</u> focus group.** To help us schedule the focus groups **please select all available times. THANK YOU so much for your time and assistance!** This study would not be possible without you!

☐   Tuesday, February 18, at 2:00-3:00 PM

☐   Tuesday, February 25, at 2:00-3:00 PM

☐   Thursday, March 5 at 9:00-10:00 AM

☐   Thursday, March 5 at 2:00-3:00 PM

☐   None of these times work. I would still like to participate in this study.

Q6 Do you have access to a computer with a webcam?

○ Yes

○ Maybe

○ No

Q7 Are you familiar with Zoom videoconferencing technology? (Instructions on how to use Zoom will be provided)

○ Yes

○ No

Q8 Is this information correct?
School District: District Name Food Service Director: First Name, Last Name

○ Yes

○ No - Please enter correct information below

_____

Demographic Survey

Q1 **Thank you for participating in this study on innovative breakfast delivery models in Kansas.**
What is the total number of students enrolled in the school district?

○ less than 200

○ 200-499

○ 500-999

○ 1000-4999

○ 5000-10000

○ More than 10,000

Q2 What is the total number of schools in the district?

_____

Q3 What is the total number of schools that offer the school breakfast program
(SBP)? _____

Q4 What is the total number of schools that offer one or more innovative breakfast delivery models (i.e.
breakfast after the bell: second chance, grab and go, and/or breakfast in the
classroom)? _____

Q5 What grade levels have access to an innovative breakfast delivery model, and what model is offered
at that grade level? (check all that apply)

	Second Chance Breakfast	Grab and Go	Breakfast in the Classroom
Kindergarten	☐	☐	☐
First Grade	☐	☐	☐
Second Grade	☐	☐	☐
Third Grade	☐	☐	☐
Fourth Grade	☐	☐	☐
Fifth Grade	☐	☐	☐
Sixth Grade	☐	☐	☐
Seventh Grade	☐	☐	☐
Eighth Grade	☐	☐	☐
Ninth Grade	☐	☐	☐
Tenth Grade	☐	☐	☐
Eleventh Grade	☐	☐	☐
Twelfth Grade	☐	☐	☐

Q6 Do schools with innovative breakfast delivery models serve universal free meals for breakfast (i.e. free to all)?

○ Yes, all service sites offer universal free meals for breakfast

○ Yes, some service sites offer universal free meals for breakfast

○ No service sites offer universal free meals for breakfast

Q8 What school year was the **first** innovative breakfast delivery model (i.e. second chance, grab and go, and/or breakfast in the classroom) implemented in your school district?

▼ 2019-2020 (1) ... Before 2008 (13)

Q7 What was the first innovative breakfast delivery model implemented in your school district? (mark all the apply)

☐ Second chance breakfast

☐ Grab and go

☐ Breakfast in the classroom

Q9 On the following two questions please indicate on average, program participation before the implementation of the innovative breakfast delivery model (district average) - *Slide bar to the percent of students that participated in the breakfast and lunch programs*

Information not available

0   10 20 30 40 50 60 70 80 90 100

What percent of students participated in the National **School Breakfast Program (SBP)** <u>before</u> the implementation of the innovative breakfast delivery model ()	
What percent of students participated in the **National School Lunch Program (NSLP)** <u>before</u> the implementation of the innovative breakfast delivery model ()	

Q10 What was the average number of daily reimbursable meals served (i.e. average daily participation) **before** the implementation of the innovative breakfast delivery model (district average). *If information is not available enter NA in the text box*

⭘ Average number of **daily reimbursable breakfasts** served **before** the implementation of the innovative breakfast delivery model:

_____

⭘ Average number of **daily reimbursable lunches** served **before** the implementation of the innovative breakfast delivery model:

_____

Q11 On the following two questions please indicate on average, program participation since implementation of an innovative breakfast model (district average) - *Slide bar to the percent of students that participated in the breakfast and lunch programs*

                                    Information not available

                                    0   10 20 30 40 50 60 70 80 90 100

On average what percent of students participate in the National **School Breakfast Program (SBP)** ()	
On average what percent of students participate in the **National School Lunch Program (NSLP)** ()	

Q12 What is the average number of daily reimbursable meals served (i.e. average daily participation) since the implementation of the innovative breakfast delivery model (district average). *If information is not available enter NA in the text box*

○ Average number of daily reimbursable breakfasts:

_____

○ Average number of daily reimbursable lunches:

_____

Q13 Can you briefly tell us how your innovative breakfast delivery model(s) have impacted school breakfast participation? (e.g. how has your average daily participation changed at the school-level)

_____

_____

_____

_____

_____

Q14 On a scale of 1 to 5, to what extent do you agree or disagree with the following statements about the impact of the innovative breakfast delivery model (i.e., breakfast after the bell) in your school(s).
  "As a result of our school's innovative breakfast delivery model…"

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	No Opinion
	1	2	3	4	5	
Students are eating healthier breakfasts.	○	○	○	○	○	○
Students are learning better nutrition habits.	○	○	○	○	○	○
Students satisfaction with the breakfast program has improved.	○	○	○	○	○	○
Students have fewer visits to the school nurse.	○	○	○	○	○	○
Student academic performance has improved.	○	○	○	○	○	○
Student attendance rates have improved.	○	○	○	○	○	○
Fewer student are arriving late at school.	○	○	○	○	○	○
Student behavior has improved.	○	○	○	○	○	○
Students are able to concentrate better.	○	○	○	○	○	○

| The overall school environment has improved. | ○ | ○ | ○ | ○ | ○ | ○ |

Q15 Please share other positive or negative impacts your school district has experienced since implementing an innovative breakfast delivery model.

_____

_____

_____

_____

_____

Q16 Is your school foodservice

○ Self-Operated

○ Contract Managed

Q17 What is the total number of foodservice employees in the school district?

○ 1-9

○ 10-19

○ 20-29

○ 30-39

○ 40-49

○ >50

Q18 Please select your gender

○ Female

○ Male

○ Prefer not to declare

Q19 Highest level of education

○ High school or GED

○ Some college or Associate degree

○ Bachelor's degree

○ Master's degree or higher

Q20 What types of credentials do you have (mark all that apply)?

- [ ] School Nutrition Specialist (SNS)

- [ ] Registered Dietitian Nutritionist (RDN)

- [ ] Certified Dietary Manager (CDM)

- [ ] Other (please specify)

_____

Q21 How many years of experience do you have in this current position?

- ○ 1 to 5 years

- ○ 5 to 10 years

- ○ 10 to 15 years

- ○ 15 to 20 years

- ○ More than 20 years

Q22 How many years of experience do you have in school nutrition?

- ○ 1 to 5 years

- ○ 5 to 10 years

- ○ 10 to 15 years

- ○ 15 to 20 years

- ○ More than 20 years

Q23 Is this information correct?
School District: ${e://Field/ExternalDataReference}
Food Service Director: ${e://Field/ContactFirstName} ${e://Field/ContactLastName}

☐   Yes

☐   No - Please enter correct information below

_____

Appendix D - Focus Group Date and Time Confirmation Email

Correspondence

INSERT name of director,

Thank you so much for completing the survey and volunteering to participate in the focus group. The purpose of this study is to explore factors that influenced the implementation of innovative breakfast delivery models and the impacts of expanding the school breakfast program in Kansas.

The online focus group will take place on INSERT DATE, at INSERT TIME. This will be a small group discussion with 6-8 participants.

Prior to the focus group, you may review the following attached documents:

1. List of focus group discussion questions

2. Zoom videoconferencing technology written instructions. Also, here is a video on how to join a Zoom meeting: https://support.zoom.us/hc/en-us/articles/201362193-Joining-a-Meeting

If you would like to practice with the Zoom technology prior to the focus group date, I would be glad to schedule a time to practice the technology. The link to the Zoom meeting will be sent about 20 minutes before the time of the focus group on the date specified above.

Should you have any questions about the focus group session, please contact Kyleen Harris at Kyleenk@ksu.edu (316-655-1214) or Dr. Kevin Sauer at ksauer@ksu.edu. Please be advised that although the researchers will take every precaution to maintain the confidentiality of the data, the nature of focus groups prevents the researchers from guaranteeing confidentiality. The researchers would like to remind participants to respect the privacy of your fellow participants and not repeat what is said in the focus group to others. If you have any questions about the rights of individuals in this study or about the way the study is conducted, you may contact the University Research Compliance Office at (785) 532-3224.

Again, thank you for your time and willingness to participate in this focus group.

Sincerely,
Kyleen

Kyleen Harris, RDN, LD
Graduate Student | M.S. Nutrition, Dietetics and Sensory Sciences
College of Health and Human Sciences | Kansas State University

Appendix E - Zoom Instructions

Zoom Instructions

**I**nstructions for Desktop or Laptop Users for Accessing Zoom Meeting

(video on how to join a zoom meeting: https://support.zoom.us/hc/en-us/articles/201362193-Joining-a-Meeting)

In your email inbox, refer to the email sent by Kyleen Harris (Kyleenk@ksu.edu) regarding attending a Zoom Meeting.

Click on the link in the email.

Click the "open zoom meetings" or "join the meeting" button.

An option Join from your Browser may appear automatically. If it does not, select download & run

Zoom.
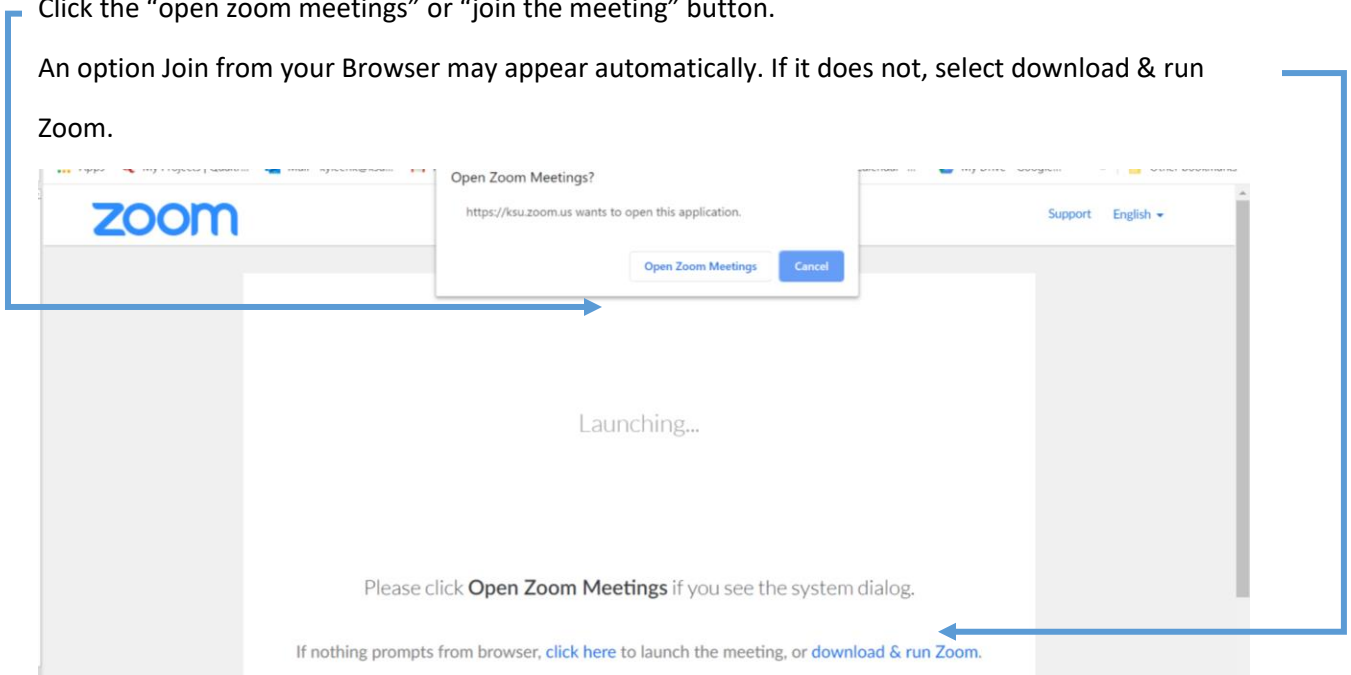
The option Join from your browser will appear. Click join from your browser.
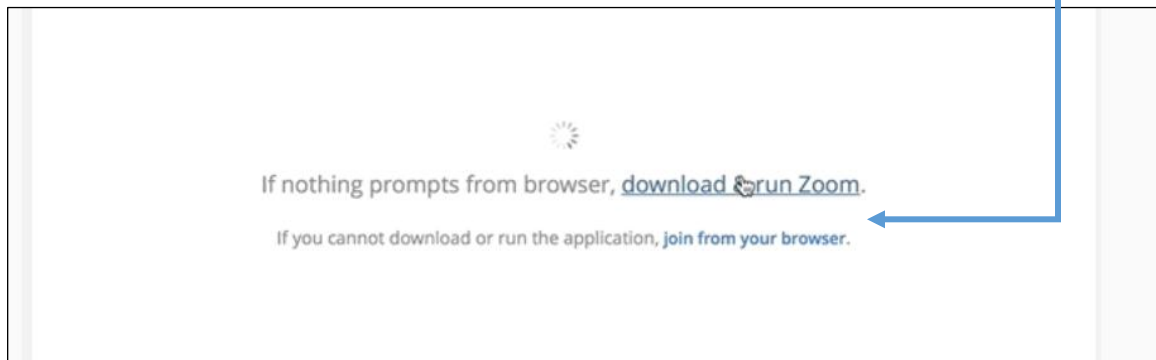
You may be prompted to enter your name. Enter your name and then click Join to be taken into the meeting.
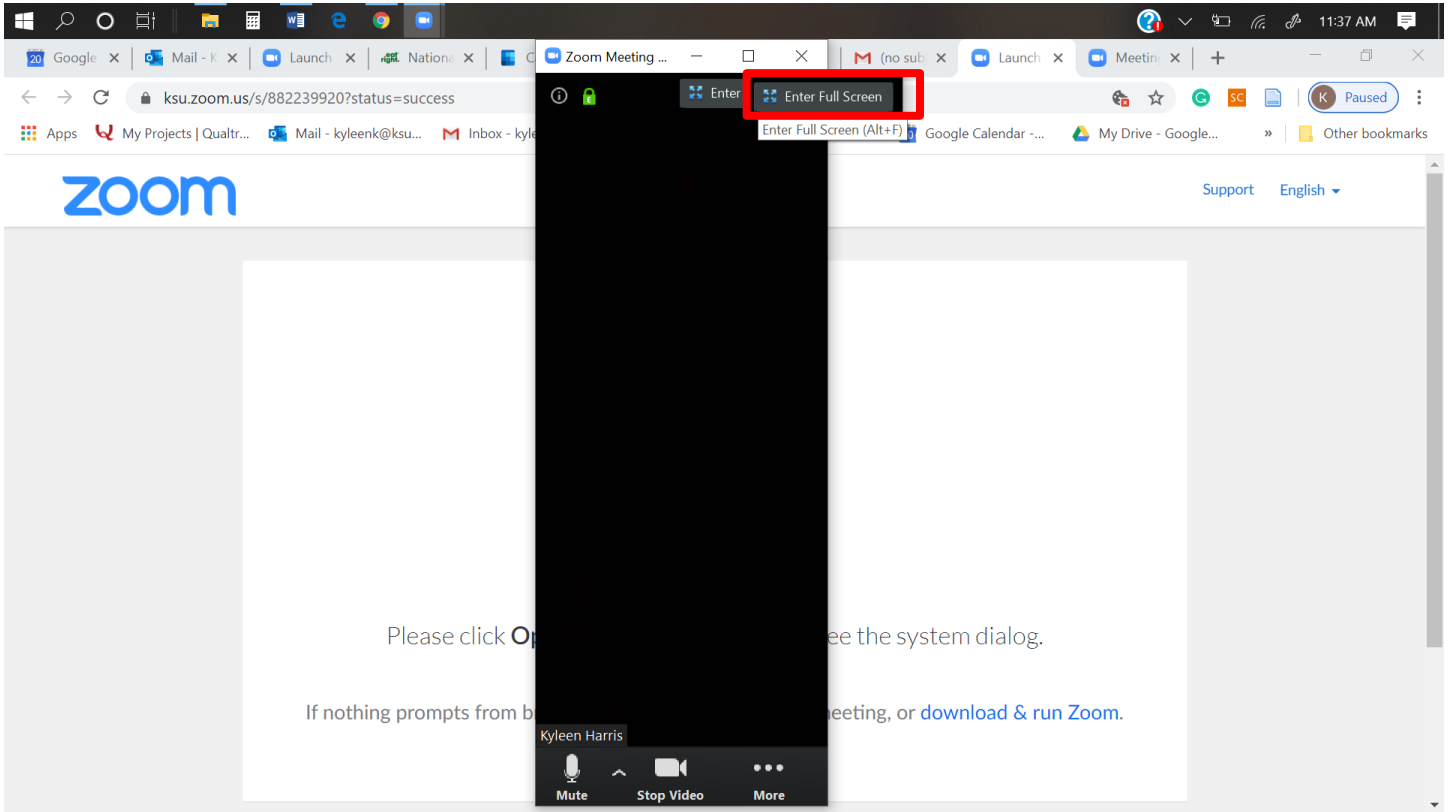
Join Audio

Once you have joined, you can join the audio by computer or dial in by telephone
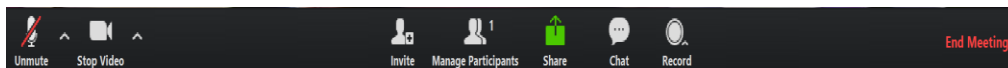
Click Join with Computer Audio (recommended) or if you do not have a computer microphone and speaker system, click on the telephone option.
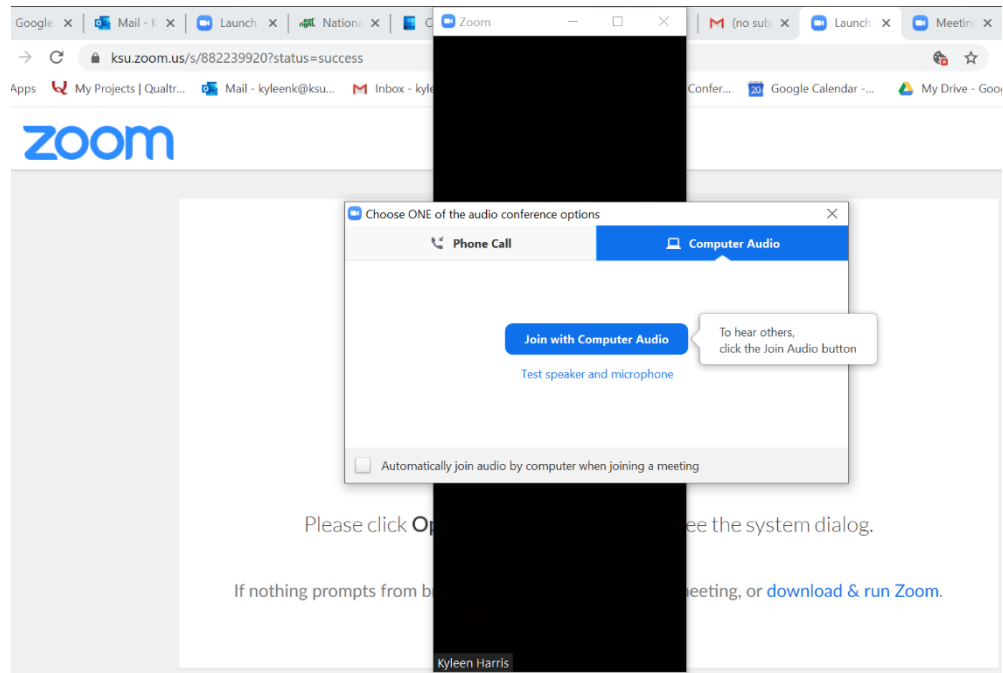
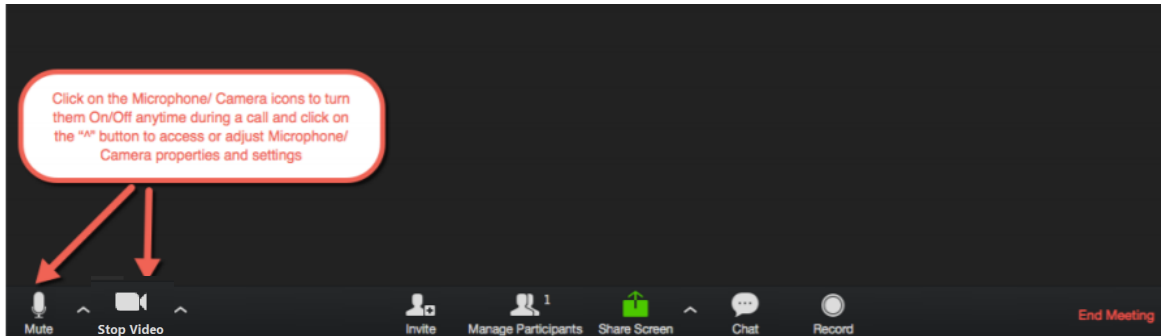To View Live Video of all Participants: Click the Enter Full Screen button

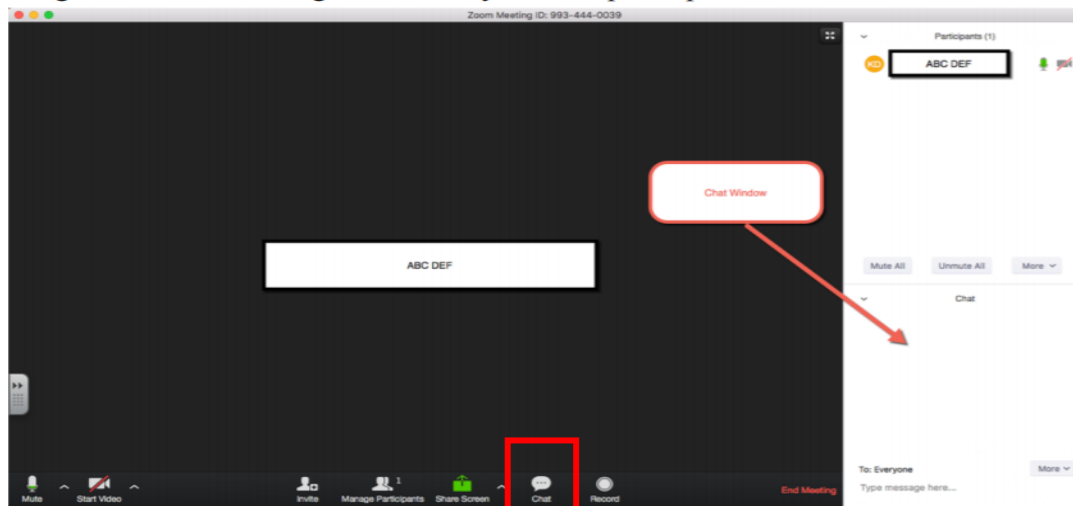Click the Gallery View button in the top-right corner.

Using Zoom Toolbar Features

You can adjust your camera and microphone settings by clicking on the microphone and video icons in the lower-left corner.

Chat:

The chat window allows the host or the participants to chat with each other during the session. On clicking the chat button, a chat pane pops out and it allows the user to chat with the whole group altogether or send message individually to other participants.

Trouble shooting

Adapted from K-State's FAQ for First Time Zoom Participants

If your microphone is not working, a couple of things you can try including:

1. Ensure that your microphone is plugged in. 2. In the bottom left hand side of the video screen, there is a picture of a microphone. A red line through the microphone indicates that you are muted. If you click on the microphone, it will unmute you and you will be heard by the participants. 3. In the bottom left hand side of the video screen, there is a settings button. Click on settings. In the pop-up box, on the left-hand side of the screen, select audio. You can test your microphone by clicking on the Test Mic button and then speaking into the mic. It will record your speaking and if your microphone is working correctly, it will play back what you said during your test. In this pop up, you can also select another microphone option from your drop-down menu.

If your speakers are not working, you can try the following: 1. Ensure that your speakers are plugged in and turned on. 2. In the bottom left hand of the video screen, there is a settings button. Click on settings. In the pop-up box, on the left-hand side of the screen, select audio. You can test your speakers by clicking on the Test Speaker button. If you speakers are working correctly, you should be able to hear music when you click on that button. You can also select another speaker option from your drop-down menu here.

If your Video is not working, you can try the following: 1. Make sure that your webcam is plugged in and turned on. 2. Connect your webcam to a different USB port if not working properly. 3. Ensure that your webcam is not being used by another application on your computer. 4. In the bottom left hand side of your video screen, there is a settings button. Click settings. In the pop-up box, on the left-hand side, click video. Ensure that you are utilizing the correct webcam from your drop-down menu.

Appendix F - IRB Approval

TO: Dr. Kevin Sauer   Proposal Number: 9996
          Food, Nutrition, Dietetics, and Health
          201 Justin Hall

FROM: Rick Scheidt, Chair
          Committee on Research Involving Human Subjects

DATE: 12/19/2019

RE: Proposal Entitled, "Kansas School Nutrition Directors' Experiences and Perceptions of Expanding
        the School Breakfast Program"

The Committee on Research Involving Human Subjects / Institutional Review Board (IRB) for Kansas State University has reviewed the proposal identified above and has determined that it is EXEMPT from further IRB review. This exemption applies only to the proposal - as written – and currently on file with the IRB. Any change potentially affecting human subjects must be approved by the IRB prior to implementation and may disqualify the proposal from exemption.

Based upon information provided to the IRB, this activity is exempt under the criteria set forth in the Federal Policy for the Protection of Human Subjects, **45 CFR §46.101, paragraph b, category: 2, subsection: ii.**

Certain research is exempt from the requirements of HHS/OHRP regulations. A determination that research is exempt does not imply that investigators have no ethical responsibilities to subjects in such research; it means only that the regulatory requirements related to IRB review, informed consent, and assurance of compliance do not apply to the research.

Any unanticipated problems involving risk to subjects or to others must be reported immediately to the Chair of the Committee on Research Involving Human Subjects, the University Research Compliance Office, and if the subjects are KSU students, to the Director of the Student Health Center.

Appendix G - Research and Focus Group Question Alignment with

Diffusion of Innovation Theory Framework

Diffusion of Innovation (DOI) Concepts	DOI Concepts Operationalized for Innovative Breakfast Delivery Models	Focus Group Questions	Research Questions
Innovation Characteristics			
Relative Advantage	The perception that a particular innovative breakfast delivery model has advantages over the traditional before-school breakfast delivery model (as it relates to convenience/ accessibility, economics, program satisfaction, etc.)	1. What has gone well with expanding your school breakfast program through an innovative breakfast delivery model? 2. What influenced or motivated the district's decision to implement an innovative breakfast model? 3. What specific advantages do you think expanding the breakfast program has provided?	1. What are the motivators for expanding the School Breakfast Program through an innovative breakfast delivery model in Kansas schools? 2. What are the strategies used to overcome perceived and known barriers to expand the School Breakfast Program through an innovative breakfast delivery model in Kansas schools? 3. What are school nutrition directors' perceptions of how expanding the School Breakfast Program through an innovative breakfast delivery model has impacted students?
Compatibility	The perception that a particular innovative breakfast delivery model is consistent with existing values, needs, routines and practices of the school district.	1. What has gone well with expanding your school breakfast program through an innovative breakfast delivery model? 2. What influenced or motivated the district's decision to implement an innovative breakfast model?	1,2,3

Complexity	The perceived degree of difficulty to implement, use, and understand an innovative breakfast delivery model.	4. What strategies did you use to overcome challenges when implementing an innovative breakfast model? 10. What criticisms, if any, do you have of the innovative breakfast delivery models?	2
Trialability	The extent to which the innovative breakfast delivery model can be piloted or tried prior to a commitment to adopt.	5. Think about how the innovative models in your district have changed over time. Did you have to change anything after implementing the innovative model to make students or other stakeholders more receptive to the program? If so, what were the changes?	1,2,3
Observability	The degree to which the results of the innovative breakfast delivery model are visible to others.	6. In addition to increasing school breakfast participation, how has expanding the school breakfast program impacted the students?	1,2,3
Communication Channels	Movement of an innovation related message from one individual to another, including information source and stakeholders in the line of communication.	Not specifically addressed in focus group questions	

Time	Process of going from first knowledge to adoption. Rate varies depending on innovativeness of the individual adopting and their compared earliness/lateness in reference to others.	Not specifically addressed in focus group questions	
Social System	Interactions of stakeholders in the school environment engaged in joint problem solving, including both formal and informal social structures.	Not specifically addressed in focus group questions	
Additional DOI Concepts			
Modifiability (Reinvention)	Defined as the degree to which an innovation is changed or modified. (Redefining/restructuring) occurs when the innovation is re-invented so as to accommodate the organization's needs and structure more closely, and when the organization's structure is modified to fit with the innovation.	5. Think about how the innovative models in your district have changed over time. Did you have to change anything after implementing the innovative model to make students or other stakeholders more receptive to the program? If so, what were the changes? 9. What recommendations, if any, do you have for improving or expanding the innovative program in your schools to increase participation?	2,3

Sustainability	The degree to which an innovation continues to be used over time after a diffusion program end.	7. In your opinion, is the innovative breakfast model sustainable or not sustainable? Do you feel the innovative models will continue in the foreseeable future, why or why not?	4. What are school nutrition directors' perceptions of the short- and long-term sustainability of the innovative breakfast delivery models?
		8. In general, how has participation rates changed over time since implementation, particularly how has participation rates changed for free and reduced-price meals since expanding the breakfast program?	
Sources used to develop DOI operationalized concepts for the SBP (Frigge et al., 2018; Haesly et al., 2014; Lehnerd et al., 2019; Lowry, 2015; Rogers, 2003)			