

A Media Effort Addressing Preschool Inactivity through Family, Community, and Extension Collaboration

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Statistics indicate that childhood overweight and obesity continue to increase among preschool children in the U.S. While numerous factors contribute to childhood obesity, low levels of physical activity play a significant role--nearly half of preschool children do not engage in sufficient physical activity. To improve healthy eating and movement in children, a media project was developed with the help of community partners that promoted dance and play through music. Results indicated that children who participated in the program demonstrated improvement in healthy behaviors (significant at $p < .05$). Results of community collaboration provided a healthy, meaningful experience for participants and local partners; helped reduce budgetary costs; and increased Extension's reservoir of expertise. The shift beyond traditional classroom information dissemination to media resources helped reach larger and more diverse audiences.

There has been a significant increase in the number of preschool children in the U.S. who are overweight (U.S. Department of Health & Human Services, 2009a) and childhood obesity is growing at an alarming rate. Data from the National Health and Nutrition Examination Survey (NHANES), conducted from 1976 to 1980 and 2003 to 2006, show that the prevalence of obesity increased for children aged two to five years from 5.0% to 12.4%, as measured by heights and weights and converted to Body Mass Index (U.S. Department of Health & Human Services, 2009b).

While numerous factors in the obesogenic environment contribute to obesity in young children, clearly low levels of physical activity play a significant role (U.S. Department of Health & Human Services 1996, 2000). Contrary to popular belief that children in child care programs are generally active, there is evidence to suggest that activity levels in these programs are low (Cardon & De Bourdeaudhuij, 2008; Jackson et al., 2003; Pate, Pfeiffer, Trost, Ziegler & Dowda, 2004). A systemic review of 39 studies on physical activity levels of preschool children ages three to five years determined that nearly half do not

engage in sufficient physical activity (Tucker, 2008). In the preschool classroom many activities are based on pre-kindergarten standards emphasizing sedentary learning such as math, science, language, and literacy, with less time devoted to physical activity. Outdoor play time provided to children does increase physical activity. However, studies have shown that increased time alone may not be sufficient to increase the activity level of children (Brown et al., 2009; Cardon & De Bourdeaudhuij, 2008; McKenzie et al., 1997).

The need for intentional teacher activities, both indoors and outdoors, along with strategic adult involvement, are necessary to promote physical activity (Brown et al., 2009). The National Association for Sport and Physical Education (NASPE) has published physical activity guidelines for preschool-aged children which states that children should engage in 60 minutes daily of structured activity or adult-organized play, and at least 60 minutes daily of unstructured physical activity or free play (National Association, 2001; Sanders, 2002).

Objectives

The objective of this media effort was to partner with local citizens and community organizations to create an innovative physical activity tool to address inactivity in young children, with the ultimate goal of reducing the incidence of childhood obesity. A music CD and DVD video project were developed to promote healthy eating and movement in young children through music, dance, and play. The media package included a music CD with song lyrics containing healthy messages, and a DVD of music videos that encouraged children to dance and play. The media project extended messages taught in a local health intervention program, *All 4 Kids: Healthy, Happy, Active, Fit*, by continuing education efforts outside the classroom and providing materials that could be used in other Extension programs.

Methods

All 4 Kids: Healthy, Happy, Active, Fit, a multi-disciplinary program developed by the University of Nevada Cooperative Extension, educated young children about physical activity, nutrition, and acceptance of self and others. Physical activity was promoted in the program through the use of music and dance. Children learned to dance and sing to original music from a variety of genres including country rock, hip-hop, and Latin salsa. The dances were taught as part of a 24-lesson curriculum conducted in the preschool classroom and funded in part through a grant from the Supplemental Nutrition Assistance Program—Education (SNAP-Ed).

A media project was developed to continue education and prevention efforts both inside and outside the classroom teaching experience. Designed

initially for classroom teachers and *All 4 Kids* program participants, the project was extended to include community-based efforts. Since financial resources provided by SNAP-Ed were limited to program development and classroom teaching, it was necessary to recruit support and build a collaborative partnership with citizens and organizations in the Las Vegas valley to complete the media project. Materials from the media project were used not only in the *All 4 Kids* program, but also as a community promotional tool to increase physical activity and deliver healthy messages. More than 110 volunteers were recruited and nearly 15 local organizations participated in this effort. Volunteers were diverse in gender, age, race, education, and socio-economic status. The media project, which included two music CDs (with both performance and dance instructional versions) and a DVD (with music videos), was developed in two phases and took approximately two years to complete.

The Music CD

The first phase of the media project involved recruiting local songwriters, musicians, recording artists, choreographers, and studio engineers that were interested in participating in a collaborative effort to address a nationwide childhood obesity epidemic. Las Vegas is known for its music and dance entertainment industry and huge pool of talented, professional artists. Extension was able to tap into these community resources to produce the CD.

Songwriters, arrangers, and musicians recruited from various genres created four songs that addressed various areas of childhood obesity. The "*All 4 Kids* Chant" is a warm-up chant that teaches children about healthy snacks and how to stretch and prepare their bodies for physical activity. A country rock song, "Boogie Oogie Slide," was written to encourage children to move their bodies and included a simple line dance. The lyrics in the hip hop song "Pack it Up," educated children about healthy eating and choosing *Go, Slow, and Whoa* snack foods. A Latin song, "Ven Conmigo," included a salsa dance and was written to help children accept themselves and others, while promoting that bodies can be healthy at any size.

After the songs were written, they were arranged and recorded by authentic recording artists within those genres. "Pack It Up" was arranged and recorded by a prominent Las Vegas rap artist whose personal mission is to encourage adolescents and teens to write and perform healthy, clean rap music not associated with gangs, sex, or violence. His enthusiasm for the media project led him to not only arrange, record, and mix "*Pack It Up*," but also to help with arranging and recording the *All 4 Kids* chant. He also assisted with directing the children's choir that performed on all four recordings. "*Ven Conmigo*" was arranged and recorded by a very popular Latin band that plays in local Las Vegas clubs. Finally, "Boogie Oogie Slide" was arranged and recorded by various country musicians in the Las Vegas music scene.

Once the recordings were completed, dance instructors were recruited from recreation centers and local dance schools to assist in choreographing the songs from all three music genres. The goal was to create culturally authentic dances which incorporated skills from Nevada's Pre-Kindergarten Physical Development Standards. Artists were then recruited to record instructional voice-overs to the songs so that listeners could also perform the corresponding dances. The recording was then mastered and printed with both performance and instructional versions (with voice-overs). Clark County funds were used to pay for studio time necessary to record the album.

The Music DVD

The second phase of the media effort involved recruitment of script writers; camera, lighting and production crews; film actors; and site locations for filming music videos. Participation came from local, public, and private organizations; schools, churches, fitness and recreation centers; families; and more. Individuals who were diverse and highly influential within their cultural environment such as Latin musicians, rap artists, pastors, school teachers, fitness trainers, rodeo performers, and cowboys were also identified for participation in the video. Children dancing in the music videos were recruited from Acelero Clark County Head Start, where the *All 4 Kids* Program was being facilitated, and from local elementary schools through their music teachers. The use of location sites to shoot the videos also utilized volunteer community partners. Sites included a local church playground and park facility ("Ven Conmigo"), a private high school cafeteria after school hours ("Pack It Up"), a small farm-style ranch owned by a local 4-H Extension family ("Boogie Oogie Slide"), and a children's fitness gym ("All 4 Kids Chant").

Rehearsals were held to prepare the children (and some adults) for performance in the video. Parents and families of all racial and culturally diverse backgrounds joined together in the dance rehearsals which were held at local churches and community centers. Photographers were recruited to take still photos during rehearsals and filming. Upon completion of filming, editing, and production of the four music videos, graphic design artists were recruited to develop the cover artwork and prepare the project for print and release.

After two years of hard work, a CD/DVD release party was held to bring all the volunteers and community partners together to celebrate the effort and watch the videos together. Currently the CDs and DVDs are being distributed in the *All 4 Kids* program being conducted in the Acelero Clark County Head Start preschools throughout Las Vegas. They are also available to the public through Cooperative Extension for a nominal recovery fee and have been officially released on YouTube, through the University of Nevada Cooperative Extension publications page, available at

<http://www.unce.unr.edu/publications/files/hn/2009/av0902.asp>

Findings

The greatest implication for Nevada and Extension nationally is the current availability of these motivational, entertaining, and educational products that promote healthy behaviors in young children. The CD and DVDs are not only utilized and disseminated as part of a structured preschool education program, but have also been released to the public for children and their families to engage in physical activity and learn about healthy snacks. The media project has spread rapidly by word of mouth to Extension programs, universities, schools, and federal, state, and local health agencies across the country. Uses of the video have extended the audience beyond young children to adolescents, teens, adults, 4-H groups, even seniors (through SNAP-Ed), and other health-based programs.

Preliminary findings in the use of the media package in the All 4 Kids program have demonstrated significant improvement in children's health behaviors. Children performed the dances which incorporate state pre-kindergarten standards for music, movement, and physical activity. Of the 15 physical development variables tested (performed in the dances), 13 demonstrated significant improvement ($p < .05$) at the end of the program (Table 1). An accelerometry study is also currently underway to measure physical activity levels in children. Data will be analyzed to determine physical activity levels of the control versus intervention group as well as activity levels before and after program implementation. Accelerometers are commonly used in research to monitor daily physical activity.

Table 1
Preschool Movement Assessment (Physical Development Variables)

Movement Skill	Measure of Physical Development
Fundamental Skills	Jump, hop on one foot, spin on one foot, balance, cross feet, step forward, step back, step to the side, move up high, move down low, move fast, move slow
Strength Skills	Timed balance
Endurance Skills	15 second hop on one foot
Coordination Skills	Cross the midline

Improvements in healthy snack choices were also observed, however, these were due only in part to healthy messages provided in the media package. Children reported they would choose a healthy snack over an unhealthy snack when presented the choice. Though studies to date have not been conducted on the overall effectiveness of the media project as an independent teaching tool, an Internet survey (Survey Monkey) is in progress to evaluate the value of the media project by other program users.

Another important finding of the collaborative effort between Extension and the local community was the meaningful experience that children and their families gained. The *All 4 Kids* program curriculum was designed to reach the preschool child, but the addition of the music CD and the DVD extended the experience to the preschool teacher to provide additional opportunities in the classroom for children to dance and be physically active. Through the distribution of the CD/DVD to *All 4 Kids* program participants, dances could also be learned and performed at home with children and their families, or just used to simply promote physical activity through viewing the video.

The findings extended to the actual production of the video as well. Not only did recruited volunteers on the project agree to be a part of the collaboration and embrace the strong mission of addressing childhood obesity, it was also evident that the partnership within the community was very contagious. It was apparent from the *All 4 Kids* program studies that children were impacted by the healthy messages found in the music lyrics and the desire to move their bodies; but through this collaboration the ripple effect extended to the families of children recruited. Parents and older siblings were invited to be extras in the music videos. They joined the experience by playing, dancing, and eating healthy snacks.

Collaboration with the local community has also reduced costs for Extension. Although health and nutrition is a tremendous part of the Extension mission, the production of such a valuable tool can be very costly, especially in these hard economic times that include federal and statewide budget cuts. A unique and creative project such as this is not typically within Extension's budget and resource capabilities. Collaborating with neighboring agencies and utilizing unique local talent and volunteers extended limited Extension resources. The average cost of arranging (\$500), recording (\$2,000), editing and mixing (\$2,000), producing (\$500), and mastering (\$200) a song for CD is about \$5,000. A low-end music video costs about \$10,000 per song. The total estimated cost for the production of the project, not including the cost of the film talent, was about \$75,000. However, through generous donations of time and effort, the CD/DVD was professionally produced for only \$22,500.

Finally, collaboration with the community can build Extension's reservoir of expertise. The primary goal of Extension is to define and meet the needs of the community, however, expertise is limited within the organization and can be costly to secure. It is important to tap into the local expertise bank and build

partnerships between Extension and the community. Utilizing community capabilities through partnerships and collaborative efforts allows experts and those with specific talents and contributions to engage in a productive and impactful opportunity that they might not otherwise be given. Extension leaders should not be afraid to ask for help from local icons, talent, and experts. It is not just celebrities and big stars that impact the community as role models—other influential people within a community can have a large impact on the mission of Extension.

Implications for Extension

Recognizing changing technology and discovering new ways of reaching Extension audiences is necessary to impact the community. New marketing techniques and information dissemination must be developed in order to reach the largest number of audiences of all different age groups. With the latest music and video technology, including CDs, DVDs, mp3s, iTunes, and YouTube, it is essential to reach audiences through these venues and not rely solely on traditional methods of classroom instruction. Upon release of the *All 4 Kids* music videos on YouTube, the site had more than 500 views within the first 10 days of posting and is currently averaging more than 1,000 hits a month. Visitors on the YouTube site resulted strictly from word of mouth and Facebook sharing—no formal press releases were sent out. This type of marketing, which is free and quickly accessible, is reaching a more diverse audience than traditional methods.

Discovering, developing, disseminating, preserving, and using knowledge to strengthen the social, economic, and environmental well-being of all people is the mission of Nevada's Extension. In the words of one *All 4 Kids* project parent, *"I would like you all to know how much you have changed my son's life; you have exposed him to things that he otherwise would not have been exposed to. The different people he has come in contact with, the different cultures and environments, we couldn't ask for more."*

Increasing fascination with do-it-yourself videos and music recordings has changed the face of technology. Extension must now move beyond traditional information dissemination through the classroom teaching experience into cyberspace to reach young audiences. With Extension's limited resources, however, it is necessary to partner with the expertise and talent of local community members to create an environment that promotes the mission of Extension and reaches the greatest number of diverse audiences.

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References

- Brown, W., Pfeiffer, K., McIver, K., Dowda, M., Addy, C., & Pate, R. (2009). Social and environmental factors associated with preschoolers' non-sedentary physical activity. *Child Development, 80*, 45-58.
- Cardon, G. & De Bourdeaudhuij, I. (2008). Are preschool children active enough? Objectively measured physical activity levels. *Research Quarterly in Exercise & Sport, 79*, 326-332.
- Jackson, D., Reilly, J., Kelly, L., Montgomery, C., Grant, S., & Paton, J. (2003). Objectively measured physical activity in a representative sample of 3- to 4-year-old children. *Obesity Research, 11*, 420-425.
- McKenzie, T. L., Sallis, J. F., Elder, J. P., Berry, C. C., Hoy, P. L., Nader, P. R., Zive, M. M. and Broyles S. L. (1997). Physical activity levels and prompts in young children at recess: A two-year study of a bi-ethnic sample. *Research Quarterly in Exercise & Sport, 68*, 195-202.
- National Association for Sport and Physical Education (NASPE). (2001). Position Statement: Physical education is critical to a complete education. *American Alliance for Health, Physical Education, Recreation and Dance*, Reston VA. Retrieved from <http://www.aahperd.org/naspe/standards/upload/Physical-Education-is-Critical-to-a-Complete-Education-2001.pdf>
- Pate, R., Pfeiffer, K., Trost, S., Ziegler, P., & Dowda, M. (2004). Physical activity among children attending preschools. *Pediatrics, 114*, 1258-1263.
- Sanders, S. W. (2002). Active for Life: Developmentally appropriate movement programs for young children. *National Association for Sport and Physical Education*: Washington, D.C. in association with Human Kinetics Publishers: Champaign, IL. Retrieved from <http://www.naeyc.org/files/store/TOC/126.pdf>

- Tucker, P. (2008). The physical activity levels of preschool-aged children: A systematic review. *Early Childhood Research Quarterly*, 23, 547-558.
- U.S. Department of Health and Human Services. (2009a). *Childhood overweight and obesity*. Retrieved from <http://www.cdc.gov/nccdphp/dnpa/obesity/childhood/index.htm>
- U.S. Department of Health and Human Services. (2009b). *Defining childhood overweight and obesity*. Retrieved from www.cdc.gov/nccdphp/dnpa/obesity/childhood/defining.htm
- U.S. Department of Health and Human Services. (1996). Physical activity and health: A report of the Surgeon General. Centers for Disease Control and Prevention: Atlanta, GA. Retrieved from <http://www.cdc.gov/nccdphp/sgr/ataglan.htm>
- U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, and National Center for Chronic Disease Prevention and Health Promotion. (2000). Healthy People 2010: Objectives for improving health: Understanding and improving health, nutrition, and overweight, physical activity, and fitness. Retrieved from www.health.gov/healthypeople/