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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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.
- Review research on community-engagement approaches for designing programs and lifestyle approaches to health.
- Review research on multi-level determinants of PA and exercise in children with ASD. Sixteen such barriers have been identified.

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 questionnaires and interviews. Determinants were found at three levels, or “perspectives,” individuals (children) with ASD, families, including parents and siblings, and communities.

Multi-level Determinants of PA for Children with ASD

<table>
<thead>
<tr>
<th>Perspective</th>
<th>Barriers</th>
<th>Findings</th>
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<tbody>
<tr>
<td>Individuals Learning10,16</td>
<td>Physical activity (PA) skills were difficult to learn.</td>
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<tr>
<td>Individuals Communication7,8,9,13</td>
<td>Fewer adolescents with ASD believed that PA was a way to make friends, and they had problems in communicating with others.</td>
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<tr>
<td>Individuals Beliefs7,16</td>
<td>Fewer adolescents believed that PA would be good for their health.</td>
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<tr>
<td>Individuals Screen Time10,11,14</td>
<td>Screen time and PA – both in number of hours and type of PA – were inversely correlated. Children with ASD showed better responses to verbal directives delivered through video.</td>
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<tr>
<td>Individuals Behavioral problems9</td>
<td>Behavioral problems could be obstacles for children with ASD to be engaged with the other.</td>
<td></td>
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<tr>
<td>Individuals Motor skills9,10,12</td>
<td>Motor difficulties affected the ability to perform PA.</td>
<td></td>
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<tr>
<td>Families Age2,8,9,13</td>
<td>The older the children, the less they were to be engaged in PA.</td>
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<tr>
<td>Families Supervision1</td>
<td>More supervision was needed when the children engaged in PA.</td>
<td></td>
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<tr>
<td>Families Skills to promote inclusion16</td>
<td>Parents lacked skills for helping their children to make friends.</td>
<td></td>
</tr>
<tr>
<td>Families Fear of being injured1</td>
<td>Parents feared that their child might be hurt during PA, and that their children might hurt others.</td>
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<tr>
<td>Families Peers10,16</td>
<td>Children with ASD had difficulty talking with typically developing peers, who in many cases did not want to play with them.</td>
<td></td>
</tr>
<tr>
<td>Families Time12</td>
<td>Parents wanted their children to learn to do homework, which took more time to complete as compared with typically developing children. Accordingly, children with ASD had less time for PA.</td>
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</tbody>
</table>

Families Transportation1 | Children with ASD had short-term challenges with transitions, which prevented them from moving indoors to outdoors and back, and from going to new places. |

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

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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 children with ASD. 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 conducted a pre-post test evaluation of HLCP, which was designed to increase knowledge, skills and self-efficacy about health, nutrition and fitness in participants. Measures were taken on BMI, abdominal girth, self-reported nutrition, and PA level to determine the effectiveness of the program. Data 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 participants to be engaged in the health and exercise programs.

Conclusion

Deteriorants 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 combat health challenges among Chinese-American children with ASD and their families.

References

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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 generations.
- Some studies also found that low-acculturation levels in families adversely affected their access to health and educational resources.
- Chinese culture and norms may shape parents’ roles differently, as compared to their western counterparts.
- Chinese families place their children’s academic performance as the top priority; for example, parents may not support participation in PA until all academic assignments and household responsibilities are completed. In such cases, children might have less chance and time to be engaged in PA.

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References


