

## Using the theory of reasoned action to determine physicians' intention to measure body mass index in children and adolescents

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### Abstract

**Background:** Over the past few decades, childhood obesity has become a major public health issue in the United States. Numerous public and professional organizations recommend that physicians periodically screen for obesity in children and adolescents using the body mass index (BMI). However, studies have shown that physicians infrequently measure BMI in children and adolescents.

**Objectives:** The purpose of this study was to use the theory of reasoned action (TRA) to explain physicians' intentions to measure BMI in children and adolescents. The study objectives were to (1) determine if attitude and subjective norm predict physicians' intention to measure BMI in children and adolescents; (2) determine if family physicians and pediatricians differ in terms of theoretical factors; and (3) assess differences in behavioral beliefs, outcome evaluations, normative beliefs, and motivation to comply among physicians based on their level of intention to measure BMI.

**Methods:** A cross-sectional mailed survey of 2590 physicians (family physicians and pediatricians) practicing in 4 states was conducted. A self-administered questionnaire was designed that included items related to the TRA constructs. The association between the theoretical constructs was examined using correlation and regression analyses. Student's *t* test was used to determine differences between family physicians and pediatricians on theoretical constructs and to compare the underlying beliefs of nonintenders with intenders.

**Results:** The usable response rate was 22.8%. Less than half (44%) of the physicians strongly intended to measure BMI in children and adolescents. Together, the TRA constructs attitude and subjective norm explained up to 49.9% of the variance in intention. Pediatricians had a significantly ( $P < .01$ ) higher intention to measure BMI as compared to family physicians. There were significant ( $P < .01$ ) behavioral and normative belief differences between physicians who intend and those who do not intend to measure BMI.

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*Conclusion:* The TRA is a useful model in identifying the factors that are associated with physicians' intentions to measure BMI.

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## Introduction

One of the major health challenges faced by children and adolescents in the United States is obesity.<sup>1</sup> Over the past 2 decades, the prevalence of overweight children and adolescents has more than doubled and tripled, respectively.<sup>2</sup> Among children in the age group of 6-19 years, roughly 16.5% were overweight and 31.5% were at risk of overweight in 2001-2002.<sup>3</sup>

Obesity is a complex, multifactorial condition that results from an interaction between genetic and environmental factors.<sup>4</sup> Obesity in children is associated with detrimental physical and psychological outcomes. Overweight children are at an increased risk for having chronic health conditions such as cardiovascular diseases, diabetes, asthma, nonalcoholic fatty liver disease, and obstructive sleep apnea,<sup>5</sup> and for developing behavioral and psychosocial problems.<sup>5-7</sup> Overweight children are more likely to grow up as overweight adults,<sup>8</sup> and suffer from adverse health outcomes associated with adult obesity. Considering the negative physical and mental health impact of obesity on this young age group, it is not surprising that overweight children and adolescents have poor health-related quality of life. Research suggests that children and adolescents with severe obesity have lower health-related quality of life as compared to healthy children and adolescents.<sup>9</sup>

To increase the quality and years of life of all people living in the United States, the U.S. Department of Health and Human Services set goals for the *Healthy People 2010* (HP2010) initiative in January 2000.<sup>10</sup> Considering the negative consequences of overweight on a child's physical and psychological health, it was listed as one of the target diseases. Objective 19-3c of the HP2010 initiative calls for reducing the prevalence of overweight children to 5% by 2010.<sup>10</sup> Given the current high prevalence of obesity among this young age group, this objective can only be achieved by a concerted and collaborative effort on the part of parents, schools, health-care professionals, and policy makers.

Timely identification of children and adolescents who are overweight or at risk of overweight is the

key for success in obesity prevention and management. Given their frequent interaction with children and adolescents, family physicians and pediatricians are well placed to identify and appropriately intervene in the prevention and management of obesity among individuals of this age group. Several screening and diagnostic tools are available to identify a child who is overweight or at risk of overweight; however, the Centers for Disease Control and Prevention (CDC) and the American Academy of Pediatrics (AAP) recommend the use of body mass index (BMI) to assess a child's weight status.<sup>11,12</sup> The BMI is a weight- and height-based screening measure, and is defined as weight in kilograms (kg) divided by height in meters squared (m<sup>2</sup>). In children and adolescents, weight status using BMI is defined in terms of BMI percentile, which is determined by plotting the BMI number on CDC BMI for-age percentile growth charts.<sup>11</sup>

Although BMI use is recommended to identify a child's weight status, studies have shown an infrequent use of BMI among health-care providers.<sup>13-17</sup> A study by Flower et al (2007) reported 2 common barriers to health-care providers' use of BMI: (1) lack of familiarity with BMI screening recommendations and (2) disagreement with those recommendations.<sup>18</sup> Though this study was useful in identifying potential barriers to providers' use of BMI, understanding how to impact practice behaviors requires a more in-depth exploration of the inherent factors and their degree of contribution to such practice behaviors. Using a theoretical framework could be helpful in identifying the factors that predict whether or not physicians will use BMI. The purpose of this study was to determine physicians' intentions to measure BMI by applying a well-established behavior theory.

The theoretical framework for this study was based on the Fishbein and Ajzen's<sup>19</sup> theory of reasoned action (TRA), which uses inherent behavioral concepts to explain and predict human behavior. According to the TRA, performance of behaviors that are under an individual's own control can be described in terms of 3 key elements: intention, attitude, and subjective norm.

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