

# Biopsychosocial Mechanisms of the Development of Problem Behaviors during Puberty

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## ABSTRACT

A dynamic interaction between biological, psychological, and social components that predicts development of maladaptive and adaptive behaviors during adolescence is postulated (Fig. 1). Within this theoretical framework a pilot study was conducted on girls between 9-13 years (t1) and followed up to late adolescence (t2) and young adulthood (t3). Results indicate that differences in pubertal timing (deviation from the norm regarding physical development) not only matter for adjustment during puberty but also have long-term implication for problem behaviors, relationship to parents and positive developmental outcomes.

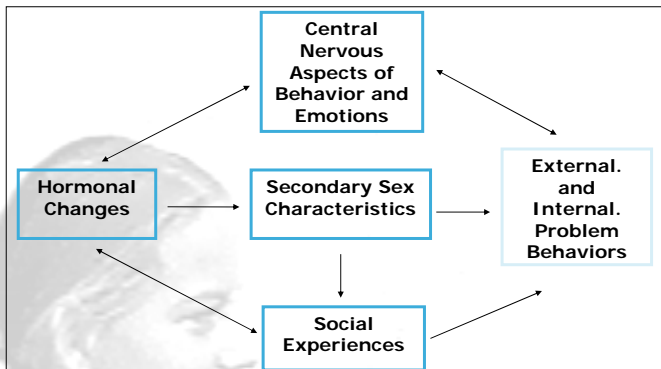


Figure 1: Development of Problem Behaviors during Puberty ( Brooks-Gunn et al.,1994)

## AIMS OF THE CURRENT STUDY (t3)

1. To investigate the effects of different aspects of pubertal maturation not only on maladaptation (internal/external problems) but also on normative (individuation) and positive (life satisfaction) developmental outcomes in young adulthood.
2. To investigate if quality of social relationships (e.g., to parents, friends, romantic partner) mediates the relationship between pubertal maturation and long-term problems in psychosocial adaptation in young adulthood.

## METHODS AND PROCEDURE

The sample (n=100) consists of a core sample (50 girls conducted at t1, t2, and t3) and an additional sample (socio demographic twins selected at t3). The girls were grouped by:

- Objective pubertal timing (PDS, Petersen et al., 1988; validated by hormonal assessments, and mother's report) at t1 (only core sample)
- Stability of subjective pubertal timing (Dubas et al., 1991; based on retrospective data; validated by prospective assessments) at t2 (core sample) and t3 (additional sample)
- Timing groups were compared regarding internalizing/externalizing problem behaviors, individuation from parents, and positive development
- Multiple methodologies were used at t1 and t3 to collect psychological (questionnaires), behavioral (videotaped mother-daughter conflict discussions), and endocrinological data (salivary cortisol, testosterone, alpha-amylase AA)

## DISCUSSION

- (Particularly the stability of) early pubertal timing: Associated with adaptation problems and advances in autonomy development during puberty, but a lower healthy individuation in young adulthood
- (Particularly the stability of) late pubertal timing: Was found out to be a particular risk factor for internal problems and lower life satisfaction
- Quality of social relationships did *not* mediate relationship between pubertal maturation and long-term problems. Quality of romantic relationships and individuation were additional outcome variables.

RESULTS	t1 M=12,2 yrs.	t2 M=17,8 yrs.	t3 M=18,9 yrs.
Girls with <i>early</i> pubertal timing as compared to normative timing	Low self-esteem Higher cigarette use Higher interest in boys Individuated behaviors + low control by mothers	Have more often own children Higher in striving for autonomy from parents	Lower quality of romantic relationship Lower healthy individuation Still higher in striving for autonomy in discussions More stressed during conflict discussions with mothers (AA)
Girls with <i>late</i> pubertal timing as compared to normative timing	No internalizing problems Higher cigarette use Individuated behaviors + high control by mothers	Higher anxiousness Higher drug use Afraid of separation from mother Low external developmental assets	More internal symptoms Lower life satisfaction Lower quality of romantic relationship More stressed during conflict discussions with mothers (AA)

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