Status and Potential of Community-Engaged Research to Investigate Physical Activity Interventions for Children with Autism Spectrum Disorder in Chinese-American Communities

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Multi-level Determinants of PA for Children with ASD

### Purpose

The purpose of this poster is to:

- Review research on multi-level determinants of PA and exercise, and on intervention procedures for children with ASD in general.
- Review research on community-engagement approaches for addressing PA and related health challenges in children with ASD.
- Describe Chinese-American cultural variables that may influence participation in PA in children with ASD and their families.

### Multi-level Determinants of PA, Exercise and Other Behaviors in Children with ASD

Numerous determinants in the form of barriers can influence PA and exercise in children with ASD. Sixteen such barriers were reported in the literature reviewed, all measured via individual, family/peer and community levels of the socio-ecological model. Research on multi-level adaptations to PA programs has been promising. With adapted coaching, adolescents with ASD have achieved fitness gains equal to those seen in TD children, and have performed high levels of moderate-intensity PA in community settings. Social skills development has also been noted. Community-engaged research is well suited to identifying barriers to PA and designing programs and lifestyle approaches to health. It may be particularly useful for research with children with ASD and their families from culturally diverse communities. SCant research has been conducted on PA in ASD, but it is almost non-existent among Chinese-American children/families, for whom familial and cultural perspectives on ASD, modes of exercise and health, and other factors may diverge from the typical American norm.

### Abstract

Children with Autism Spectrum Disorder (ASD) engage in less physical activity (PA), and in one estimate were 1.3 times more likely to be obese than their typically developing (TD) peers. Barriers to PA in children with ASD exist at the individual, family/peer and community levels of the socio-ecological model. Research on multi-level adaptations to PA programs has been promising. With adapted coaching, adolescents with ASD have achieved fitness gains equal to those seen in TD children, and have performed high levels of moderate-intensity PA in community settings. Social skills development has also been noted. Community-engaged research is well suited to identifying barriers to PA and designing programs and lifestyle approaches to health. It may be particularly useful for research with children with ASD and their families from culturally diverse communities. Scant research has been conducted on PA in ASD, but it is almost non-existent among Chinese-American children/families, for whom familial and cultural perspectives on ASD, modes of exercise and health, and other factors may diverge from the typical American norm.

### Community-engaged Approaches for Addressing PA and Related Health Challenges in Children with ASD

Few studies have employed community-based participatory research (CBPR) approaches to address the general needs of children with ASD, and to our knowledge no published studies have focused on PA in these children. However, one study used a community-based approach with adults with developmental disabilities. Bazzano, Zeldin, and Garro (2007) used a community-based approach to design a seven-month Healthy Lifestyle Change Program (HLCP) to address obesity and overweight in adults with developmental disabilities, aged 18-65. The authors indicated that HLCP was associated with improved lifestyles, weight loss and increased community capacity, suggesting community-based approaches may be effective and efficient way to encourage participation to be engaged in the health and exercise programs.

### Chinese-American Cultural Variables: Do they Influence Participation in PA in Children with ASD and their Families?

- Chinese culture is quite different from American culture. Immigrated Chinese-Americans have had to adapt to the American culture. Although some studies were identified that suggested Chinese-American cultural variables may influence participation in PA in typically developing children, no research was found on children with ASD.
- Acculturation can influence a person’s beliefs, attitudes, and behaviors. In addition, changes in immigrants’ health status are more apt to be associated with higher levels of acculturation in the second and third generatons.
- Some studies also found that low-accluaration levels in families adversely affected their access to health and educational resources, community, income, nutrition, and weight. Limited awareness of obesity and health issues were related to obesity. With such limited awareness, family members might ignore the importance of PA.
- Other studies have indicated that socio-environmental factors might increase the likelihood of participation in PA among Chinese American children.

### Conclusion

Determinants at multiple levels influence the extent to which children with ASD engage in PA and exercise. At the same time, culture may be an important factor that influences engagement in PA. More research is needed in this area. Applying the social-ecological model and community-based programs of research might help us to better understand and confront health challenges among Chinese-American children with ASD and their families.
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References


