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The role of puberty in the making and breaking of young ballet dancers: Perspectives of dance teachers

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ABSTRACT

Physical changes associated with puberty may conflict with functional and aesthetic ideals for a career in ballet. The dance teacher is in a position to guide young dancers through the pubertal transition, although dancers rather than teachers are often the focus of research. This study explores the social stimulus value of the female body in ballet as perceived by the dance teacher and how value may change during puberty. Ten UK dance teachers were interviewed; interpretative phenomenological analysis was used. Four main themes perceived by dance teachers emerged as central to the social stimulus value of the body among adolescent dancers: *the ideal body*; *teacher approaches to managing puberty in the dance environment; puberty as a 'make or break' stage in ballet*; and *teacher awareness of pubertal onset and the implications of timing.* Dance teachers can play an important role in moderating external and individual expectations during the pubertal transition.

Dance is a popular activity in the United Kingdom with over 5 million individuals participating annually (DanceUK, 2011; Stenton, 2011). Participation can be viewed in two general categories: recreational and vocational (full-time or pre-professional). The former is oriented towards enjoyment of dance as an activity. The latter involves specialised, intensive training designed to prepare the individual for a professional career in the dance industry (CDET, 2011).

The health outcomes associated with dance training vary by context. Recreational dance during adolescence is associated with greater self-esteem and more adaptive motivation which promotes positive and sustainable involvement in dance (Quin, Frazer, & Redding, 2007). Vocational dance training has the potential to foster similar health benefits as recreational dance, but some evidence suggests that it may adversely impact physical and psychological health (Buckroyd, 2000). Vocational dance training and perhaps the dance environment may foster maladaptive and destructive behaviours among young people (Buckroyd, 2000; Schnitt, 1990; Smith, 1998; Wilson, 1994). Estimated prevalence of injury, smoking, substance abuse and disordered eating are comparatively high among trainee and professional dancers compared to the general population (Arcelus, Witcomb, & Mitchell, 2014; Brinson, 1996; Garner, Garfinkel, Rockert, & Olmsted, 1987; Schnitt, 1990).

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Attrition rates in vocational dance training are high compared to other forms of physical activity with estimates of 53% and 55% in longitudinal studies of young dancers (Hamilton, Hamilton, Warren, Keller, & Molnar, 1997; Walker, Nordin-Bates, & Redding, 2012). Although factors associated with dropout vary with dance style and level of performance, puberty is consistently identified as an interval during which risk of dropout is increased. Major changes in body size, proportions and composition occur in conjunction with sexual maturation and the growth spurt which are highly variable in timing and tempo (rate) among individuals (Malina, Bouchard, & Bar-Or, 2004; Rosenfield, 1991; Tanner, 1962).

Puberty is considered a key *'make or break'* event in the continuation of vocational training and is a challenge that young dancers must negotiate. The most pertinent and overt pubertal changes for female dancers include increases in mass and height, changes in proportions (relative limb length) and body composition (specifically fatness and fat distribution), breast development, and menarche (Sugar, 1993; Summers-Effler, 2004). How individuals adapt to and cope with the changes is central to experiences in dance and potential maladaptive responses which may negatively influence psychological health and well-being (Brooks-Gunn & Warren, 1985; Summers-Effler, 2004; Yuan, 2012). Full-time commitment to vocational dance often begins as early as 10 years of age; dance training and schooling occur concomitantly often in boarding schools (Buckroyd, 2000) where teachers and schoolmates assume roles similar to peer and family groups (Petersen & Taylor, 1980). It is well documented that peer and family perceptions of and reactions to pubertal changes are central to the experiences and psychological well-being of adolescent females (Summers-Effler, 2004). The preceding extends to perceptions and reactions of dance teachers who also play a role in shaping social expectations regarding the body per se and pubertal changes (Petersen & Taylor, 1980; Pickard, 2013; Tremblay & Lariviere, 2009; Yuan, 2012).

The social context in which puberty occurs influences adaptations to the physiological and physical changes (Stark & Newton, 2014). While physical changes associated with male puberty (greater stature, strength and power) are generally welcomed in dance (Buckroyd, 2000; Francisco, Alarcao, & Narciso, 2012; Pickard, 2013), changes associated with female puberty can be more challenging to dancers as many are not conducive, or are perceived as less conducive, to successful dance performance. Perceptions are derived from social contexts; the ideals of what is healthy and desirable for female ballet dancers are based upon the norms/values of the ballet culture (Benn & Walters, 2001; Pickard, 2013). Social stimulus value is a concept which describes the interaction of different stimuli, specifically the interactions among adolescent bodily changes, personality and sociocultural variables; the social stimulus value of the changes depends on the social context in which they occur (Petersen & Taylor, 1980). External morphological changes in height, weight, or breast development have immediate social stimulus value in dance and have significance to the individual and her social network (peers, teachers) more so than internal hormonal and physiological changes (Petersen & Taylor, 1980).

Psychological and social aspects of puberty within a dance context have been examined (Pickard, 2013; Stark & Newton, 2014), but few studies have considered the more complex interactions between biological changes and psycho-behavioural adaptations. Although the biological aspects of puberty are perceived as having a significant role in adherence to professional ballet training among females (Brooks-Gunn & Warren, 1985; Hamilton et al., 1997), what is the influence of variation in pubertal timing among young dancers on evaluations and reactions of significant others? Early menarche and greater breast development differentiate drop outs from those who continued dance training (Hamilton et al., 1997), while later recalled ages at menarche were associated with successful adaptation to ballet training among dancers 14–18 years (Brooks-Gunn & Warren, 1985). Specific details of the impact of early puberty and associated changes on attrition in ballet need further study.

The timing of pubertal changes may influence the extent to which an individual meets the physical and societal demands of ballet. While later maturing dancers are aesthetically favoured and placed in a social context that expects high achievement, earlier maturing dancers may be perceived as less aesthetic, receive less social support and have lower expectations (Brooks-Gunn & Warren, 1985). The preceding is consistent with evidence for female artistic gymnasts among whom greater body size was associated with negative interactions with coaches and less encouragement, reinforcement and instruction (Cumming, Eisenmann, Smoll, Smith, & Malina, 2005).

Age at menarche is an indicator of maturity timing, which occurs rather late in the pubertal transition, on average, after age at peak height velocity (Malina et al., 2004). Elite ballet dancers present later mean ages at menarche, though most of the data are based on recalled ages and on questionnaires (Burckhardt, Wynn, Krieg, Bagutti, & Faouzi, 2011; Frisch, Wyshak, & Vincent, 1980; Hamilton et al., 1997; Steinberg et al., 2008). Reported ages varied between 13.1 years (Steinberg et al., 2008) and 13.9 years (Burckhardt et al., 2011). A prospective study of dancers 12–15 years at baseline reported a later age at menarche in 13 dancers, 15.4 ± 1.9 years; however, two dancers 18 years of age were still pre-menarcheal at the conclusion of the study (Warren, 1980). More recently, a mixed-longitudinal study of ballet dancers 8–11 years at baseline noted a mean age at menarche of 13.1 ± 0.9 years with a range from 11.0 to 14.9 years (Matthews et al., 2006). However, studies of age at menarche in youth dancers are influenced by differential dropout and persistence, and associated selectivity of ballet and aesthetic sports (Malina, Rogol, Cumming, Coelho-e-Silva, & Figueirido, 2015).

The greater proportion of later maturing girls among dancers reflects several factors, including familial (genetic and non-genetic), athletic and aesthetic advantages (more linear physique, smaller pubertal gains in absolute and relative fat mass, greater relative strength), self-selection, and systematic selection bias towards girls who possess appropriate physiques for success (Brooks-Gunn, Attie, Burrow, Rosso, & Warren, 1989; Brooks-Gunn & Warren, 1985; Hamilton, Brooks-Gunn, Warren, & Hamilton, 1988; Pickard, 2013; Steinberg et al., 2008). Moreover, within the social context of ballet training where a lean physique is favourable, late maturation and associated physical characteristics may hold a positive social stimulus value for teachers and peers in contrast to weight gain and proportionally shorter legs which are associated with early maturation