

Parental Beliefs Toward the National School Lunch Program Related to Elementary Student Participation

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ABSTRACT

Research was conducted to determine the level of correlation among parents' beliefs and intentions to encourage their elementary schoolchildren to participate in the National School Lunch Program (NSLP) and their children's actual participation. Based on focus group input and guided by the Theory of Reasoned Action, a 60-item Parent School Lunch Survey (PSLS) was developed to measure the strength of parents' beliefs toward encouraging their elementary schoolchildren to participate in the NSLP. A Likert-type scale of "strongly disagree" (1) to "strongly agree" (7) was used to measure all items. Also determined by the PSLS were children's grades, genders, and the number of children in grades K-12 in the family. Each parent (n=960) who completed the PSLS and provided signed permission to obtain data on his/her child's NSLP participation was matched with this data. Information on NSLP participation of each child was obtained during a 30-day period (20 school lunch meals) from school lunch records provided by the school foodservice directors at seven schools.

In this research, 79% of parents "intended to encourage their children to participate in the NSLP." Parents' intentions to encourage their children to participate in the NSLP were shown to have a strong correlation ($r=0.58$, $p<0.01$) with their children's actual participation.

Based on this research, parents should be viewed as an important customer of the NSLP. The actions of school foodservice directors and future research efforts should be better oriented with an assessment of parents' beliefs toward the NSLP, and should involve and view parents as an important part of the program.

INTRODUCTION

Most studies of student participation in the National School Lunch Program (NSLP) have concentrated only on students in secondary schools or on the K-12 student population as a whole (Akin, Guilkey, Popkin, & Wyckoff, 1983; Fogleman, Dutcher, McProud, Nelkien, & Lins, 1992; Marples & Spilman, 1995; Maurer, 1984; Meyer & Conklin, 1998; Morcos & Spears, 1992). Few studies have looked exclusively at NSLP participation rates of elementary students to identify the variables and factors that influence this population's participation (Barnes, 1988; Meyer, 1999; Perkins, Roach, & Vaden, 1980).

During the elementary school years, children's attitudes most often reflect those held by adults who are important to them, such as parents, teachers, and those in their family group (Klausmeier & Ripple, 1971). Even during the adolescent years, the majority of children hold attitudes that are in considerable agreement with those of their parents (Cobb, 2001). Parents' attitudes toward

the NSLP have been shown to influence their children's degree of participation in the NSLP (Akin et al., 1983; Fogleman et al., 1992; Marples & Spilman, 1995).

Previous research has established parental influence on elementary student NSLP participation. However, research has not thoroughly identified which beliefs contribute to parents' intentions toward encouraging their children's participation in the NSLP, or the importance parents place on these beliefs. In this study, the researchers chose to incorporate the Theory of Reasoned Action (TRA) (Ajzen & Fishbein, 1980) as a guide to investigating school lunch participation. Incorporating a theory into research assists researchers in identifying variables and constructs that should be monitored, measured, or compared during the research (Glanz, Lewis, & Rimer, 1997).

The TRA is a research tool used to measure individuals' intentions to perform a given behavior based on their attitude toward performing that behavior. Intention to perform a behavior also is influenced by an individual's subjective norm, i.e., what relevant others think they should do (Ajzen & Fishbein, 1980; McKenzie & Smeltzer, 1997). Described as a unidirectional structure, the TRA provides a conceptual framework (model) for linking behavior to specific antecedents such as personal beliefs, attitudes, social support, and intentions. The TRA has been used widely in studies of attitudes and behaviors within the field of social psychology and has been applied successfully to other studies of consumer choice situations (Becker & Gibson, 1998; Crawley & Koballa, 1994; Sheppard, Hartwick, & Warshaw, 1988). However, no publications have been found reporting that the TRA was used to address parents' beliefs and intentions toward the NSLP.

When predicting behavior, the TRA uses five constructs leading up to the actual behavior being studied. The first four constructs--behavioral beliefs, normative beliefs, attitudes toward the behavior, and subjective norm--assist in predicting the fifth construct: behavioral intention. The TRA does not include external variables such as personality traits or demographics in its model. External variables may influence behavior, but only to the extent that they influence the determinant of that behavior as identified by the constructs of the TRA model (Ajzen & Fishbein, 1980).

This research was designed to determine the level of correlation between parents' beliefs and intentions to encourage their elementary schoolchildren's participation in the NSLP with their children's actual participation. The most recent published study the researchers could find that investigated the beliefs of parents of elementary schoolchildren toward the NSLP was by Barnes (1988). In addition, the researchers could find no recently published studies regarding the importance parents placed on their beliefs toward the NSLP. This research looked exclusively at the attitudes, beliefs, and importance placed on those beliefs of parents toward encouraging their elementary schoolchildren to participate in the NSLP.

The TRA was incorporated into this research because of its applicability to identifying and predicting behavioral intentions. Using one group (parents) to predict another group's (children) behavior extends outside the traditional use of the TRA model. However, the researchers believe use of the TRA, as a guideline, is appropriate, since research suggests that children have similar attitudes and beliefs as their parents (Berk, 2002; McDevitt & Ormrod, 2002). Additionally, a

meta-analysis of past research incorporating the TRA has shown its strong predictive value, even when investigating situations and activities that do not fall exclusively within conditions originally specified for the model (Sheppard et al., 1988).

METHODOLOGY

The researchers used qualitative and quantitative methods to obtain parents' beliefs toward encouraging their elementary schoolchildren to participate in the NSLP. Qualitative research methods were employed in the form of focus group discussions (Krueger & Morgan, 1997) to identify parents' beliefs toward encouraging their children to participate in the NSLP.

An instrument was developed to measure the five constructs of the TRA model using beliefs obtained from parents during focus group discussions, information gathered from a review of literature, and input from a panel of experts. A seven-point Likert-type scale of strongly disagree=1 to strongly agree=7 was used to measure the strength of agreement toward each item included on the pilot survey instrument.

Forty-one parents who met the same criteria as parents included in the focus group discussions completed the pilot survey instrument. A critique sheet was included with the pilot survey instrument to obtain additional information, such as clarity of questions and ease of completion. Statistical analysis software (SPSS version 9) was used to analyze the pilot instrument for reliability and validity. Exploratory factor analysis and internal consistency analysis (Rossi, Wright, & Anderson, 1983) were conducted on the pilot survey instrument. Based on the results of the analyses, the pilot survey was revised and titled Parent School Lunch Survey (PSLS). Along with three demographic items (child's grade, gender, and number of children in grades K-12 in the family), the PSLS included the following number of items for each TRA construct:

1. Behavioral Beliefs: 44 items (22 behavioral beliefs and a corresponding 22 "outcome evaluations," which measure the importance the parent places on the belief);
2. Normative Beliefs: 8 items (4 normative beliefs, or beliefs of people who are important to each parent, and 4 corresponding motivations to comply items, or how much influence the normative belief has on the parent's intentions);
3. Attitude Toward the Behavior: 3 items that determine whether or not the parent believes that encouraging their child to participate is the right intention;
4. Subjective Norm: 1 item to determine the influence of the social environment on a parent's intentions; and
5. Behavioral Intention: 1 item to determine the parent's intention to encourage his/her child to participate.

The population in this research consisted of parents who have children in grades K-3 attending schools in seven states located in the American School Food Service Association's (ASFSA) Southeast Region. Participating parents were required to be the parent who is primarily responsible for meal preparation. Through each Department of Education in the seven participating states, 15 elementary schools were recruited to participate in the research. Schools used in this research had at least 50% of students paying full price for their school lunch, served

between 400-700 meals during lunch, and had a computerized system for tracking student participation in the NSLP.

The school foodservice director at each school followed guidelines provided by the researchers for distributing, collecting, and returning the PSLs instruments. The school foodservice directors delivered the PSLs instruments, return envelopes, and student participation incentives to teachers for distribution to students. Students took the PSLs instrument home and asked their parent/caregiver who was primarily responsible for meal preparation in their home to complete it. Parents enclosed the PSLs instrument in a return envelope and gave it back to their child to return to the teacher. Each student who brought back the PSLs instrument received an incentive. The school foodservice director collected all the PSLs instruments and mailed them back to the researchers.

In accordance with the TRA guidelines, the researchers recoded the items in the PSLs instrument that measured behavioral beliefs, outcome evaluation, normative beliefs, attitude toward the behavior and subjective norm to score strongly disagree= -3 to strongly agree= 3. Recoding was done only for the analysis of the TRA constructs. Items measuring motivation to comply were not recoded. Established guidelines set forth by Ajzen and Fishbein (1980) were used in the measurement of all TRA constructs within the TRA model.

Each parent who completed the PSLs and provided signed permission to obtain data on his/her child's NSLP participation was matched with his/her child. Information on NSLP participation of each child was obtained for a 30-day period (20 school lunch meals) from school lunch records provided by the school foodservice director at each school. This information on participation was obtained beginning one week after parents completed the PSLs. The three demographic variables on the children--grade, gender, and number of children in his/her family--were obtained from parent responses on the PSLs.

Pearson's correlation analyses were used to determine the strength of association between the measurement of parents' behavioral intentions and their children's participation in the NSLP. Confirmatory factor analyses were conducted to determine whether the items in the PSLs reproduced the appropriate underlying dimensions of parents' beliefs. Separate factor analyses were performed using items representing the two components--behavioral beliefs and outcome evaluation--included in the behavioral beliefs construct. Frequencies were used on all belief items to obtain agreement results.

RESULTS AND DISCUSSION

Using confirmatory factor analyses, the behavioral beliefs component resulted in a GFI (Goodness of Fit Index) of 0.91, and a RMR (Root Mean of the Residual) of 0.11. For the outcome evaluation component, a GFI of 0.92 and a RMR of 0.06 were obtained. These represent minimally acceptable standards for confirmatory factory analysis (Quintana & Maxwell, 1999). Factor analyses were conducted to determine if parents' ratings for the behavioral beliefs and outcome evaluation items could be grouped into a smaller number of meaningful factors. The identified factors and their respective Cronbach alphas are shown in **Table 1** and **Table 2**.

Table 1. Factor analysis of PSLS behavioral belief items and their respective alphas

Factor 1: Behavioral beliefs on school lunch nutrition ($\alpha=0.95$)

If my child eats in the school lunch program this month, he/she will receive
a nutritious lunch.
healthful foods.
lunch with all the food groups.
a well-balanced lunch.
a variety of foods for lunch.

Factor 2: Behavioral beliefs on children's school lunch preferences ($\alpha=0.79$)

If my child eats in the school lunch program this month, I will
know how much he/she ate for lunch.
know what he/she ate for lunch.

If my child eats in the school lunch program this month, he/she will receive
foods he/she likes to eat for lunch.
a lunch that tastes better than a sack lunch.

If my child eats in the school lunch program this month, he/she will
select foods that are nutritious.

Factor 3: Beliefs on school lunch convenience ($\alpha=0.93$)

If my child eats in the school lunch program this month, it will
save me time.
be easier on me.

Factor 4: Beliefs on school lunch eating environment ($\alpha=0.63$)

If my child eats in the school lunch program this month, he/she will
have enough time to eat his/her lunch.
have a pleasant area in which to eat.

Table 2. Factor analysis of PSLS importance of behavioral belief items and their respective alphas

Factor 1: Importance of school lunch nutrition ($\alpha=0.89$)

Whether my child eats in the school lunch program or brings a sack lunch, it is important that my child
receives a nutritious lunch.
receives healthful foods for lunch.
receives all of the food groups for lunch.
receives a well-balanced lunch.
receives a variety of foods for lunch.
selects nutritious foods for lunch.

Factor 2: Importance of children's school lunch preferences ($\alpha=0.74$)

Whether my child eats in the school lunch program or brings a sack lunch, it is important that
I know how much my child ate for lunch.
I know what foods my child ate for lunch.

Factor 3: Importance of school lunch convenience ($\alpha=0.86$)

Whether my child eats in the school lunch program or brings a sack lunch, it is important that
I save time on lunch preparation.
lunch preparation is easier for me.

Factor 4: Importance of school lunch eating environment ($\alpha=0.84$)

Whether my child eats in the school lunch program or brings a sack lunch, it is important that my child
has enough time to eat his/her lunch.
eats in a pleasant area during lunch.
has a meal that tastes good for lunch.
likes the foods provided at lunch.

PSLS items loading at less than 0.40 were deleted from use in data analyses, which resulted in a reduction from 57 to 41 of the number of items that were used to measure the five TRA constructs. Factor analyses were not conducted with the normative beliefs--attitude toward the behavior, subjective norm, and behavioral intention constructs--due to the limited number of items in each of these constructs.

The subjective norm and normative beliefs (significant others' beliefs) (**Table 3**) showed very little influence on parents' intentions to encourage or not encourage their children to participate in the NSLP. Therefore, this discussion relates primarily to behavioral beliefs that *did* result in a strong correlation with parents' intentions to encourage their children to participate in the NSLP.

Table 3. Parents' agreement with PSLS normative belief and motivation to comply (importance) with belief items factor analysis of PSLS behavioral belief items and their respective alphas

| PSLS Items | N | Normative Belief* | N | Motivation to Comply* |
|---|-----|-------------------|-----|-----------------------|
| My mother thinks I should encourage my child to eat in the school lunch program. | 944 | 26% | 944 | 20% |
| My child thinks I should encourage him/her to eat in the school lunch program. | 953 | 27% | 954 | 27% |
| My spouse thinks I should encourage our child to eat in the school lunch program. | 950 | 35% | 945 | 39% |
| My mother-in-law thinks I should encourage my child to eat in the school lunch program. | 946 | 20% | 941 | 11% |

*Percentage of parents who rated the PSLS item a 5 or higher on a seven-point Likert-type scale of "strongly disagree" (1) to "strongly agree" (7)

Parents in 14 of the 15 (93%) elementary schools returned the PSLS (n=1,039). Ninety-two percent of the parents provided permission to obtain information on their children's NSLP participation (n=960). The demographic distribution of the children and their respective grades and genders were as follows: 207 kindergarteners, 259 1st-graders, 263 2nd-graders, 231 3rd-graders, 461 females, and 499 males. The majority of parents (95%) identified themselves as having one to three children attending K-12 schools.

Chi-square analyses showed no significant differences in NSLP participation based on gender or grade. Barnes (1988) reported that male students tend to participate more often in the NSLP than female students (4.1 days per week and 3.8 days per week, respectively).

The average participation rate of 72% found in this research is slightly lower than the 80% participation rate for elementary schools and 88% participation rate for Grades 1-3 as reported by Barnes (1988). Montague (1998) reported a decline in participation rates among paying students. Since our research was conducted in schools with a high percentage of paying students, the lower participation rate in the elementary schools may be indicative of a decrease in participation of paying students. This research did show a significant difference in the number of children in the family reported by parents and their intentions to encourage NSLP participation. Parents with fewer than four children had a higher intention to encourage their children to participate than did parents with more than four children. However, it should be noted that the group of parents with over four children was only a small percentage of the sample (less than 2%). A study with a larger sample of this group should be conducted before drawing any conclusions. Maurer (1984)

reported students with the highest participation rates were from families with seven or more members.

The researchers were able, however, to draw conclusions about parents' intentions, discovering that 79% of parents "intended to encourage their child to participate in school lunch." Parents' intentions to encourage their child to participate in the NSLP were shown to have a strong correlation ($r=0.58$, $p<0.01$) with their child's actual participation. Parents' attitudes toward the NSLP were generally positive, with 79% agreeing that having their child participate is good and 72% agreeing it is wise. Only 5% agreed that school lunch might be harmful.

PSLS items addressing parents' beliefs and the importance they place on the belief are found in **Table 4**. According to the TRA, beliefs and the importance placed on those beliefs influences a person's intentions to act on them. Therefore, parents' intentions to either encourage or discourage their children to participate in the NSLP depend on how strongly they feel about the NSLP. Items with considerable discrepancy between parents' agreement with the belief and agreement with the importance of the belief should be viewed as potential areas school foodservice directors should address when making changes to their NSLP.

Printed from *The Journal of Child & Nutrition Management*, Issue 2, 2002
<http://www.asfsa.org/childnutrition/jcnm/>

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Table 4. Parents' agreement with PSLS behavioral belief and importance of belief items

| If my child eats in the school lunch program this month: | N | Behavioral Belief* | N | Importance of Belief* |
|---|----------|---------------------------|----------|------------------------------|
| It will save me time. | 949 | 79% | 953 | 50% |
| It will be easier on me. | 949 | 79% | 956 | 51% |
| He/She will receive a nutritious lunch. | 953 | 90% | 954 | 98% |
| He/She will receive healthful foods for lunch. | 951 | 89% | 954 | 97% |
| He/She will receive a lunch with all the food groups. | 953 | 91% | 942 | 91% |
| He/She will receive a well-balanced meal. | 955 | 88% | 955 | 98% |
| He/She will receive a variety of foods for lunch. | 950 | 86% | 956 | 96% |
| He/She will receive foods he/she likes to eat. | 945 | 74% | 951 | 92% |
| He/She will receive a lunch that tastes better than a sack lunch. | 947 | 56% | 952 | 96% |
| I will know how much he/she ate for lunch. | 939 | 31% | 957 | 81% |
| I will know what he/she ate for lunch. | 950 | 70% | 952 | 90% |
| He/She will select foods that are nutritious. | 952 | 70% | 948 | 94% |
| He/She will have enough time to eat his/her lunch. | 943 | 64% | 946 | 93% |
| He/She will have a pleasant area in which to eat. | 941 | 84% | 947 | 97% |

*Percentage of parents who rated the PSLS item a 5 or higher on a seven-point Likert-type scale of "strongly disagree" (1) to "strongly agree" (7)

In this research, parents agreed (90%) with the belief that their child will receive a nutritious lunch if they participate in the NSLP and agreed (98%) that it is important to them that their child receives nutritious lunches. Parents also believed (89%) that their child will receive healthful foods if he/she participates in the NSLP, and that their child receiving healthful foods was important to them (97%). These are areas where the school lunch program is concurring

with parents' beliefs that would lead to their intentions to encourage their child to participate in the NSLP.

However, this research found considerable discrepancies between several of the beliefs and the importance placed on the beliefs by parents. Only 31% of parents agreed with the belief that they know how much their child eats if he/she participates in the NSLP. However, 81% of parents agreed that knowing how much their child eats is important. Seldom, if at all, do school lunch programs document children's individual nutritional intake during the lunch meal and report that information to parents. Documentation of individual nutrition intake may be impractical under the current school lunch environment, but is an area to begin exploring as a way to improve the value of the school lunch as perceived by parents.

In addition, 64% of parents agreed with the belief that their child has adequate time to eat his/her lunch if he/she participates in the school lunch program. However, most parents (93%) agreed that their child having adequate time to eat is important. Having adequate time to eat lunch by providing shorter service lines or longer lunch periods has been shown to be a positive influence on school lunch participation (Brown, Gilmore, & Dana, 1997; Hutchinson, Brown, & Gilmore, 1998; Marples & Spillman, 1995). Schools need to address the issue of students having adequate time to eat lunch if they are to improve service as perceived by parents. Bergman, Buerger, Enamuthu, and Sanchez (2000) provide research information and suggestions for increasing the amount of time students have to eat by improving the efficiency of school lunch service.

Another problem area identified by this research was the taste of the lunch. Only 56% of parents agreed with the belief that if their child participates in the NSLP they will receive a lunch that tastes better than a sack lunch brought from home. Ninety-six percent of parents believed if their child participates in the NSLP it is important that the lunch taste better than a sack lunch. This indicates that parents believed they can provide a lunch that tastes better to their child than school lunch. Providing students with foods that they like and that meet the federal regulations is always a challenge for school foodservice directors. Involving students and parents in menu development may provide children with more foods that they like, therefore promoting participation.

Maurer (1984) stated that parents reported convenience as a benefit of the school lunch program, but did not identify the importance of that benefit to parents. In this research, parents' agree (79%) with the belief that they save time and it is convenient (79%) for them if their child participates in the NSLP. Interestingly, only 50% and 51%, respectively, agree that saving time and convenience are important to them. When promoting the school lunch program to parents, promoting convenience in terms of saving time may not be a successful strategy, since parents already agree that school lunch does save them time, but they do not place high importance on this convenience.

CONCLUSIONS AND APPLICATIONS

Since this research found a positive correlation with parents' intentions to encourage their children to participate in the NSLP and their children's actual participation, at least in K-3, school foodservice directors are encouraged to view parents as significant customers of their

school lunch program. Understanding parents' beliefs and the importance placed on those beliefs as related to the NSLP will provide school foodservice directors some guidance as to changes that are needed to improve parents' beliefs toward their school lunch program.

As more beliefs that guide parents' intentions to encourage their children's participation in the NSLP are identified, marketing strategies using persuasive messages in support of the NSLP can be developed. Belief-based persuasive messages have been successful when used in other populations, such as promoting enrollment in high school chemistry classes (Crawley & Koballa, 1994) and the career choices of college students (Strader & Katz, 1990). School foodservice programs can target parents using persuasive messages as a way to positively reinforce favorable beliefs, or perhaps even change negative beliefs and encourage participation in the NSLP.

Based on this research, the following areas should be addressed in developing persuasive messages:

1. Nutritional content of the school lunches and how students' preferences are incorporated into the menus.
2. Eating environment and the time allowed for children to receive and consume a hot lunch.
3. Assurance that when students participate in the NSLP, they are given healthy foods that they like.

At least for elementary schoolchildren, parents should be recognized as influential customers of the NSLP. This research shows the need to include and view parents as an important factor in NSLP participation. Other studies have identified the importance of including parents in school programs. Gantner (1997) identified parents as the primary customers of the school system and found they were more likely to support school decisions when they had a voice in those decisions. Pryor (1996) reported that parent involvement could assist in identifying strengths and needs of school programs that, in turn, could lead to improved effectiveness of the various school programs. Future research efforts toward increasing NSLP participation in the elementary school population should be directed toward assessing parents' needs and input concerning the school lunch program.

Due to criteria established for this research, generalizations are limited. Therefore, caution should be used when extrapolating the results of this research to parents and children who do not meet the same criteria. Due to confidentiality and legal considerations, the researchers chose not to place items on the PSLS instrument asking parents to identify their children's eligibility status for free and reduced-price meals. Eligibility status has been identified by previous research as a strong influencing factor on participation (Fogleman, et al., 1992; Gleason, 1995; Zucchini & Ranney, 1990), and the researchers believe that the addition of items to the PSLS survey regarding status would not provide any new information. The researchers do recognize that this may be considered as a limitation of the research.

ACKNOWLEDGEMENTS

The authors thank ASFSA's Child Nutrition Foundation for partial funding of this research through the Lincoln Foodservice Grant for Innovations in School Foodservice.

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