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## Assessing other children in the household support of exercise and healthy eating

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Title: Assessing other children in the household support of exercise and healthy eating

Childhood obesity is on the rise throughout the world. Overweight/obesity in childhood is a major risk factor for serious health consequences (Patchucki, Lovenheim, Harding, 2014). The family unit can address childhood obesity when the family works together to support each other in physical activity (PA) and healthy eating decisions. Sibling support may be particularly important due to the amount of time siblings spend with each other. Siblings' impact on informal social behavior may be a more powerful motivator compared to formal parenting norms (Patchucki, Lovenheim, Harding, 2014). Having an obese younger sibling creates a five times greater likelihood the older sibling will be obese (Patchucki, Lovenheim, Harding, 2014), thus, interventions aimed at siblings may be particularly effective. The literature suggests this is an understudied topic in need of attention.

During February 2015, 22 families from a Boys and Girls Club participated in a 2 week pilot study testing an intervention designed to improve PA and healthy eating within family units. Families were randomly assigned to a treatment group (n=12 families and 20 children) or a measurement-only control group (n=12 families and 15 children). Children in the treatment group participated in 40 minutes of PA and 20 minutes of nutrition education during after school time. Three times a week program staff distributed take home cards to parents that described an exercise or nutrition activity to complete as a family. Families also participated in family night and parents participated in a nutrition educational session.

Researchers developed a quantitative survey to assess sibling support by modifying the Coordinated Approach to Child Health questionnaire that was designed to measure parent and friend support for healthy eating and exercise (Nadar, Stone, Perry, Osganian, Kelder et al, 1999). The survey contained 10 questions on PA and nutrition by querying children about the support of other children in their household (i.e., "When I am active, other children in my house smile and cheer for me."). The three response options were "almost never/never," "sometimes," and "almost always/ always." Other children in the house were defined as brothers, sisters, stepbrothers, stepsisters, cousins or other children that live with the family. Child participants (age 6-11) completed the survey at baseline (pretest) and at the end of the 2-week intervention (posttest). Scores will be added to give an overall score. Changes from baseline to posttest will be compared across treatment groups.

Data are expected to be released for dissemination prior to the conference so that the results can be presented. In addition, the process of pilot testing this measure 68 times suggested changes that may improve future iterations of this

assessment of sibling support. It would be beneficial to add a question asking if there are other children in the house. Assessing the quality of the sibling relationship could be considered using the Sibling Relationship Questionnaire (SRQ) (Leeuw, Snoek, Leeuwe, Strien, 2007), a higher SRQ score signifies better sibling relationship. The quality of the sibling's relationship may impact how support for healthy choices is received within the sibling group. Children are prone to picking the extreme answer on a questionnaire based on their current emotional state (Chambers, Johnston, 2002). Thus, it may be beneficial to change the answer choices from "never or almost never" to "almost never" and "always or almost always" to "always" to avoid extreme answers.

Siblings participate in PA and mealtime together on a regular basis (Patchucki, Lovenheim, Harding, 2014). This new assessment provides a first step in measuring sibling support for PA and healthy eating. Understanding how siblings can positively influence one another to promote healthy choices may help reduce risk factors for childhood obesity.

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