

TURN OFF THE TV AND DANCE! PARTICIPATION IN CULTURALLY TAILORED HEALTH INTERVENTIONS: IMPLICATIONS FOR OBESITY PREVENTION AMONG MEXICAN AMERICAN GIRLS

Our evaluation study identifies facilitators and barriers to participation among families participating in the treatment arm of Stanford ECHALE. This culturally tailored obesity prevention trial consisted of a combined intervention with two main treatment components: 1) a folkloric dance program; and 2) a screen time reduction curriculum designed for 7–11 year old Latinas and their families. We conducted 83 interviews (40 parents and 43 girls) in participant homes after 6 months of enrollment in the ECHALE trial. The Spradley ethnographic method and NVivo 8.0 were used to code and analyze narrative data. Three domains emerged for understanding participation: 1) family cohesiveness; 2) perceived gains; and 3) culturally relevant program structure. Two domains emerged for non-participation: program requirements and perceived discomforts. Non-parametric, Spearman's rank correlation coefficients were calculated to assess the relationships with participant attendance data. Sustained participation was most strongly influenced by the domain perceived gains when parents reported better self-esteem, confidence, improved attitude, improved grades, etc. (Spearman $r=.45$, $P=.003$). Alternatively, under the domain, perceived discomforts, with subthemes such as child bullying, participation in the combined intervention was inversely associated with attendance (Spearman $r=-.38$, $P=.02$). Family-centered, school-based, community obesity prevention programs that focus on tangible short-term gains for girls may generate greater participation rates, enhance social capital, and promote community empowerment. These factors can be emphasized in future obesity prevention program design and implementation. (*Ethn Dis.* 2013; 23[4]:452–461)

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INTRODUCTION

High rates of obesity and subsequent diabetes exist among Latino youth^{1–7} and are associated with heart disease, and lower life expectancies.⁸ There is a need for effective prevention programs for Latino youth.^{9–11} Despite the progress made in programs designed to reverse excessive weight gain among children, obesity remains a major public health concern.^{7,12} In the United States, increases in obesity among Latino children^{13–14} have reached epidemic proportions and among Mexican American girls, rates remain persistent at 18.6 percent.^{3,4,7} Moreover, this rise in obesity contributes to co-existence of type 2 diabetes in children.^{15–18} Researchers conservatively estimate that the lifetime risk of developing diabetes (both Type 1 and Type 2) for Mexican American youth born in 2000 or later is 45.4% for boys and 52.5% for girls. Decreased life expectancy is predicted for these children.⁸ Moreover, the built environment where many Latinos live

limits opportunities for physical activity and increases the opportunities for engaging in sedentary behavior such as screen time (ie, television, videos, and computer). These factors may also contribute to excessive weight gain.^{19–20}

The purpose of our research was to identify facilitators and barriers to participation in the treatment arm of the Stanford Expressing Culture and Health through Activity and Lifestyle Education (ECHALE) Study. The Stanford ECHALE was a culturally tailored obesity prevention trial where the treatment arm consisted of a combined intervention with two main treatment components: 1) a folkloric dance program; and 2) a screen time reduction curriculum designed for 7–11 year old Latinas and their families. This solution-oriented research design,²¹ targeted young Latinas in the low-income neighborhoods where they lived and attended school. Solution-oriented research is designed to directly inform practice and policy questions, such as what works and how to implement it, through experimental research, rather than studying causes and risk factors.²¹

The purpose of our research was to identify facilitators and barriers to participation in the treatment arm of the Stanford Expressing Culture and Health through Activity and Lifestyle Education (ECHALE) Study.

METHODS

Participants

We randomly selected 78 families out of 128 families randomized to the ECHALE trial treatment condition. These 78 families were called by telephone and invited to participate in this ethnographic sub-study. We stopped recruitment when we enrolled the a priori desired sample size of 40 families (including 43 girls). Parents

signed informed consent forms and girls provided oral assent. The study was approved by the Administrative Panel on Human Subjects in Medical Research at Stanford University, Stanford, California.

Measures

The interview was designed to elicit important perceived influences on participation and non-participation in obesity prevention interventions for Latina youth. The primary questions that our evaluation wanted to answer were: 1) What facilitated family participation in the dance and screen time reduction curricula 2) What barriers limited participation?

Youth were asked to share what they liked and disliked; their comfort level; when they had the most fun; and what ECHALE meant to them. Parents were asked what changes they noticed in their daughter; what their daughters told them about dance classes; whether or not additional cultural knowledge was acquired; their child's screen time viewing habits; and school performance. Finally, parents were asked how to improve the program, negative experiences, and possible benefits. Please see Appendix 1 for the interview guide. The survey instrument asked for specific discrete pieces of information. Questions left toward the end were more open-ended, giving participants a chance to elaborate on their experiences.

Procedures

We conducted 83 interviews (40 parents, 43 girls) in the homes of participants or in mutually agreeable community locations after 6 months of enrollment in the ECHALE trial. Semi-structured interviews were conducted separately for parents and girls by a trained, bi-lingual English- and Spanish-speaking interviewer. The interview process for both parent and child took approximately 90 minutes and was conducted in either Spanish or English according to the participant's choice.

Interviews were digitally recorded, transcribed verbatim, and later translated into English for analysis.

Data Analysis

Qualitative and quantitative data analysis procedures were used to analyze themes generated in the 470 pages of narrative data. Parent and child transcripts of responses were de-identified, divided into facilitators and barriers using NVivo 8.0, and coded thematically to distinguish between facilitators and barriers of participation. A facilitator was anything that encouraged participation in the study. This included positive attributes of the study program and positive behaviors that arose as a result of participating. A barrier was any aspect that discouraged participation or was a hindrance to taking part in the study. This also included study program attributes: participant dynamics; scheduling; and child discomfort with the requirements of group practice and performances.

Charts generated using NVivo 8.0 produced rank orderings of the emergent themes from the question responses. Then a domain analysis of emergent themes was performed using the Spradley Ethnographic Method, a systematic way to perform content analysis.²⁴ Salient ethnographic quotes were used to support the cultural domains. This process was performed for both the parent and child transcripts to explain participation and non-participation in the dance and screen time reduction combined intervention. Four of the authors were involved with transcription, translation, and coding of the narrative material into domains.

Our ethnographic study is a sub-study of the overall Stanford ECHALE trial, which is a randomized controlled, community-based trial of obesity prevention for young Latinas. ECHALE enrolled 252 girls aged 7–11 years primarily from Mexican immigrant families in Redwood City, California. Participants were randomized to one of

two conditions. The treatment condition consisted of both a two-year after-school folkloric dance program plus a home-based screen time reduction program. The active-placebo comparison condition consisted of a two-year health and nutrition education program. Only participants randomized to the treatment condition were eligible to be included in the ethnographic study reported in this article. All ECHALE participants completed measures of height, weight, resting heart rate, blood pressure, triceps skin-fold thickness, and waist circumference measurements at baseline and 2 follow-up time points over a 2-year period in the participant's home or school nurse's office. The ECHALE primary outcome measure was body mass index (BMI). Field interviewers for the ethnographic study reported here were not involved in overall ECHALE trial data collection. These field interviewers completed a customized training program in ethnographic interviewing methods to promote inter-interviewer reliability.

The screen time reduction component aimed to reduce the girls' television, videotape, DVD, video game, and computer-game use. Each child set her own weekly TV budget, developed an intelligent viewing plan, and maintained a TV viewing diary. Participating girls could plan what shows to watch to keep within budget. Each family received an electronic television time manager (TV monitor) and television logs to help girls maintain their budgets. The home counselors attached this TV monitor to all the TVs in a given residence. The agreed weekly budget was entered by the parent (seven hours on average). When the girl exceeded her budget, the TV would not turn on for the rest of the week. The maintenance of the TV budget was preserved through reinforcement from home counselors. These counselors typically visited the families at least 6 times in their homes over the course of the study. Moreover, they provided phone-based support at least

Table 1. Participant demographics

	Parent, N=40	Child, N=43
Ethnicity, n (%)		
Hispanic/Latino	40 (100.0)	43 (100.0)
Country of birth, n (%)		
United States	2 (5.0)	34 (79.1)
Mexico	33 (82.5)	7 (16.3)
Other	5 (12.5)	2 (4.6)
Parent education, n (%)		
<8th grade	25 (62.5)	-
Some high school	6 (15.0)	-
High school/GED	4 (10.0)	-
Technical school	4 (10.0)	-
College graduate	1 (2.5)	-
Total household income, n (%)		
<\$20,000	13 (32.5)	-
\$20,000–\$49,999	24 (60.0)	-
\$50,000–\$79,999	3 (7.5)	-
Civil status, percent, n (%)		
Married	26 (65.0)	-
Divorced	3 (7.5)	-
Single	1 (2.5)	-
Domestic partnership ^a	10 (25.0)	-
Mean age in years (SD)	34.03 (6.25)	8.29 (.95)

^a Although the term domestic partnership is commonly associated with that of same sex partnerships, this is not the case for this particular subpopulation.

seven times over 24 months. The home visits and phone calls highlighted the positive outcome expectations of the child’s decreased TV viewing, and the successful methods the child used to reduce their screen viewing time.^{22–23}

Girls received rewards for staying within budget for a cumulative number of weeks. The rewards were linked and interwoven with the dance intervention and included postcards and specially colored ribbons to be worn during dance performances. A total of five bilingual English- and Spanish-speaking Latinas delivered the screen time reduction curriculum in the homes of participant families. They were trained by the principal investigator and by senior staff with experience delivering similar behavior change curricula in prior studies and programs.

The dance component consisted of Mexican folkloric dance classes that were offered after school for 1.5–3 hours, Monday through Friday, and ran year-round for two years, except

school holidays. The first 90 minutes was used for stretching, dancing, and learning choreography. After dancing there was supervised time to work on homework or arts and crafts projects.

RESULTS

All parents and girls were Latino/Hispanic and most belonged to low-income households. In general, parents were immigrants with minimal formal education and most children were born in the United States and were living with two adults. Data were entered into a Filemaker database and later exported to SAS 9.2 where the demographic statistics were used to generate Table 1.

With NVivo software 8.0, a rank ordering of themes related to facilitators (Table 2) and barriers (Table 3) emerged from the analysis of the narrative transcripts. These tables describe specific themes for participation and non-participation in the dance and screen time

reduction combined intervention and the tables quantify to what extent the theme was mentioned.

Using the Spradley ethnographic method,²⁴ facilitator and barrier themes emerged into the cultural domains outlined in Table 4. Three domains for understanding participation behaviors and norms emerged: 1) family cohesiveness; 2) perceived gains; and a 3) culturally relevant program structure. Two domains emerged for understanding non-participation: 1) program requirements; and 2) perceived discomforts. These cultural domains, generated by the authors’ interpretation of the data, are illustrated in the following passages and serve the purpose to systematically organize the data in a way that communicates more clearly the voices of the parents and girls who participated in this evaluation study of Stanford ECHALE.

Family Cohesiveness

The domain family cohesiveness refers to the clustering of themes that promote families to do things together and/or make the family closer. Tangible changes in child behavior were reported under this domain. As these parents indicate in the quotes below, this could result in better relations between parent and child and thus greater family cohesiveness.

Parent 1: Yes, yes I have noticed a great change, because they don’t ask for as much...like the toys they sell on television...

Parent 2: I have noticed a great change. (Interviewer: What type of change?) She is calmer, less aggressive toward me, more controllable. I can tell her let’s go here, let’s go do this, let’s go out, let’s walk, and yes, we don’t get as mad at each other anymore.

Parent 3: She dances here with her little sister; she teaches her the dances that she has learned.

In contrast, the girls report themes related to family bonding, overcoming shyness, and changes in attitudes. This

Table 2. Rank ordering of parent and child facilitators for participation

Facilitator Themes	Parent, N=40 n (%)	Times Theme Mentioned	Facilitator Themes	Child, N=43 n (%)	Times Theme Mentioned
1. Changes in child behavior	39 (97.5)	159	1. More activities, playing	31 (72.1)	58
2. Changes in child activities	30 (75.0)	66	2. Dancing folklorico	32 (74.4)	57
3. Better self esteem, confidence, attitude	29 (72.5)	47	3. Child enjoys program	31 (72.1)	43
4. Child enjoys program	23 (57.5)	28	4. Family bonding	15 (34.9)	19
5. Culturally tailored	22 (55.0)	30	5. More time with friends	13 (30.2)	18
6. Improved grades	20 (50.0)	28	6. Mexican arts and crafts	14 (32.6)	18
7. Provides an activity for child	13 (32.5)	16	7. Cultural	10 (23.3)	12
8. Improved parent child relationship	9 (22.5)	10	8. Health, weight or exercise	9 (20.9)	10
9. Positive changes in weight	8 (20.0)	10	9. Good instructors	7 (16.3)	9
10. Good instructors	8 (20.0)	9	10. Help with homework/tutoring	5 (11.6)	6
11. Help research	6 (15.0)	6	11. Overcome shyness, nerves or change in attitude	6 (14.0)	6
12. Change in eating habits	5 (12.5)	5	12. Interest in caring for pets	5 (11.6)	5
13. Positive influence on siblings	3 (7.5)	3			
14. Program scheduling	1 (2.5)	1			

may have led to improved family dynamics as the following passages illustrate:

Interviewer: How do you feel after each dance class?

Child 1: Ah, I get used to it and then I get less timid, like, less shy.

Child 2: ...I'm learning not to watch too much TV. I'm not eating that much fast food anymore and I'm learning that I can have more time to do more activities in my house and outside with my friends and my sisters and helping around the house.

Perceived Gains

Another domain that emerges for facilitators is perceived gains. This domain refers to themes mentioned where

participation in the combined intervention is seen to have a tangible positive impact on the daily lives of participants. For example, parents reported more self-esteem, confidence, improved performance in school, changes in weight, and helping in research as gains. The following quotes illustrate this:

Parent 4: Yes, a lot, she is more... more independent, now she does not need for me to speak for her as much. She is more sure of herself.

Parent 5: She improved [her grades], yes. Because they also do the homework, there.

Parent 6: Like because she was, that it was a study that they were going to help prevent the kids from getting diseases.

Perceived gains important to girls include more activities, playing, enjoying the program, more time with friends, health benefits, and increased interest in pets, as illustrated in the following:

Child 3: Sometimes I go outside or I write something on my white board, or I sometimes read, or sometimes I help my mom.

Child 4: That you get to watch less TV and then you get to be more active and then you learn different dances from different states and countries you have never heard of.

Child 5: I get to like dance more in my room than last time. Because last time I just spent more time watching TV than I usually did and now

Table 3. Rank order of parent and child barriers for participation

Barrier Themes	Parents, N=40 n (%)	Theme Mentioned	Barrier Themes	Child, N=43 n (%)	Theme Mentioned
1. Instructor concerns	8 (20.0)	10	1. Behavior problems	9 (20.9)	16
2. Bullying-child intimidation	4 (10.0)	6	2. Discomfort exercising, dancing, performing	6 (14.0)	9
3. Schedule conflicts with other activities	3 (7.5)	3	3. Dislike arts and crafts	3 (7.0)	6
4. Child dislikes program	2 (5.0)	2	4. Instructor concerns	4 (9.3)	5
5. Not cultural enough	2 (5.0)	2	5. Dislike dancing	3 (7.0)	4
6. Disagreements among parents	1 (2.5)	1	6. Homework	2 (4.7)	3
7. Child too tired	1 (2.5)	1	7. Not enough television time	3 (7.0)	3
			8. Not enough dance, exercise	2 (4.7)	2
			9. Family as a barrier	2 (4.7)	2
			10. Classroom pace	1 (2.3)	1
			11. Too tired after dance class	1 (2.3)	1
			12. Malfunctioning technology	1 (2.3)	1

Table 4. Domain analysis of facilitators and barriers of participation

Facilitators	
I. Family cohesiveness	Parent: 1. Changes in child behavior; 2. Changes in child activities; 8. Improved parent child relationship; 12. Changes in eating habits; 13. Positive influence on siblings Child: 4. Family bonding; 11. Overcome shyness, nerves, or change in attitude
II. Perceived gains	Parent: 3. Better self esteem, confidence, attitude; 4. Child enjoys program; 6. Improved grades; 9. Weight loss; 11. Help research Child: 1. More playing; 3. Child enjoys program; 5. More time with friends; 8. Health, weight, exercise; 12. Time with pets
III. Culturally relevant program structure	Parent: 5. Culturally tailored; 7. Provides an activity for child; 10. Good instructors; 14. Program scheduling Child: 2. Dancing folklorico; 6. Mexican arts and crafts; 7. Cultural; 9. Good instructors; 10. Help with homework (tutoring)
Barriers	
I. Program requirements	Parent: 1. Instructor concerns; 3. Schedule conflicts with activities; 5. Not cultural enough Child: 3. Dislike arts and crafts; 4. Instructor concerns; 5. Dislike dancing; 6. Homework; 7. Not enough television time; 8. Not enough dance, exercise; 10. Classroom pace
II. Perceived discomforts	Parent: 2. Bullying-child intimidation; 4. Child dislikes program; 6. Disagreements among parents; 7. Child too tired Child: 1. Behavior problems; 2. Discomfort exercising, dancing, performing; 9. Family as a barrier; 11. Too tired after dance class

that the TV budget is right there I spend more time dancing in my room than watching TV.

Culturally Relevant Program Design

Culturally Relevant Program Design is a domain that points to parents and girls specifically mentioning the cultural components of the program, or that the program provided a culturally relevant activity for their child. Moreover, dance instruction from Latina role models, and an afterschool program schedule that works for families facilitated sustained participation. Parents stated:

Parent 7: Well, that she learned how to appreciate dance, and the dances of our culture, Mexican dance...

Parent 8: I think it has helped her 100% because the perception the kids from here [the US] have about our dances, I mean, the folk dances from Mexico, any other country, is different. It has helped her— it has changed her 100%.

Parent 9: Well, there is one teacher that taught them many things, like, like how they should respect their friends, and that everyone should be treated equal.

The girls also talked about the cultural aspects of the program, that

the program provided needed activity, and having good dance instructors. These were identified as facilitators of their continued participation. An example of a child's response follows:

Child 6: Um, it helps me learn parts of Mexico because we talk a lot about it and their cultures and dancing because the dancing is really like beautiful and I especially like the skirts because they're like, yeah you can use them a lot.

Both parents and girls mentioned fewer barriers to participation than facilitators. Regardless of the low numbers, it is valuable to look at these domains. The following two cultural domains emerged for barriers: 1) program requirements; and 2) perceived discomforts.

Program Requirements

Program Requirements emerged as a barrier domain. This domain refers to the structural aspects of the combined intervention that may have limited participation. The dance program, for example, was very structured and parents often had different interpretations of how Mexican folkloric dance should be presented.

Parent 10: Traditional in the times that they do festivals, or on the day of

the Virgin Mary. That wouldn't be a bad idea to present to ECHALE. (Aztec/Indigenous dances)

The girls were more specific in describing barriers. Some kids enrolled discovered that they did not like art, dance or homework, an essential part of the curriculum.

Child 8: What I really don't like is like it depends when we do arts sometimes I don't really like the idea of the art thing 'cuz like when they show you to it sometimes for me it doesn't look interesting. Or sometimes I just don't feel like doing it.

Interviewer: What would you have changed about the program?

Child 9: Do more hip hop.

Interviewer: What do you like the least about dance class?

Child 10: Homework.

A key component of ECHALE was to help reduce the amount of TV the girls watch. However, girls sometimes said they disliked the goal to watch less TV.

Child 11: I don't like it that much cause I don't like to get to see much TV!

Table 5. Spearman rank correlations and significance of domains with dance participation rates

	3 Months Before Interview	Entire 24 Months in Program
Parent Facilitators	n=40	n=40
Family cohesiveness	r=.13, P=.41	r=.04, P=.82
Perceived gains	r=.27, P=.09	r=.45, P=.003*
Culturally relevant program design	r=.34, P=.03*	r=.23, P=.15
Sum score	r=.39, P=.01*	r=.37, P=.02*
Child Facilitators	n=43	n=43
Family cohesiveness	r=.07, P=.65	r=.14, P=.36
Perceived gains	r=-.15, P=.32	r=-.03, P=.84
Culturally relevant program design	r=.28, P=.07	r=.26, P=.10
Sum score	r=.08, P=.62	r=.15, P=.33
Parent Barriers	n=40	n=40
Program requirements	r=-.09, P=.57	r=-.002, P=.99
Perceived discomforts	r=-.39, P=.01*	r=-.38, P=.02*
Sum score	r=-.26, P=.11	r=-.19, P=.23
Child Barriers	n=43	n=43
Program requirements	r=-.21, P=.17	r=-.25, P=.10
Perceived discomforts	r=-.14, P=.36	r=-.008, P=.96
Sum score	r=-.19, P=.21	r=-.16, P=.29

* P<.05, statistically significant correlation with domain.

Perceived Discomforts

Perceived Discomforts is a domain that identifies clusters of themes that point to negative behaviors or consequences experienced because of participation in the combined intervention. Child bullying emerged as an issue of concern and was mentioned by 4 participants as a barrier. One concerned parent notes the following:

Parent 11: ...there have been some occasions in which she calls me crying because there is this girl who bugs her a lot.

Girls reported behavior problems as an important barrier. Under the theme of behavior problems, either the child was the bully, was being bullied, or expressed that they did not like when people were reprimanded or when the class or themselves get in trouble. The quotes below illustrate this:

Child 12: Mm, when others or I would fight, or I... I disrespect the teachers.

Child 13: That sometimes, some people are mean to you, or you want someone to be your friend and they don't want to be your friend.

The girls also identified that some family members were not supportive. Family members, usually siblings, do not encourage or prohibit child from positive behaviors.

Child 14: I want to play, but my brothers don't want to go and play, they want to watch TV.

Correlation of Attendance Data with Cultural Domains

Triangulating ethnographic results with actual participation data makes it possible to test the predictive validity of the identified domains. Non-parametric, Spearman's rank correlation coefficients were calculated to assess the relationships between nominations of the domains during interviews and actual dance participation levels, measured in numbers of days. Two intervals of participation were used. First, the three months just prior to the interview, to assess concurrent validity, and second, the total 24 month participation rates, to test the ability of interview responses to predict subsequent and overall participation. Results revealed that sustained participation was most strongly influenced by the domain

perceived gains where parents report: better self-esteem, confidence, better attitudes; child enjoys the program, improved academic performance, positive changes in weight, and the notion of helping clinical research (Spearman r=.45, P=.003) (Table 5). Alternatively, under the domain, perceived discomforts, with subthemes such as child bullying, participation in the combined intervention was inversely associated with attendance (Spearman r=-.38, P=.02).

DISCUSSION

A large number of themes were identified from interviews of parents and girls as potential facilitators and barriers for participation in a school-based folkloric dance program and a home-based screen time reduction intervention. Quantitative analysis found parent reports of perceived gains were positively predictive of actual participation rates. Moreover, parent reports of discomfort themes were inversely associated with actual participation rates. This was found throughout the entire 24 months of the study, even up to 18 months after the interviews.

For parents, the school setting facilitated participation in the dance intervention because of convenience, familiarity with school setting, and adaptability to existing schedules. The strong emphasis on Mexican folkloric dance made it culturally accessible. Throughout these interviews, parents expressed an appreciation for emphasizing culture and this enhanced their own

Quantitative analysis found parent reports of perceived gains were positively predictive of actual participation rates.

goals of instilling pride in their girls. Many parents felt that it gave the girls a better sense and connection to being Mexican since they learned the traditions of their ancestral country.

Child facilitators for participation in the combined intervention had more to do with the social quality of the experience. Even though the quantitative analysis of child facilitators did not find statistically significant correlations with actual participation, these were low powered tests. Child interviews revealed that the girls sustained interest in the intervention activities only if they felt engaged by them. Sustained screen time reduction was accomplished through family support and setting attainable budget goals.

These interventions allowed social bonding of girls aged 8 to 11 years over a span of two years. The interviews revealed that this allowed for the younger girls to learn from the older participants, and in turn for the older girls to act as mentors to the younger participants. However, this could also become a deterrent for some participants, as bullying and child intimidation was reported by four parents. To address bullying, research staff met with parents and affected girls, developed a respect pledge, as well as a detailed behavioral management protocol. It is important to note, however, that prior classroom and/or playground dynamics may carry over into the research setting despite preparation and a positive communal environment. When bullying emerges, it can be managed.

Ethnographic research has its limitations. It is possible that our qualitative findings may not be applicable in other populations in other settings. Nevertheless, we made efforts to strengthen our study representativeness and validity through random sampling of participants, extensive training of interviewers, and by supplementing qualitative data with actual past and subsequent attendance data.

In ECHALE, cultural dance and family based screen time reduction,

acted as stealth interventions where the intended impact, in this case, the prevention of excessive weight gain in participating girls, is not made explicit as a focus of intervention activities.²⁵ Weight loss or dietary changes were not mentioned, but rather, the solutions-oriented program design aimed only to increase physical activity through highly motivating folkloric dance and decrease television viewing. Previous research has indicated that controlled trials with multiple components, including lifestyle interventions and parental involvement, may be more effective than those with fewer components.²⁶ Similarly, Stanford ECHALE was a lifestyle intervention with multiple components which required both parent and sibling involvement. Treatment arm girls participating in Stanford ECHALE were exposed to daily dance, homework time, and arts and crafts. When the children returned home, girls planned their screen time use and had to actively think of other activities to engage in around the house. Furthermore, interventions that focus on socialization, goal setting, and enjoyment along with other adolescent girls may be effective in recruiting for afterschool programs.²⁷ The cultural themes elicited are consistent with Self-Determination Theory, which emphasizes that connectedness to others and feelings of being understood, are major motivators for healthy behaviors.²⁸ Our ethnographic study suggests that participation may be enhanced by the perceived gains of participating and the actual gains experienced. These gains were reported in relation to the other girls and families participating.

In a broader sense, interview responses suggested that ECHALE helped enhance social capital in the community by improving social networks through bonding, bridging, and linking the participants to community resources. There was bonding between the girls of multiple age groups, bridging that occurred between the community and the school resources, and linking that

occurred between community members and academia. Being a part of ECHALE was an immediate way to engage in child health and development issues and increase relationships between participants, participants' families, and the community at large. It created peer mentoring between girls of differing ages, and made cultural identity socially desirable among pre-adolescent girls. Increased social networking and social support for girls and families also resulted from participation.

Overall, the combined intervention gave the girls a foundation for positive behavior in general. Dancing with other girls and staff, absorbing choreography through mental thought and muscle memory, and budgeting for screen time reduction, represent new learned healthy lifestyle behaviors. Child participation in the evaluation interview introduced them to research and participation in a clinical trial. Girls gave opinions about things that they liked and disliked, which taught them the meaning of evaluation and that adults valued them. Because entire families were involved with the combined intervention concurrently and because the dance and screen time reduction activities were interwoven, there was a deeper sense of participation.

The quantitative analysis strengthens these observations. The quantitative assessment of parent comments was associated with actual participation rates both in the three months before the interview and the entire 24-month intervention period. This result provides an additional validation for the usefulness of the identified themes elicited from the participants in the ethnographic study. The clustering of these themes laid the foundation for the domains identified. However, the ethnographic results also stand alone. Absence of a statistically significant association between a domain and participation rates cannot be interpreted as evidence against the importance of that domain. Ultimately, the dance program strived

to create a sense of community and the learning environment for the girls to understand why physical activity and dance improve health; as evidence, the program has continued as a non-profit even though the trial has ended.

In recent years there has been interest in bringing social science perspectives into intervention design, execution, and evaluation. Findings from ethnographic research can inform future prevention interventions and policy making at the community level.^{29–32} Family-centered, school-based, community obesity prevention programs that focus on tangible short term gains for girls may generate greater participation rates, enhance social capital, and promote community empowerment among Mexican American girls. These factors can be emphasized in future obesity prevention program design and implementation.

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OBESITY PREVENTION FOR MEXICAN AMERICAN GIRLS - Azevedo et al

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APPENDIX 1

Interview Guide: Parents

I would like to ask you several questions about ECHALE as a whole and then ask you more specific questions about the dance class and the TV reduction program. Do you have any questions before we begin?

Me gustaría preguntarle sobre el programa ECHALE y luego más específicamente sobre la clase de baile y el programa para reducir el tiempo mirando televisión. ¿Tiene alguna pregunta antes de que comencemos?

1. How did you find out about ECHALE?
 1. ¿Cómo se enteró de ECHALE?
 - a. Why did you enroll your child in ECHALE?
 - a. ¿Por qué inscribió a su hija en el programa ECHALE?
 2. What changes have you noticed in your daughter since she enrolled in ECHALE?
 2. ¿Qué cambios ha notado en su hija desde que la ingresó en el programa ECHALE?
 - a. Have you noticed any changes in your child's confidence or self esteem since starting ECHALE?

¿Ha notado algún cambio- positivo o negativo- en el nivel de confianza o auto-estima en su hija desde que empezó el programa ECHALE?
- Great, now the following questions are about your daughter's dance classes
- Bien, las siguientes preguntas serán sobre las clases de baile de su hija
3. What does your daughter tell you about the dance class?
 3. ¿Qué le dice su hija acerca de la clase de danza/baile?
 - a. Do you notice your daughter is learning anything from the dance class?
 - 1a. What do you notice she is learning in the dance class?
 - a. ¿A notado si su hija ha aprendido algo en la clase de baile?
 - 1a. ¿Qué nota que está aprendiendo en la clase de baile?
 4. In what ways, if at all, has your daughter's enrollment in the dance class

changed her knowledge of the dances of Mexico and Latin America?

4. ¿De qué maneras cree Ud. que las clases de baile han afectado el conocimiento de los bailes de México y Latinoamérica de su hija, si la han afectado?

5. What has your child learned about her culture in ECHALE?

5. ¿Que ha aprendido su hija sobre su cultura en ECHALE?

Now I am going to ask you questions related to your daughter's TV viewing and TV Reduction Program:

Ahora le voy a preguntar sobre como su niña mira la televisión y sobre el programa de reducción de televisión.

6. Have you noticed changes in your child's viewing habits?

IF YES:

a. What do you think has helped your child watch less television?

b. To what extent has it impacted her daily activities?

IF NO:

a. Are there obstacles preventing your daughter from watching less television?

A. What are some of those?

6. ¿Ha notado algún cambio en como mira la televisión su hija?

Si Sí:

a. ¿Qué cree Ud que ha ayudado a que su hija vea menos televisión?

b. ¿Hasta qué punto le ha impactado sus actividades diarias?

Si NO:

a. ¿Hay obstáculos que impiden que su niña mire menos televisión?

A. ¿Cuales son?

7. Have you noticed any changes in your daughter's grades since starting ECHALE?

7. ¿Ha notado algún cambio, en cuanto a las calificaciones de su hija, desde que comenzó con ECHALE?

8. In your opinion, what can be done to improve the program?

8. En su opinión, ¿qué se puede hacer para mejorar el programa?

9. Have you had any negative experiences with the ECHALE program?

9. ¿Ha tenido alguna experiencia negativa en el programa?

10. What have been some of the benefits of having your daughter in the ECHALE program?

10. ¿Cuáles han sido algunos beneficios que ha notado desde que inscribió su niña en ECHALE?

11. Do you have any other comments?

11. ¿Tiene algún otro comentario?

Thank you /Gracias

Interview Guide: Daughters

I would like to ask you several questions about ECHALE and then some specific

questions about the dance class and the TV reduction program. I want you to tell me as much as you can about what you think about ECHALE and the TV reduction program. There is no such thing as a wrong answer. Do you have any questions before we begin?

Me gustaría preguntarte sobre el programa ECHALE. Te voy a hacer preguntas sobre la clase de baile y del programa en que participas para reducir tu tiempo mirando televisión, Quiero que me digas lo más posible sobre lo que piensas de ECHALE y del programa para reducir el tiempo mirando televisión. No me tienes que dar respuestas correctas, pero quiero que me digas lo más posible sobre lo que piensas. ¿Tienes alguna pregunta antes de que comencemos?

1. Can you think of one time when you had the most fun in dance class?

Tell me

1. ¿Puedes pensar de una vez cuando te divertiste mucho en la clase de baile?

Cuentame.

2. What do you like the least about dance class?

2. ¿Qué es lo que te gusta menos de las clases de baile?

3. What are you learning in dance class?

3. ¿Qué estás aprendiendo en la clase de baile?

4. What you have learned about folkloric dance?

4. ¿Qué has aprendido acerca del baile folklórico?

5. How do you feel after each dance class?

5. ¿Cómo te sientes después de las clases de baile?

Now, I am going to ask you questions related to your TV Reduction program:

Ahora te voy a hacer preguntas sobre el programa de reducción de televisión:

6. What are you learning in the TV Reduction program?

6. ¿Qué estás aprendiendo en el programa de reducción de televisión?

7. What activities do you do now instead of watching TV?

7. ¿Que actividades haces ahora en vez de ver televisión?

8. Is there anything you do not like about the TV reduction program?

8. ¿Hay algo que no te gusta del programa para reducir tu tiempo mirando la televisión?

9. If you could change anything about the ECHALE program, what would you change?

9. Si pudieras cambiar cualquier cosa sobre el programa ECHALE, ¿que cambiarías?

10. What do you like the most about being a part of ECHALE?

OBESITY PREVENTION FOR MEXICAN AMERICAN GIRLS - Azevedo et al

10. ¿Qué es lo que más te ha gustado de ser parte de ECHALE?

11. What do you like the least about being a part of ECHALE?

11. ¿Qué es lo que menos te gusta de ser parte de ECHALE?

12. Do you feel comfortable in the ECHALE program?

12. Te sientes agusto en el programa ECHALE?

13. What does ECHALE mean to you?

13. ¿Qué significa ECHALE para ti?

14. Is there anything else you would like to tell me?

14. ¿Hay algo más que quieras decirme?

Thank you

Gracias