



## Combating Obesity in K-12 Learners

### THE EFFECT OF WEIGHT ON SELF-CONCEPT, AND PSYCHOSOCIAL CORRELATES OF PHYSICAL ACTIVITY IN YOUTHS

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*The effects of obesity go beyond the physical.*

**T**he increasing prevalence of overweight and obesity among youths is recognized as one of the most pressing public health concerns. While considerable attention has been given to the health implications of overweight and obesity, much less attention has been given to the psychosocial implications. If we are to combat obesity effectively, it is important that we increase our awareness of the psychosocial implications of overweight on self-concept and self-esteem and of the effect of overweight on physical activity levels.

#### **Psychosocial Implications**

Body composition is considered one of several important dimensions of health-related fitness, and it can have major effects on self-concept and self-esteem (Whitehead & Corbin, 1997). Youth obesity has been associated with negative psychosocial conditions, including alienation and isolation. These conditions can have a negative effect on self-esteem, which can lead to depression and other negative health outcomes (Strauss & Pollack, 2001). The negative effects seem to affect white adolescent girls and acculturated adolescent Hispanic girls in particular. A better understanding of the formation of self-esteem is important for addressing and reversing these effects. This article presents an overview of research based on the “Physical Self-Perception Profile” (PSPP) and suggests how the information can be used to help overweight youths to improve their self-concept.

#### **Description of the “Physical Self-Perception Profile”**

The PSPP is a psychometric instrument developed to investigate how people make perceptions of their “physical self” (Fox & Corbin, 1989). The essence of the model is that perceptions of “physical self” can be captured through four distinct factors: body attractiveness, sport or athletic competence, strength competence, and physical-conditioning adequacy. Ratings on these four domains are thought to influence a person’s overall “physical self-worth,” which relates hierarchically to a person’s global self-esteem (figure 1). A version for youths (the “Children and Youth Physical Self-Perception Profile”—CY-PSPP) was originally proposed by Whitehead (1995), and subsequent research showed that it worked well with both elementary and middle school students.

#### **Weight Status and Physical Self-Perceptions**

While considerable research has been done on the PSPP and the CY-PSPP, research to date had not examined whether the instrument works equally well with overweight and normal-weight youths. Recently, a sample of over 500 high school students completed the CY-PSPP instrument, a global self-esteem survey, and they were assessed based on height, weight, and body composition. The findings provided continued support for the utility of the four-factor, hierarchical structure of the PSPP model.



Support from family members and friends plays an important role in encouraging physical activity among youths.

Individuals may value one dimension more than another, or may have higher perceptions in one area than another, but the four factors appear to adequately capture the essence of a person's "physical self-worth."

Direct comparisons between normal and overweight youths provide an indication of how the excess weight (i.e., excess fat) can affect their physical self-perceptions. As expected, normal-weight youths reported significantly higher CY-PSPP scores on all four dimensions. Consistent with past research, this demonstrates that self-perceptions of fitness and fatness correspond with actual estimates of fitness and fatness. Overweight girls had the lowest values of physical self-perception, but overweight boys also had lower perceptions of physical self-worth than normal-weight boys.

### Research Implications

The hierarchical nature of the PSPP model suggests that lower self-perceptions have a direct (likely causal) influence on physical self-worth (PSW) and self-esteem (SE); however, research has shown that there is considerable individual variability in this effect. The theoretical framework underlying the development of the PSPP model suggests that lower-level factors will influence upper-level factors only to the extent that the person values competence in that domain. For example, if a child values competence in sports (and discounts the importance of appearance), that child may have low perceptions of body attractiveness and still have high overall ratings of PSW. The effect of PSW on SE can also decrease to

some extent if a child values other domains (e.g., academics, music, or art) over physical abilities and attributes. However, perceptions of appearance and body attractiveness are difficult to discount—especially for girls (Raustorp, Mattsson, Svensson, & Ståhle, 2006). Researchers have found that body attractiveness had high correlations with both PSW and SE. While some evidence of "discounting" (due to reduced importance placed on appearance) appeared, it is clear that low perceptions of body attractiveness lowered perceptions of PSW and SE in adolescents.

*Psychosocial Implications of Overweight on Physical Activity.* A better understanding of the factors influencing children's physical activity levels is needed to facilitate research on the promotion of physical activity. Sallis, Prochaska, and Taylor (2000) identified many factors (e.g., gender, parental weight, previous physical activity, diet, access, and time spent outdoors) as the most significant psychosocial and sociodemographic correlates of physical activity for children. In adolescents, the most significant correlates were gender, ethnicity, age, perceived competence, intention, depression, previous physical activity, community sports, sensation seeking, parental support, sibling physical activity, and physical activity opportunities. Thus, it is necessary to clarify possible links among these psychosocial correlates and discuss possible differences between overweight and normal-weight youths.

### The Youth Physical-Activity Promotion Model

The youth physical-activity promotion (YPAP) model is a social-ecological model that was developed to study various factors that influence physical activity behavior in youths (Welk, 1999). Many psychosocial correlates such as self-efficacy, attitudes, and enjoyment are viewed in this model as factors that *predispose* youths to want to be active. Predisposing factors are viewed from a social-cognitive theory perspective (Bandura, 1986) with outcome and efficacy expectations using more youth-appropriate questions: "Is it worth it?" and "Am I able?" Children who answer yes to both of those questions are more likely to be predisposed to be physically active. Social and interpersonal variables such as support or encouragement from families or peers are categorized as factors that *reinforce* behaviors (either directly or indirectly). Parents are thought to play a more critical role for young children, but peers become increasingly important as children age. Finally, individual variables (e.g., skill, fitness) and environmental variables (e.g., access, opportunity) are viewed as *enabling* factors. Both types of variables may have a direct influence on a child's ability to be active, but they also act indirectly by shaping some of the predisposing factors (particularly the "Am I able?" construct). The utility of the YPAP model has been supported in studies that examined youth physical activity behavior (Welk, Wood, & Morss, 2003). A conceptual diagram of the YPAP model illustrating the association and direction of reinforcing, enabling, and predisposing factors on physical activity is provided in figure 2.

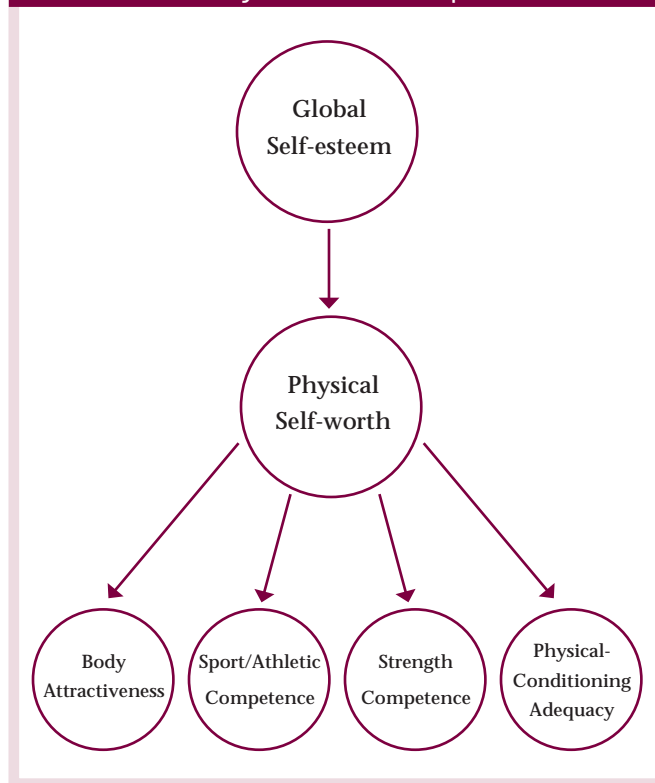
*Effect of Weight Status on Psychosocial Correlates of Physical*

*Activity.* Studies have demonstrated that activity levels of overweight youths are lower than normal-weight youths, so inactivity is accepted to be a contributing cause of excess weight. From a psychosocial perspective, it is important to recognize that inactivity is also a consequence of being overweight. Predisposing variables represent the predominant influence in the YPAP model and studies have reported lower enjoyment among overweight youths (Fulkerson et al., 2004). “Reinforcing factors” refers to the support that a child receives from significant others to be physically active. There is evidence that overweight children receive more negative feedback from peers, parents, and teachers when physically active. As shown in the model, negative feedback may reduce interest and involvement in physical activity by overweight youth. It is clear that excess body weight may present physical and social barriers that limit involvement in physical activity. Poor fitness and skills may also act to indirectly influence activity by reducing children’s interest and enjoyment (Crocker, Eklund, & Kowalski, 2000). Considering all these factors, it is apparent that as children begin to gain weight they may find it difficult to establish regular patterns of physical activity.

Recently, the utility of the YPAP model was evaluated to determine whether elements of it hold for both normal-weight and overweight youths. The results indicated that being overweight is associated with lower perceptions of global self-esteem, competence, attraction to physical activity, and parental influence, particularly for overweight girls. There was no evidence, however, showing that being overweight affected the relevance of established psychosocial constructs or the overall fit of the YPAP model. Body mass index did not appear to affect the mediating variables, but did show a small direct influence on physical activity. Similar to previous work (Krahnstoever-Davison, Francis, & Birch, 2005), a tendency for less parental support for overweight youths was observed, and perceived competence and attraction to physical activity was demonstrated to mediate the effect of parental influence on youth physical activity (Schaben, Welk, Joens-Matre, & Hensley, 2006). The effect of perceived competence, in turn, tends to be partly mediated by attraction to physical activity. Simply put, parental support and perceptions of competence increase children’s interest in and enjoyment of physical activity.

*Implications of Research with the YPAP Model.* Social-ecological models of health promotion have been increasingly used to study the complex interactions that affect individual lifestyle behaviors, and public health experts have recommended coordinated links between the school, home, and community to promote youth physical activity. Targeting behavior-change efforts at multiple levels of influence and through multiple channels is the recommended approach, because it provides more opportunities to reach and influence the target population. Physical education has been identified by public health agencies as perhaps the most promising setting for youth physical-activity programming. Physical education teachers serve a particularly important

Figure 1. Conceptual Diagram of the Children and Youth Physical Self-Perception Profile

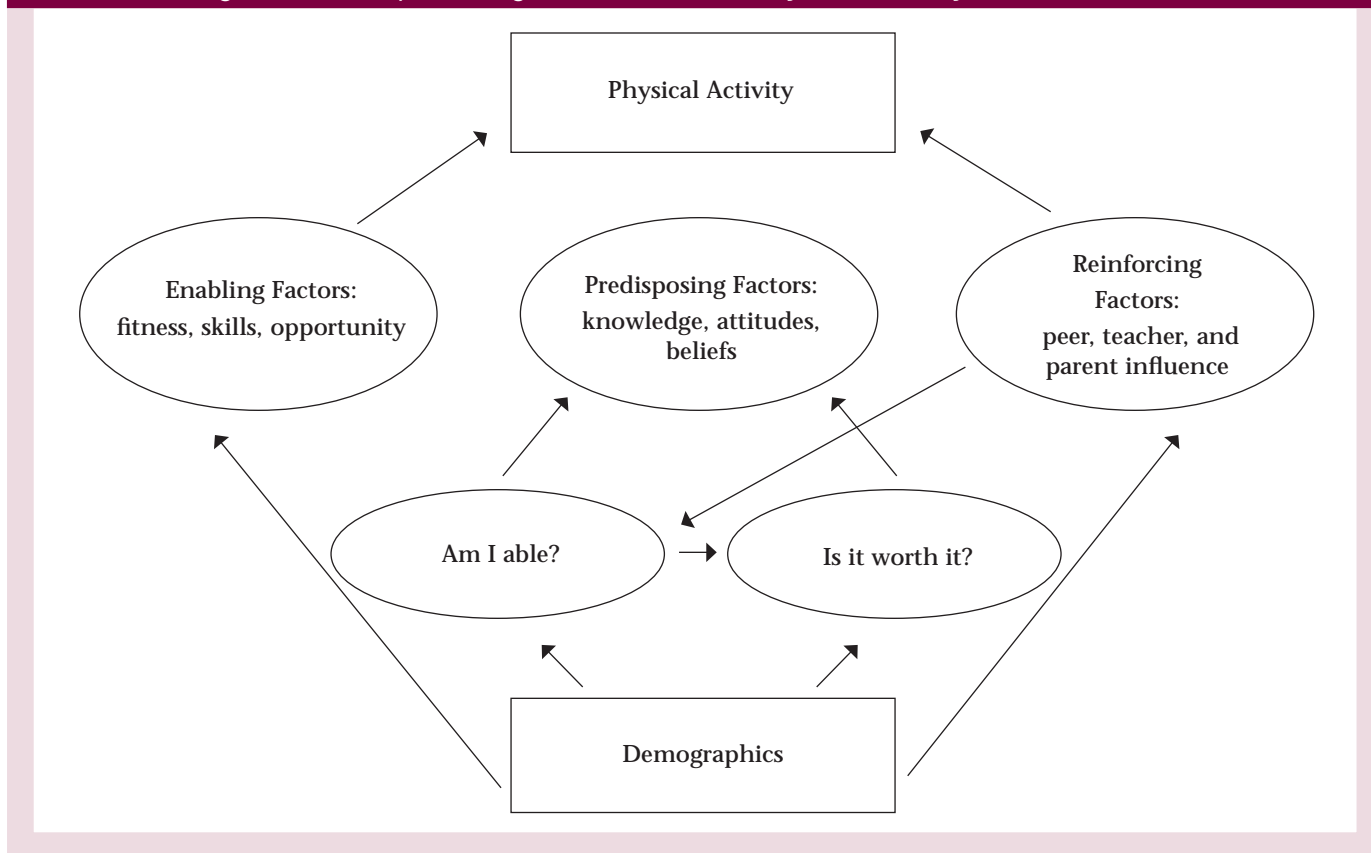


role in the promotion of physical activity among youths, because they can directly influence youths, promote an active lifestyle by facilitating and encouraging involvement in community-based programs, and work to strengthen parental involvement and support. Broadening the role of physical education teachers to more of a “school physical activity promoter” would enable a more integrated school physical activity program and facilitate outreach to the community and families (Castelli & Beighle, 2007; Lambdin & Erwin, 2007).

### Summary

A better understanding of physical self-perceptions for youth activity promotion is important for addressing and reversing the epidemic of obesity among youths. There are clear differences in psychosocial correlates between overweight and normal-weight youths. Physical self-perceptions and building perceptions of competence are critical for promoting interest and involvement in physical activity among youths, particularly among overweight youths. Previous research has demonstrated that body consciousness and concern about others seeing their body were the most salient barriers to physical activity in overweight youths (particularly girls). Therefore, to promote long-term interest in physical activity among overweight youths, it may be important to counter negative self-perceptions and build positive physical self-perceptions, as the studies discussed in this article have shown.

Figure 2. Conceptual Diagram of the Youth Physical-Activity Promotion Model



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