

**Breakfast Programs' Impact on Student Behavior, School
Readiness, and Academic Performance**

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Chapter 1: Introduction

Overview

The basis for school nutrition programs took root after a significant portion of American men were found to be suffering from various forms of under-nutrition (Schaub & Marion, 2011). Increasing malnutrition rates during the great depression led to the first substantial federal assistance to subsidize school lunch programs (2011). Research indicates that hungry students are two times less likely to be ready to learn than students who are not (Sweeney, Tucker, Reynosa, Glaser, 2006). Early findings of the importance of well-fed students led to developments of school breakfast programs in addition to school lunch programs already in place. The significance of these morning nutritional programs is only starting to be realized. Hunger in school age children is a serious detriment to growth and student nutritional needs. Its contribution to negative classroom behavior and academic readiness are only now being fully realized. If academic institutions are to achieve the ever increasing state and federal standards, instructional time must be used to its fullest. Programs incorporating morning nutrition programs are important in meeting the standards and goals of everyday school systems.

Statement of the Problem

Due to the implementation of No Child Left Behind schools have been forced into an exclusive focus on improving academic scores (Leviton, 2008). With ever tightening budgets and politicians lacking the will to lengthen the school year, schools must maximize what is accomplished in the contact time allotted. School based breakfast programs are cost effective ways to allow students to be ready for class time.

School Breakfast Programs have been identified by Federal and State Governments along with schools as a remedy for many student issues. Issues ranging from academic achievement to discipline concerns, and nutritional needs are often the targets of implemented breakfast programs (Rampersand, 2009). Research on the effects of breakfast programs and mid-morning break has been extremely informative. Improvement of student attendance and tardiness issues, along with less educational time being wasted due to disciplinary problems was indicated in studies (Sweeney, Tucker, Reynosa, Glaser, 2006). Students also reported experiencing fewer stomachaches and headaches causing them to be more attentive in classroom situations (2006). Schools instituting these changes experienced the above results along with improvement of student social involvement and academic improvement (Rampersand, 2009; Sweeney, Tucker, Reynosa, Glaser, 2006). Government and schools need to expand opportunities for students to take part in school breakfast programs to allow all children to reap the benefits.

Research Questions

1. Why is student academic performance under the public microscope?
2. How do school breakfast programs promote student growth?
3. Is student readiness for academics improved by participation in school breakfast programs?

4. How do schools encourage participation in school breakfast programs?
5. What are the main obstacles to implementation of school breakfast programs at all school levels.

Model

The research goal is to show the relationship and significance of school breakfast programs in correcting school issues concerning student readiness and academic performance. School breakfast programs alleviate attendance, class attention, and discipline problems. Most importantly, students who eat breakfast are healthier and better able to learn.

Definition of Terms

All terms listed below will be used throughout the review. The proper definition of these terms will lead to a greater understanding of the information as presented.

Cognitive Ability – A composite score based on vocabulary, reading, and mathematics tests from the school file (Daniels, 2008).

Free and Reduced – Students falling within certain income guidelines set forth by the federal government. These students are allowed to participate in special programs set-up or funded by the federal government. In this case free or reduced priced meals provided by schools. (2008)

Malnutrition - Results from undernourishment causing an unbalanced diet in which certain nutrients are lacking or portion control problems which may lead to obesity (Schaub & Marion, 2011).

Mid-morning break –time period set aside during after the first or second period. This is done either done alone or in tandem with a breakfast program. Other school tasks such as meeting and announcement would take place during this time, much like a homeroom (Sweeney, Tucker, Reynosa, & Glaser, 2006).

No Child Left Behind Act (NCLB)- Act passed by the United States Congress (reauthorization of the Elementary and Secondary Education Act) forcing schools into an almost exclusive focus on improving achievement scores (Leviton, 2008).

School Readiness- The mental state in which a student arrives or attends school. School readiness affects academic performance by influencing attention span, attendance, tardies, and discipline issues. (Daniels, 2008).

Self-Esteem - Condition or feelings of one's worthiness or value. How an individual judges or compares themselves with others (Daniels, 2008).

Socio Economic Status(SES) – parents level of education, occupation, and economic/social position in relations to others. (Schaub & Marion, 2011).

Verbal Fluency – Is found by a test measuring total number of words known in allotted time (test) (Sweeney & Horishita, 2005; Melanson, 2008).

Child Nutrition and WIC Reauthorization Act (WIC)- Act by the United States government creating committees to set forth further nutrition guidelines, so schools must continually adapt to receive funding (Leviton, 2008).

Summary

As schools are searching for ways to better their academic outcomes, school breakfast programs provide a cost effective solution. Research has shown that undernourishment affects cognitive learning and iron deficiency has been associated with poor academic performance (Melanson, 2008). School morning nutrition programs, breakfast and midmorning breaks, promote growth by removing hunger as a major cause of student attention and discipline issues. School breakfast programs provide students access to nutrition and sustenance to allow for academic readiness that improves the learning environment. Schools need to fully utilize school lunch programs to maximize student/teacher contact time and to impact educational outcomes.

Chapter 2: Literature Review

Introduction

Several significant research studies were reviewed to explore the effect of school breakfast programs on student academic success. Academic performance has fallen under the public microscope at the same time programs have fallen to budget cuts as school revenues have fallen. Academic institutions must find programs that are not only cost effective, but reach a large portion of its service population. Breakfast programs are one such service schools can provide to meet a combination of needs at low cost.

Breakfast programs meet the criteria for improving a wide array of issues that confront schools on a daily basis. These issues range from obesity, nutrition, growth, and academic performance. The following review will show the effects of school breakfast programs on items affecting academic performance. Primarily school nutritional programs allow students to better ready themselves for a day of learning and educational growth. Schools need to find ways to provide programs not only in the middle of the day, but to meet morning nutritional needs present as students arrive for school.

Academic Performance and the Public Microscope

The public microscope has focused on the assessment of academic performance since the passing of the NCLB (No Child Left Behind). NCLB has placed most of the focus on student testing and schools are now scrambling to bring up their test scores (Leviton, 2008). Increased scrutiny is being placed on academic performance, while state and local governments have restricted or cut capital outlays to k-12 education (2008). Schools have needed to find and explore programs that meet the needs of academic growth, yet are relatively inexpensive.

To deal with school readiness one must confront a large number of issues. School attendance, attention, discipline issues are just a few of the items lessening effectiveness of school contact time. Research reported in the literature identifies students who skip breakfast as being more likely to be obese than students who regularly eat breakfast (Daniels, 2008). Students who are obese suffer from low self-esteem, exhibit more social anxiety, and often have more discipline issues (2008). Further literature reviewed by Daniels found obese students missed on average 4.2 days a month versus 1 day a month by the non-obese student (2008). Additionally, poor nutrition leads to poor cognitive function, lower academic achievement, and shortened attention span (Daniels, 2008; Joe, 2009). Studies further indicated that attention span issues were caused by iron deficiency which is a leading factor in student irritability, fatigue, and difficulties based on concentration (2009). While the public's microscope has focused on achievement and brought that to the nation's consciousness, schools and policy makers must refocus that attention on elements that limit student achievement.

How do Breakfast Programs Promote Student Growth

Breakfast programs fulfill many needs of K-12 students. School lunch programs were first designed to deal with malnutrition during the Great Depression and World

War II (Schaub & Marion, 2011). Later nutrition programs evolved to provide students with knowledge along with nutrition. Programs were enhanced and encouraged in all schools to allow students the option to alleviate hunger no matter the student's socio-economic standing.

School breakfast programs promote student growth in a number of ways. Undernourished students and schools who participate in school breakfast programs saw verbal fluency and math scores rise on various test data (Sweeney & Horishita, 2005; Melanson, 2008; FRAC). Added nutrition in students with poor nutritional backgrounds improved scholastic achievement, test scores, academic skills, as well as healthier body weights (Melanson, 2008). Morning nutritional programs help obese students alleviating self-esteem and confidence issues by improving eating habits and overall health (2008). Literature reviewed by Melanson (2008) found that student academic growth grew as self-esteem and confidence rose.

Children subjected to nutritional risks face not only long term health issues, but also are handicapped academically. Students who lack nutritionally take longer to process information on memory tests and computerized stimuli tests (Cueto, 2001). The largest area of improvement for students was by allowing children the opportunity to eliminate hunger. This helped to improve student issues related to behavioral and emotional troubles helping students improve academically (FRAC, 2010).

Student Readiness and Academic Improvement Due to Breakfast

Breakfast consumption is an indicator of positive student performance. Students who consume breakfast tend to produce encouraging results in three important areas. Readiness, discipline, and academic performance are all more positive in students who consume breakfast on a regular basis than students who do not. Students who do not eat

breakfast tend to score lower in math and often experience more behavioral, emotional, and academic problems than their breakfast consuming peers (FRAC, 2010).

One of the most important factors of school breakfast programs is providing students with the means to eliminate hunger. Many students skip breakfast or do not get the opportunity to have food in the morning. School breakfast programs fill this gap. A significant study surveying 828 high school (9-12) staff and students identified 52% of student eating breakfast at home, while an additional 36% ate on campus breakfast at least 1 time per week (Sweeney, Tucker, Reynosa, & Glaser, 2006). Information gathered in this survey indicated students who eat at the start of the school day are more alert, attentive, and energetic at school than students who did not receive breakfast (2006). These same students felt they started the day more refreshed and motivated (2006). Further studies show schools with breakfast programs (students who have breakfast) experience improved student attendance and tardiness rates (Sweeney, Tucker, Reynosa, & Glaser, 2006; Joe, Joe, & Rowley, 2009). Joe, Joe, and Rowley's review of literature supported the conclusions stated by Sweeney, Tucker, Reynosa, and Glaser by showing schools that instituted school breakfast programs have fewer students reporting to the nurse's offices for head and stomach aches (2009). Morning nutrition programs allow students to better focus, spend more time in class, and be ready for learning.

Another factor breakfast programs help schools to combat is that of classroom discipline disruptions. Students who have eaten breakfast tend to have better social interactions with their peers (Sweeney, Tucker, Reynosa, & Glaser, 2006). A supporting study involving 18 students in a vocational school found school breakfast times allowed for better social interaction (secondary finding) between the students (Bro, Shank,

McLaughlin, & Williams, 1996). Using a five minute momentary time interval with each teacher scanning the class the study indicated that the students on task behavior (main focus of study) increased from between 42 and 69% to over 90% when the school breakfast program was established (Bro, Shank, McLaughlin, & Williams, 1996).

Research highlighted by the Food Research and Action Center (FRAC) also indicates that students who have eaten breakfast are less likely to be hyperactive (FRAC, 2010).

Research gathered through surveys provide by 846 urban students ranging from age 13 to age 19 found when students experience food insufficiency they were more likely to be suspended from school, while having difficulty maintaining healthy interpersonal relationships with their peers (Sweeney, & Horishita, 2005). Furthermore, Sweeney and Horishita's study indicated disciplinary disruptions in the classrooms declined in schools where children participated in school breakfast programs (2005). This allowed a more effective use of class time. Teachers found they were better able to use allotted time for instruction instead of dealing with disruptions that take away from learning opportunities (2005).

Student readiness and less class time missed help students perform academically in the classroom. Students who possessed healthy morning eating habits perform at a higher academic level than students who do not practice solid health habits (Joe, Joe, & Rowley, 2009). The Food Research and Action Center (2010) shows that students who take part in school breakfast programs experience growth in reading and math scores. Students not experiencing hunger make fewer mistakes, work faster, and display better memory on cognitive tests (FRAC, 2010; Sweeney, & Horishita, 2005). Further findings also identify students who have eaten breakfast score better on standardized tests than students who are hungry (2010). Actually, the closer to class or test time that food is

consumed the better the overall test scores (2010). Schools must not only work on implementing these types of multifaceted programs, but work to encourage wide student utilization of breakfast programs.

Main Obstacle to the Implementation and Utilization of Breakfast Programs by Students

School breakfast programs face many obstacles. Administrators must overcome tight budgets, but this seems to be one area which has seen a rise in revenue (Bisceglie, 2010). Federal government spending on school breakfast programs rose to 2.9 billion dollars (USDA, 2012). Schools are reimbursed money based on economic status of student. These reimbursement rates are \$1.51 free breakfasts, \$1.21 reduced-price breakfast, and \$0.27 paid breakfast which provides a dedicated source of funding (2012). In 2012 9.7 million students out of 11.6 million children were supported by funding by the Federal Government (2012). Couple federal funding with student purchased breakfast items and some schools break even or can make money on breakfast programs (Hilleren, 2007).

A study compiled by the UW- Extension on school breakfast programs looked into the cost factors of breakfast programs in Wisconsin. The study analyzing the cost-benefits of breakfast programs in seven districts in Wisconsin ranging from an urban district with 8,000 students to a rural districts with 3,000 students (Hilleren, 2007). Breakfast was served before and during school hours (both Grab and Go and Mid-Morning Snack) and all financial information was gathered from food service employees (2007). Even when counting labor costs all of the seven districts breakfast programs made a profit on their programs (USDA, 2012). This fact seems to dispel the number one reason (cost) schools avoided morning nutrition programs, but all these schools

were seen to be above the minimum amount of students for a successful program and already prepared lunch in the facility (2012). Research found in this study should alleviate some negative feelings towards funding of breakfast programs helping administrators to focus on the impact student nutrition has on student academic achievement.

School decision makers must remember research pointing out the importance of school nutrition programs for both student health and academic improvement. School nutrition staff desire foods that are easy to serve and require minimal preparation and student want food they can eat with ease and on the go (Sweeney, & Horishita, 2005). Administration will insist that all items are approved by the FDA to cover the cost (2005). The Child Nutrition and WIC Reauthorization Act has created committees to set forth further nutrition guidelines, so schools need to continually adapt in order to receive funding (Leviton, 2008). Yet, the largest obstacles schools face in successful implementation and utilization of school programs are often not administrative or money orientated, but due to student attitudes.

Breakfast programs face many complications when dealing with student participation in its program. Research has indicated most students who skip breakfast do so because of time constraints (Rampersaud, 2008; Sweeney, & Horishita, 2005). Sweeney and Horishita's study found students citing time as the major issue, often waking up with just enough time to make it to school (2005). The study concluded students in this category would be at a loss to participate in breakfast programs that occur before school. Other reasons presented by Sweeney and Horishita's research included not being able to eat in the morning, not liking choices, and attempting to lose weight all playing a role in skipping breakfast.

Studies have identified common techniques breakfast programs implement to increase student utilization. Food selections not requiring utensils make consumption simple and easy (Grab and Go) (Sweeney, & Horishita, 2005). Speed and taste are the two main student concerns. School nutrition programs are often not viewed favorably by the population that they serve. This is a major issue that must be considered when creating programs requiring food preparation. Students may practice avoidance so free student tastings might help build trust and may allow students to overcome stereotypes associated with school nutrition programs.

School Encouragement of Pupil Participation in School Breakfast Programs

Encouragement schools need is provided by the health and well being of their students and the academic growth experienced when students eat breakfast. Schools implementing a successful school breakfast programs are going to need to educate both students and staff. Students must be educated through nutrition or wellness programs that schools have in place (Rampersaud, 2008). Reviews of research have indicated that student surveys help to provide information for the establishment of morning nutrition programs that encourage wide student participation (2008). Staff, teachers, and administration must be educated through surveys gauging student needs and desires. Surveys need to be conducted several times to ensure student acceptance and maximum student participation (2008). Information gathering devices will allow schools to set up programs encouraging maximum participation.

Participation in school breakfast programs is solely going to be decided by students. Students skip breakfast for several reasons. Research has identified 'time' as being the number one factor in students forgoing breakfast (Rampersaud, 2008). Subjects identified wanting to sleep in as a major time detriment (2008). Students may

need to be asked about desirable times for morning school nutritional programs as many students skip breakfast to make it to school on time. Schools must find ways to allow students access to food in an efficient manner that requires little time. Often these food items are identified as “Grab and Go” (Sweeney, Tucker, Reynosa, & Glaser, 2006). Student selections must also be appetizing to the student by being identifiable by the student and visually appealing to entice their participation (2006). A study performed in a suburban Philadelphia middle school surveyed teachers one month after the implementation of programs (Conklin & Bordi, 2003). Majority of teachers were supportive and a third saw the program as a spring board into health education (2003). Placing this program during school hours found that many students participated who normally would not have had the opportunity (2003). Reputations of school food tends to be less than stellar, so schools must be careful that food items are tasty and visually appealing to the students.

Conclusion

Because of student’s propensity to forgo traditional breakfast times, schools are forced to explore and find options more acceptable to the student population. Instead of offering breakfast before the start of school (which many students arrive at the last moment), schools may choose to continue the widely accepted elementary practice of a mid-morning nutrition break (snack time). Many schools cut out mid-morning break for middle or junior high students even though many students undergo tremendous growth at these ages. Continuing these programs throughout school may provide an acceptable alternative to students and schools. Students are already in the habit of participating, staff is already on site to supervise student break (adding no additional staffing costs), and research supports greater student participation. Sweeney, Tucker, Reynosa, &

Glaser, (2006) study found that these breaks were between first and second hour and with additional time added to regular passing time. Participation was 69% for the mid-morning nutrition break versus 36% participation for breakfast programs occurring before the start of school (Sweeney, Tucker, Reynosa, & Glaser, 2006). Student preference between before school breakfast and a mid-morning break is easily seen in these results.

Results of research prove that students perform better when they have started the day with breakfast. Research identified that student will skip or forgo breakfast affecting school performance and that nutrients received at lunch or later meals do not make up for this deficiency (Bro, Shank, McLaughlin, & Williams, 1996). Contributing factors to this nutritional deficiency are poverty and the changing lifestyles of the American family (1996). Lifestyle change has increasingly placed breakfast preparedness on children instead of the parent, which has led to the growth in students skipping breakfast (1996). For student health and readiness schools must explore and find programs to bridge gaps created by evolving home life. Breakfast programs seem to be an affordable way to not only combat student nutrition needs, but eliminate a major factor negatively affecting student learning.

Chapter 3

Basis for school nutrition programs have grown from providing nutrients and caloric intake for disadvantaged youth to most every school in the nation. Over 8 million children (83% free and reduced) take part in breakfast programs, while 28 million children (58% free and reduced) are part of lunch programs run by school systems (Conklin & Bordi, 2003). Overtime school nutrition programs have proven to relieve school/student issues (School Readiness) allowing more efficient use of instruction time. Simply said students who do not eat breakfast tend to score lower in math and often experience more behavioral, emotional, and academic problems than their breakfast consuming peers (FRAC, 2010). Students who eat breakfast on a daily basis perform better in school. Education leaders must find ways to increase participation in the morning nutrition programs.

School Readiness

Breakfast programs are not the answers to all the questions and issues facing school districts across the nation, but numerous studies indicate that programs of this nature alleviate many of the problems students and schools face at the beginning of the day. Eliminating “huger issues” has been identified by research in combating problems concerning school readiness. Two different studies found students who ate breakfast

reported to school more focused, alert and are significantly energetic (Sweeney, Tucker, Reynosa, & Glaser, 2006; Conklin & Bordi, 2003). A study conducted at a vocational school also found students to be more alert and focused which lead to a significant rise in on task behavior (Bro, Shank, McLaughlin, & Williams, 1996). Joe, Joe, and Rowley's research supported the conclusions stated by Sweeney, Tucker, Reynosa, and Glaser by showing schools that instituted school breakfast programs have fewer students reporting to the nurse's offices for head and stomach aches (2009). Less class disruptions and absences by students caused student learning to increase due to the increase in student/instructor contact time.

Social Interaction within a Classroom Environment

Schools having school breakfast programs noticed significant changes in the social aspects of students (Bro, Shank, McLaughlin, & Williams, 1996; Sweeney, Tucker, Reynosa, & Glaser, 2006). Bro, Shank, McLaughlin, and Williams found that the vocational students they studied actually got along better during the entire class time (Bro, Shank, McLaughlin, & Williams, 1996). Both studies found that students spent more time with one another and schools/classes witnessed a decline in disciplinary issues between students (Bro, Shank, McLaughlin, & Williams, 1996; Sweeney, Tucker, Reynosa, & Glaser, 2006). In the vocational class teachers felt more comfortable working with students one on one, due to the growing trust that student issues would not arise and on task behavior was student driven (Bro, Shank, McLaughlin, & Williams, 1996).

Schools implementing breakfast programs witness drops in overall disciplinary issues. Research shows that students who eat breakfast have less issues with attendance (Sweeney, Tucker, Reynosa, & Glaser, 2006; Joe, Joe, & Rowley, 2009). Sweeney,

Tucker, Reynosa, and Glaser (2006) also found that disciplinary referrals overall dropped significantly. Both studies found that students who skipped breakfast tended to internalize their difficulties or problems and this often lead to classroom disruptions (Sweeney, Tucker, Reynosa, & Glaser, 2006; Joe, Joe, & Rowley, 2009). Lastly, self-esteem improved with students as their breakfast consumption went up (2009). This positive growth in self-esteem lead student to behave in a more appropriate manner, thus performing better in class.

Mid-Morning Break the Right Choice for Maximum Participation

The most important factor that needs to be dealt with regarding school breakfast programs is student participation. A successful program will have a high percentage of student participation in the program. The number one reason students miss breakfast at home is time (Rampersaud, 2008). Many students wake up late or their busses arrive just in time for school (FARC, 2010; Sweeney, & Horishita, 2005). Time was the leading factor why 64% of students skipping breakfast did so, while another 28% just cannot eat when they get up (Sweeney, & Horishita, 2005). On most days up to 92% of all student will not be able to participate in a before school breakfast program. Schools have started to combat this issue using one or two programs. These programs are indentified as “Grab and Go” and the “Mid-Morning Break”.

The main idea of these programs is to provide student with a quick and efficient way to gain substance during the day. Both programs identify food types that student can eat quickly and without utensils (Conklin & Bordi, 2003); Sweeney, Tucker, Reynosa, & Glaser, 2006). Additionally, they usually have a specific time and in which students can access them (2006). While Conklin and Brodi indentify a major success of “Grab and Go” as eliminating the cafeteria line feel of traditional school nutrition

programs it also causes problems (Conklin & Bordi, 2003). Some teachers do not want students eating in the classroom due to possible distractions and messes and some students are not responsible enough to deposit refuse in receptacles (2003).

In many cases the concept of the “Mid-Morning Snack” (which many elementary schools still employ) combines the “Grab and Go” idea, but also gives time and specific areas for students to enjoy this breakfast program. Though schools must have some flexibility in time and staff the results of this concept are proven. Sweeney, Tucker, Reynosa, and Glaser found that 69% of students participated in the nutrition break versus 52% in at home breakfast (Sweeney, Tucker, Reynosa, & Glaser, 2006). Though either program is an improvement over the traditional before school provided breakfast (13 to 36% participation rate), “Mid-Morning” snack though requiring flexibility on time would seem be the least disruptive.

The effects of breakfast programs on students are wide and varied. Student experience increased learning through better attention, attendance, and attitude (Sweeney, Tucker, Reynosa, & Glaser, 2006; Conklin & Bordi, 2003). Schools and instructors are able to provide students with additional quality instruction time by student feeling better (missing less class) and causing fewer discipline distractions that schools must deal with (Bro, Shank, McLaughlin, & Williams, 1996; Sweeney, Tucker, Reynosa, & Glaser, 2006). Schools and researchers must continue exploring formulas in the search for the right morning nutrition programs so maximum student participation will result in the total impact of its positive results be felt on education.

Chapter 4: Conclusions

Through the Federal Government's No Child Left Behind Act schools are facing ever increasing scrutiny concerning test scores and overall academic performance. At the same time a narrowing of the public pool of funds used to fund academic programs at schools continues to shrink in the face of ever increasing needs. To combat the new direction of public education schools must find and implement programs that not only increase academic performance, but are minimal in cost to the district. Breakfast programs are one such program that when implemented in schools have proven to increase student performance at minimal cost to the districts.

Research has clearly indicated the importance of breakfast in increasing student success rates in academics and several behavioral issues. Many problems still face these programs and their successful implementation in all school systems. Much of the research of school nutrition programs focus on childhood obesity and other health issues. Further research needs to look into several issues complicating school breakfast programs including but not limited too;

- Cost and Staffing
- Space requirements; cafeteria, hallway, or classrooms
- Discipline issues during programs

- Ideal time between Breakfast and Lunch Programs
- Cooperative use of time by other programs

Even in the face of these important questions schools should not wait the results of further studies. Schools need to be proactive and created the type of breakfast program that will best serve its student population. Important factors concerning school climate and environment must be weighed for successful implementation and to bring about the best results in the interest of the students.

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