



Review

Physical activity and healthy eating environmental audit tools in youth care settings: A systematic review

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ABSTRACT

Background. There is a growing interest in evaluating the physical activity (PA) and healthy eating (HE) policy and practice environment characteristics in settings frequented by youth (≤ 18 years).

Objective. This review evaluates the measurement properties of audit tools designed to assess PA and HE policy and practice environment characteristics in settings that care for youth (e.g., childcare, school, afterschool, summer camp).

Method. Three electronic databases, reference lists, educational department and national health organizations' web pages were searched between January 1980 and February 2014 to identify tools assessing PA and/or HE policy and practice environments in settings that care for youth (≤ 18 years).

Results. Sixty-five audit tools were identified of which 53 individual tools met the inclusion criteria. Thirty-three tools assessed both the PA and HE domains, 6 assessed the PA domain and 14 assessed the HE domain solely. The majority of the tools were self-assessment tools ($n = 40$), and were developed to assess the PA and/or HE environment in school settings ($n = 33$), childcare ($n = 12$), and after school programs ($n = 4$). Four tools assessed the community at-large and had sections for assessing preschool, school and/or afterschool settings within the tool. The majority of audit tools lacked validity and/or reliability data ($n = 42$). Inter-rater reliability and construct validity were the most frequently reported reliability ($n = 7$) and validity types ($n = 5$).

Conclusions. Limited attention has been given to establishing the reliability and validity of audit tools for settings that care for youth. Future efforts should be directed towards establishing a strong measurement foundation for these important environmental audit tools.

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Context

From childhood to adolescence, children (age 3–18 years) are exposed to a variety of settings such as preschool, school, afterschool and summer camp. Nearly 60% of children age 3–5 years attend some type of childcare center and over 95% of youth age 5–17 years are enrolled in public/private schools (Story et al., 2009). Additionally, over 10 million school-age children are enrolled in afterschool programs (After School Alliance, 2014) and over 14 million youth (≤18 years) attend summer day camps annually (America After 3 PM, 2010). Given the extended contact that youth have with these settings, whether these environments support or hinder physical activity and healthy eating habits is of critical importance.

In recent decades there has been an increased recognition of the role that the physical environment characteristics and policies and practice environment characteristics plays in shaping the physical activity levels and eating habits of youth (Brownson et al., 2008; Sallis et al., 2003). In the context of this review, physical environment characteristics refer to factors such as the size and quality of structures of fixed and portable playgrounds, green fields, facility designs and esthetics (Sallis and Glanz, 2009; Bower et al., 2008; Briefel et al., 2009), whereas, policy and practice environment characteristics include characteristics such as, having supportive physical activity and/or healthy eating written policy, provision of professional training on physical activity and/or healthy eating promotion to staff, scheduling of physical activity, quality of physical activity and food served, and monitoring and evaluation processes (Story et al., 2008; Wiecha et al., 2011; Moag-Stahlberg et al., 2008). More recently, there has been a visible increase in the prevalence of policies and standards designed to influence settings that care for youth to be more supportive of physical activity and healthy eating habits (Story et al., 2009; Wiecha et al., 2011; Moag-Stahlberg et al., 2008). Examples of these include “wellness” policies in school settings that dictate the amount and quality of daily physical education students must receive per week during the school year and/or the type of foods and beverages sold or served at schools.

In response, a wide array of audit tools designed to assess policy and practice environment characteristics have been developed. Audit tools come in a variety of forms, such as questionnaires, checklists, observation scales, and surveys. These tools are designed to capture information pertaining to the alignment or presence of physical activity and healthy eating environmental characteristics of a given setting with existing state or national policies, standards, or scientific position statements (Bower et al., 2008; Henderson et al., 2011; Ajja et al., 2012; Brener et al., 2003a). The extent to which audit tools designed to assess policy and practice environment characteristics provide an accurate reflection of such settings, however, remains unknown.

If audit tools are to provide credible information aimed at informing current and future policy decisions regarding the adoption or implementation of supportive policy and practice physical activity and healthy eating interventions (Brownson and Jones, 2009; Brownson et al., 2009; Oakes et al., 2009; Sallis, 2009), it is of critical importance that such tools demonstrate: (1) an acceptable level of reliability (defined as the ability of the tools to consistently capture the same information with repeated use and/or when used by two or more users) and (2) validity (referred to as the ability of the tools to accurately measure what they were designed or intended to measure) (Saelens and Glanz, 2009). To the authors' knowledge, no reviews have examined

audit tools designed to assess policy and practice environment characteristics in the wide range of settings that care for youth. Therefore, the aim of this review is to identify and examine the quality of policy and practice environment audit tools currently in use at various settings caring for youth.

Evidence acquisition

Literature search

A systematic literature search was conducted to identify tools assessing policy and practice environment characteristics related to physical activity and healthy eating in settings that care for youth (3–18 years). Three electronic databases: PubMed, Web of Science, and CINAHL were searched for all relevant articles published between January 1980 and February 2014. Search strategies for the databases included the following keywords: population (child, youth, adolescent); settings [(preschool, childcare, homecare (residential children homes), school, afterschool, summer camp)]; apparatus (tool, kit, instrument, index, survey, questionnaire, checklist, audit); quality (assessment, development, validity, reliability); and area (environmental, policy, standards, benchmarking, physical activity and nutrition). In addition to database searches, reference lists of identified articles were screened in order to identify additional tools to include in the review (Henderson et al., 2011; Ajja et al., 2012; Brener et al., 2003a; Ohri-Vachaspati and Leviton, 2010; Benjamin et al., 2007; Schwartz et al., 2009; Kim et al., 2010; Ward et al., 2008; Falbe et al., 2011; Bullock et al., 2010; Nathan et al., 2013).

Tools were also sourced from the following national education departments and health organizations' web pages: National Cancer Institute, Active Living Research, Robert Wood Johnson Foundation, Center for Diseases Control and Prevention (CDC), Yale Rudd Center for Food Policy and Obesity, National Association of School Nurses, U.S. Department of Agriculture's (USDA's) “Changing the Scene” and National Association of State Boards of Education (NASBE). The following keyword combinations were used when conducting an electronic search of national education departments and health organization web pages: wellness, policies, tool (kit), audit, assessment, resources, measurements, school (pre-, after-), summer camp, and homecare (i.e., residential children homes).

Eligibility criteria

Tools were included in the review if they met the following inclusion criteria: (1) the tool as a whole or sections of the tool assessed physical activity and/or healthy eating policy and practice environment characteristics (e.g., written policies, provision of professional training on physical activity and/or healthy eating promotion and the credentials of staff delivering the training, scheduling of physical activity and/or snack/meals, quality of physical activity and food served, monitoring and evaluation processes), (2) the setting assessed included one or more of the following: preschool, school, afterschool, summer camp, residential children homes, (3) the tool could be used by researchers and/or non-research affiliated staff in the field, (4) it was an English language publication, and (5) the tool was available electronically or through communication with the authors. Two independent reviewers (RA and JC) screened and selected the audit tools included in the review

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