Pledges and Competitions As Health Interventions

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This paper aims at understanding the effects of two different public policy interventions (pledges and competitions) that can be used by marketers and public policy makers to increase healthy eating attitudes and behaviors amongst school and college age students. From a longitudinal field study, we find that the effects of pledges and competitions are moderated by the age of the respondents and the visibility of the interventions. Older children respond more favorably to pledges than competitions while younger children respond more favorably to competitions than pledges.

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EXTENDED ABSTRACT
Public policy makers have attempted to influence the development and prevalence of healthy eating habits through various recommendations with respect to food content. While these efforts have contributed to increased awareness and knowledge of what constitutes healthy eating, research has documented that just this increased knowledge may be insufficient to motivate people to eat in healthier ways (e.g. CDC 1996). Further, little is known about how children of different age groups react to such interventions. Children and young adults are important groups to address in the context of healthy eating because past research has shown that these groups fail to meet the recommended daily consumption levels of fruit and vegetables in the United States and because eating patterns that are established in childhood tend to persist throughout life, indicating the importance of starting healthy eating habits early (Lien, Lytle, and Klepp 2001). Our research aims at understanding two different public policy interventions (pledges and competitions) that can be used by marketers and public policy makers to increase healthy eating attitudes and behaviors amongst school and college age students. We report the results of two empirical studies conducted amongst school children and college students.

Study 1
Objective: To compare the relative effects of pledges, and competitions on healthy eating choices amongst school children and understand how the age of the child plays a role in the effectiveness of the intervention.

Study background and design: A total of approximately 31,000 public school students in grades one to eight participated in this longitudinal field study conducted over a six month period. Schools participating in this study were provided an enhanced lunch menu consisting of an additional serving of a fruit and a vegetable during the study period.

Method: Schools were randomly assigned to one of three study conditions-control, pledge, or competition condition. The second independent variable was age, a measured variable. Grades 1 through 3 were coded to represent younger children and grades 4 to 8 were coded to represent older children. Incentives were offered to all the students in the study and were small in nature (e.g. pencils). The baseline condition participants received only the incentive instructions. The pledge condition participants were told about the incentives and asked to make a personal pledge to eat healthier by signing their name on a special poster prepared for the occasion and placed in the classroom for the duration of the study. The competition condition participants were told about the incentives and were also told that they were in a friendly healthy eating competition with students from other participating schools.

Procedure
Six weeks prior to the start of the main study, baseline consumption of fruits and vegetables was recorded for a one week period, the same enhanced menu that was used during the main study was provided to students in the participating schools (BE). The following week, the enhanced menu was withdrawn but student’s fruits and vegetable consumption with the regular menu was recorded (BR). These two baseline measures allowed us to account for any variation in novelty and availability effects. The main study was conducted over six consecutive weeks and the consumption of fruits and vegetables was recorded for each day of the week for each student in each school. At the end of the sixth week, all students were told that the healthy eating program had ended. In the week immediately following the main study, the enhanced menu was again provided and consumption recorded to track immediate follow-up behavior (IF). Finally, ten weeks after the completion of the main study, long-term follow-up behavior (DF) was tracked by offering the enhanced fruit and vegetables menu for a week and recording the consumption. Therefore, the study was designed as a 3 (study condition: control, pledge, or competition) x 2 (age: younger or older children) x 8 (study week: W1–W6) mixed design. Study condition and age were between-subject variables and study week was a within-subject variable.

The data was collected at the individual level, but due to privacy concerns, aggregated to the homeroom level.

Results
A repeated measures ANOVA conducted on the two baseline measures BE and BR revealed no significant differences between the measures (M_BE=.45, M_BR=.45, F(1, 673)=.46, p>.10).

The data was subjected to a two-way ANCOVA with experimental condition and grade as the between-subject variables, study week as the within-subject variable, change in consumption of fruits and vegetables over the baseline period as the dependent variable, and enrollment size as the covariate. The results revealed a significant three-way interaction between study condition, age, and study week (F(11.7,. 3902)=2.83, p<.001; χ²=.01). To understand the nature of the three-way interaction better, the data were analyzed separately for the younger and older children.

Younger children
The results of a one-way ANOVA revealed that the increase in the proportion of competition condition participants taking fruits and vegetables was greater than pledge condition participants for younger children. The data relating to the follow-up period revealed that the increase in the proportion of students taking fruits and vegetables continued to be significantly greater for the competition condition participants compared to the pledge or control conditions. However, the difference between the pledge and control conditions became non-significant. These results suggest that in the follow-up period (both immediate and delayed), the competition condition participants maintained their consumption of fruits and vegetables, but the pledge condition participants dropped to a level not different from the control condition participants.

Older children
For the duration of the six study weeks, there was a significantly larger increase in the proportion of pledge condition participants taking fruits and vegetables compared to the competition condition participants, except in weeks three and four where the results were not significant. Similarly, the difference between the pledge and control condition participants was also significantly different for all the study weeks. Taken together, these results suggest that the increase in the proportion of pledge condition participants taking fruits and vegetables was greater than competition condition participants for older children. In the immediate and delayed follow-up period, the difference between the pledge and competition conditions became insignificant indicating that the
effects of the intervention did not extend beyond the intervention period.

Our results hold important implications for health educators, marketers and public policy makers since they suggest that different interventions may be appropriate for children of different ages.

REFERENCES