

# Puberty Information Resources

## ***A Longitudinal Study of Pubertal Timing and Extreme Body Change Behaviors among Adolescent Boys and Girls***

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Journal Article Excerpt –

Extreme behaviors related to exercise and eating are of increasing concern for professionals working with adolescent boys and girls (e.g., Hausenblas & Carron, 1999; Parks & Read, 1997).

These behaviors are adopted by adolescents to change their bodies to match the sociocultural ideal for boys (McCabe & Ricciardelli, 2001a) and for girls (Moore, 1993). For boys, the ideal is a muscular body with a large chest and shoulders and a slim waist. For girls, it is a slim overall body (Ricciardelli & McCabe, 2001a). The attainment of this ideal body is seen as being central to popularity with both same-sex and opposite-sex peers.

The present study used a biosocial framework, developed by the authors from the literature on health risk behaviors among adolescents, to determine which adolescents are at greatest risk of engaging in extreme body change behaviors (e.g., exercise dependence, disordered eating, and the use of food supplements and steroids).

A longitudinal design was employed to examine the temporal relationships between variables, and to assess how changes in the biosocial variables are associated with levels of disordered eating and exercise dependence over time.

The biosocial framework outlines the proposed relationships between pubertal timing, popularity with peers, involvement in sport, and the development of problem behaviors associated with eating and exercise among adolescent boys and girls.

The timing of puberty in relation to adolescent boys' and girls' peers appears to have important implications for body image and popularity (Graber, Lewinsohn, Seeley, & Brooks-Gunn, 1997).

Early maturing boys are generally at a developmental advantage, both in terms of their body build conforming to the sociocultural ideal and in terms of their athletic ability, compared to late maturing boys (Silbereisen & Kracke, 1997).

Late maturing boys would appear to be at greater risk of both developing higher levels of body dissatisfaction and engaging in detrimental eating and exercise behaviors to bring their bodies into line with the sociocultural ideal (Falkner, Neumark-Sztanier, Story, Jeffery, Beuhring, & Resnick, 2000; Silbereisen & Kracke, 1997).

Late maturing boys may also be more likely to engage in competitive sport and have a greater focus on sport to achieve an athletically competent body (Wichstrom & Pedersen, 2001).

The reverse appears to be true for adolescent girls, with late maturing girls rather than early maturing girls being more likely to have a body that conforms to the sociocultural ideal (Swarr & Richards, 1996).

Empirical studies have demonstrated that early maturing boys are viewed by others as more attractive and self-confident, are more popular with their peers, have a more positive body image, and tend to be more successful athletes than late maturing boys (Freedman, 1990).

In contrast, early maturing girls tend to be less popular with their peers, show a consistently more negative body image, and are more likely to be depressed than late maturing girls (Petersen, Sarigiani, & Kennedy, 1991; Stice, Prenell, & Bearman, 2001).

The effects of pubertal timing for boys and girls, and the associated changes in body mass index (BMI), are consistent with the different cultural notions of attractiveness for men and women. Research has clearly demonstrated the role of BMI in social, educational, and psychological adjustment among adolescent boys and girls (Falkner et al., 2000).

With pubertal development, girls experience a normative increase in body fat and their hips broaden. These physical changes move girls further away from society's ideal body shape for a woman.

*As a result, after the onset of puberty, many girls report higher levels of body dissatisfaction and a poorer self-image (Swarr & Richards, 1996).*

In contrast, at the onset of puberty, boys gain muscle definition and their shoulder width increases, which moves the majority of boys closer to society's ideal body shape for a man.

Among boys, there is an emphasis on athletic prowess, as this brings social recognition and popularity (Kindlundh, Hagekull, Isacson, & Nyberg, 2001).

There is also a clear association between engaging in competitive sport and the development of exercise dependence (Pasman & Thompson, 1988), disordered eating (Brehm & Steffen, 1998), and the use of steroids (Drewnowski, Kurth, & Krahn, 1995).

In a review of studies related to eating disorders among athletes, Hausenblas and Carron (1999) found that both male and female athletes across all categories of sport were more likely to report bulimic symptomatology than were comparison groups.

<http://www.questia.com/googleScholar.qst;jsessionid=KT0Q9LXyvRLyn3VT31tckTkMYh5X26F9633LzGLpp64PWMP72Qmy!-1760292326!1330489117?docId=5006515625>

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***Effects of sports training in adolescence on growth, puberty*** on growth, puberty and bone health can be a cause of lesser involvement in athletic participation of young people.

**Abstract**

Athletic training in adolescent females is important for their well-being; indeed, it may have both positive and negative effects on some physiological processes, as growth, reproductive axis and bone health.

Adequate physical activity likely exerts neither a positive nor a negative effect on growth. By contrast, intensive training and insufficient diet may have a negative influence on growth, probably due to energy deficiency and impairment of the growth hormone-insulin-like growth factor-I axis; net long term-effects of such alterations remain to be established.

Adolescents who perform regular athletic training present with normal or slightly advanced sexual maturation, because increased strength and power associated with earlier maturation advantage them.

*However, intensive training and inadequate energy intake may induce delayed menarche and menstrual dysfunctions.*

The consequent hypoestrogenism, in association with the nutritional deficiencies, may affect bone health. On the contrary, regular

physical activity increases the amount of bone mass gained during childhood and adolescence mainly at the bone sites which are trained.

*Since the number of adolescent females involved in strenuous sports from an early age is increasing, physicians must be aware of such effects, explain to girls and their parents the 'right' sports training and appropriate dietary regimens, and recognize problems due to excessive training as soon as possible.*

These issues should not be a cause of lesser involvement in athletic participation of young people.

<http://cat.inist.fr/?aModele=afficheN&cpsidt=18380284>

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***Effects of sports training in adolescence on growth, puberty...***

Participation in sport could not only have a direct osteogenic effect, ... from early puberty to menarche to optimize the positive effect of sport on bone ...

[www.informahealthcare.com/doi/abs/10.1080/0951359060100573...](http://www.informahealthcare.com/doi/abs/10.1080/0951359060100573...)

<http://www.informahealthcare.com/doi/abs/10.1080/09513590601005730>

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***Growth and pubertal development in children and adolescents ...***

Does physical activity, sport training, or both affect linear growth and pubertal maturation? ...

***Physical and pubertal***

<http://www.ajcn.org/cgi/content/full/72/2/521S>

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***Onset of puberty, menstrual frequency, and body fat in elite...***

The effects of exercise on pubertal progression and reproductive function ... Participation in leanness sports but not training volume is associated with ...

<http://bjsm.bmj.com/cgi/content/full/37/6/490>

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***Puberty and Athletic Sports in Female  
Adolescents***

Torstveit MK, Sundgot-Borgen J: Participation in leanness sports but not training volume ... Warren MP: The effects of exercise on pubertal progression and ...

<http://content.karger.com/ProdukteDB/produkte.asp?Aktion=ShowFulltext&ArtikelNr=93015&Ausgabe=231856&ProduktNr=231178>

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