

# Attitudes and Social Norms Are Related to Attendance at Childhood Obesity Prevention Classes in a Rural Mexican-Heritage Community

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## ABSTRACT

**Objective:** To examine factors related to attendance of Mexican-heritage parents at community-based nutrition classes to prevent childhood obesity.

**Methods:** Starting in 2011, interviewers collected baseline data from *Niños Sanos Familia Sana (Healthy Children, Healthy Families)* participants in rural California. Educators maintained attendance logs from 2012 to 2014. Informed by the Theory of Planned Behavior, interviewers administered an exit survey in 2015 to collect data on attitudes, subjective norms, health motivations, and perceived control related to attendance. Multivariable ordinal logistic regression analysis examined the correlates of attendance (n = 194, intervention group only).

**Results:** Controlling for mother's age, marital status, acculturation, and employment, attitudes and subjective norms were significantly related to attendance (odds ratio = 1.27; 95% confidence interval [CI], 1.18–1.37;  $P < .001$ ).

**Conclusions and Implications:** In these Mexican-heritage participants, attitudes and subjective norms were significant correlates of attendance. The Theory of Planned Behavior may shed light on attendance of high-risk groups but further testing of instruments is needed.

**Key Words:** attendance, childhood obesity prevention, Latino, nutrition education classes, parents (*J Nutr Educ Behav.* 2018; 000:1–5.)

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## INTRODUCTION

The prevalence of obesity is higher in Latino (21.9%) than non-Latino white children (14.7%).<sup>1</sup> Although family-based approaches have been effective in reducing child obesity in Latinos,<sup>2–4</sup> inconsistent attendance can inhibit success.<sup>5–7</sup> Whereas others have reported attendance patterns,<sup>2,4</sup> to the current authors'

knowledge, no study has examined factors related to Latino attendance specifically in childhood obesity interventions. In other health-related studies, participant's age, education, income, gender, and household size are associated with attendance.<sup>8,9</sup> Factors negatively affecting attendance include a lack of child care, being a single parent, work-related issues, transportation, time conflicts, and gender

roles.<sup>10</sup> Greater motivation, knowledge, participant–facilitator trust, and group cohesion are positively related to attendance.<sup>7,10</sup>

Given the sensitive nature of confronting childhood obesity, research examining psychosocial factors for attendance may help educators plan more effective outreach to high-risk groups. The Theory of Planned Behavior (TPB) has been used to examine predictors of intention and nutrition behavior change.<sup>11</sup> The TPB may also be useful to identify factors influencing attendance. The objective of this study was to examine factors related to attendance of Mexican-heritage parents at childhood obesity prevention classes. Informed by TPB, the authors hypothesized that constructs influencing attendance included attitudes about learning and being in a class, subjective norms reflecting family and health provider encouragement to attend, and perceived control or beliefs about conditions that enable

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or pose barriers to one's attendance. Health motivation, income, age, acculturation, education, marital status, and employment were also expected to explain attendance.<sup>6–10</sup>

## METHODS

*Niños Sanos Familia Sana (Healthy Children, Healthy Families)* (NSFS) was a childhood obesity intervention that used a community-based, participatory research approach in a Mexican-heritage audience.<sup>12</sup> Local Spanish-speaking *promotoras* (lay workers) helped with recruitment, community events, and classes. Along with free nutrition education classes, NSFS provided participants with vouchers worth \$25/mo to buy produce at a local store. Their children received school-based nutrition education and physical activity programs. Eligibility requirements included (1) having at least 1 child aged 3–7 years by January 15, 2012; (2) being of Mexican-heritage, as reported by at least 1 parent; and (3) residing in 1 of 2 selected school districts in California's rural Central Valley. Eligible parents or legal guardians of children gave consent, as approved by the University of California at Davis Institutional Review Board. During the consent process, researchers informed participants that the intervention aimed to prevent childhood obesity. This article examines the attendance of intervention participants during the first 2 years of nutrition classes.

### Family Nutrition Education and Attendance

Nutritionists and local staff developed a culturally adapted childhood obesity prevention curriculum.<sup>13</sup> For the first 2 years of the intervention, a bilingual, local, Mexican-heritage educator facilitated the classes, covering a different topic each month to groups of 9–15 parents. The study offered classes on multiple occasions each month at 2 local sites; free child care was provided. Both sites were within walking distance (5- to 10-minute drive) from most dwellings. The staff planned classes to avoid conflicts with holidays and community events such as food distribution

days. *Promotoras* phoned participants to schedule their preferred class day and time.

During the first year, participants were encouraged to attend at least 5 classes to receive the monthly voucher. There was no attendance goal after the first year. Instead, staff encouraged participants to attend as many sessions as possible to gain knowledge that would help their children. At the end of each month, participants in the classes were eligible to win a raffle basket of household items. *Promotoras* made reminder calls to participants the day before classes, maintained an attendance log, and assisted the educator with activities. The educator entered attendance data into Excel (version 14.07197.5000, Microsoft Corp, Redmond, WA, 2010).

Because the project had ongoing enrollment over the 2 years (2012–2014), the number of classes that a participant could attend varied. The maximum number of classes was 9 and 8 for the first and second years of the study, respectively. Relative attendance was determined by calculating the ratio of classes attended to the total classes offered during that participant's time in the study.<sup>8</sup> Median relative attendance among participants was 0.57 for year 1 and 0.63 for year 2. After pooling the 2 years and determining the median of the entire distribution, participants with a relative attendance greater than the median were classified as high-attendance. Those with relative attendance below the median were classified as low-attendance participants. Participants who completed orientation and received vouchers but attended no classes were labeled no-attendance. Dropouts were not included in the analysis because they did not complete orientation, receive vouchers, or attend classes.

### Data Collection and Analysis

Starting in 2011, bilingual researchers who were not involved in delivery of the classes collected baseline data on education, acculturation, marital status, employment, hours spent working outside the home, and other socioeconomic variables.<sup>12</sup>

Interviews took place in homes, the field office, or schools, and in participants' preferred language (English or Spanish). Researchers also measured and weighed participants following standardized procedures.<sup>12</sup> Based on the Brief Acculturation Rating Scale for Mexican Americans, the Mexican subscale was subtracted from the Anglo subscale to obtain a continuous score.<sup>14</sup> A negative score indicated lower acculturation.

At the exit interview in 2015, the researchers used 8 items, informed by TPB,<sup>11</sup> to examine psychosocial factors explaining attendance. Because participants were informed during consent that the intervention aimed to prevent childhood obesity, 2 items asked about health motivations. One author pilot-tested the questions among local staff and *promotoras* (n = 10), probing to identify all barriers to attendance regardless of participation level. Table 1 shows the final questions with a 5-response Likert scale. Factor analysis with varimax rotation (version 9.3, SAS, SAS Institute, Cary, NC, 2010) revealed 3 factors related to attitudes and subjective norms, perceived control, and health motivations, supporting construct validity but not strictly aligned with TPB. Cronbach  $\alpha$  scores for items that loaded strongly (>.45) on the 3 factors suggested good internal consistency (scores > .7).<sup>15</sup> Three scales, which were created by summing the items that loaded strongly on each factor, were used in the subsequent analyses.

The researchers used Stata MP (version 14.1, Stata Corp LP, College Station, TX, 2016) for data analyses. In the bivariate analyses with continuous variables, ANOVA or Kruskal-Wallis test (if there was a nonnormal distribution) was used to compare 3 groups (high, low, or no attendance). Chi-square was used for categorical variables. Significance was  $P < .003$  using Bonferroni correction. In *post hoc* analyses, a significant difference in group means and homogeneity of variances among groups warranted use of Tukey's Honestly Significant Difference test. If variances were not homogeneous, either the Games-Howell or 2-sample proportion test was used. Stepwise regression was used to select the best variables

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