

# Family relationships in childhood, pubertal timing, and reproductive strategies of adolescents

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## INTRODUCTION

Antecedents of pubertal timing and its consequences for psychosocial adjustment in adolescence are in focus of recent research (Weichold & Silbereisen, 2008). The evolutionary theory of socialization of Belsky, Steinberg and Draper (1991) is presently discussed as one heuristic model that predicts relations between family context in childhood, pubertal timing, and subsequent reproductive strategies of adolescents. Despite of empirical evidence that supports the “major tenets” of the evolutionary theory of socialization, only few prospective longitudinal studies have considered the development from childhood to adolescence and include “the onset of puberty in relation to postpubertal reproductive behaviour” (Bergevin, Bukowski & Karavasilis, 2003, p. 193). Furthermore most studies have focussed only upon girls.

In the present study, empirical evidence of predictions of the evolutionary theory of socialization of Belsky, Steinberg and Draper (1991) was investigated longitudinally in a sample of 26 adolescent girls and boys.

## RESEARCH QUESTIONS

1. Are family stressors in childhood (father absence, socioeconomic stressors, negative parental relations) significant predictors of an earlier pubertal timing of adolescents?
2. Is pubertal timing of adolescents a significant predictor of age at first intercourse as well as of the number of sexual partners?
3. Differ the results by adolescent gender?

## DESIGN

N = 26 adolescents who were born during German unification, and their mothers were investigated prospectively in childhood (at age six) and in 2007 in adolescence (mean age: M = 17.74, SD = .63).

## PARTICIPANTS

Participants	girls	boys
n	13	13
Mean age		
M	17.49	17.99
SD	.62	.55
Family structure at age six		
Both biological parents	10	12
Father absence	3	1

## VARIABLE AND MEASURES

Socioeconomic stressors in childhood
score = cumulation of stressors over the first six years of life of the child (e.g. scarce financial resources)
were asked from the mothers at age six of the child

Parental relations in childhood (BKS, Scheffer et al., 2000)
<i>Quality of marital relationship of the parents</i>
<i>Quality of maternal relationship</i>
were asked retrospectively from adolescent girls and boys
higher scores indicate more positive relationships

Pubertal timing	
<i>Relative pubertal timing</i>	<i>Age at menarche</i>
score = subjective rating of pubertal timing as earlier, on time, or later in relation to peers	was asked retrospectively from adolescent girls and their mothers
was asked retrospectively from adolescent girls and boys, and their mothers	
higher scores indicate an earlier pubertal development	

Reproductive strategies
<i>Age at first intercourse</i>
<i>Number of sexual partners</i>
were asked from adolescent girls and boys

Girls (n = 13): correlation of *relative pubertal timing* and *age at menarche*: Spearman-Rho = -.71, p < .01

## RESULTS

### Predicting pubertal timing

#### Girls

Relative pubertal timing			
Model (hierarchical linear regression analyses)	1	2	3
Predictors	β	β	β
<i>Father absence</i> <sup>1</sup>	.57*	.59*	.22
<i>Socioeconomic stressors in childhood</i> <sup>2</sup>		-.14	.09
<i>Quality of marital relationship of the parents</i> <sup>2</sup>			-.73**
<i>Quality of maternal relationship</i> <sup>2</sup>			.10
R <sup>2</sup>	.32*	.33	.53**

  

Age at menarche			
Model (hierarchical linear regression analyses)	1	2	3
Predictors	β	β	β
<i>Father absence</i> <sup>1</sup>	-.39	-.41	-.04
<i>Socioeconomic stressors in childhood</i> <sup>2</sup>		.19	.02
<i>Quality of marital relationship of the parents</i> <sup>2</sup>			.60*
<i>Quality of maternal relationship</i> <sup>2</sup>			-.04
R <sup>2</sup>	.16	.17	.36*

Notes: <sup>1</sup> p < .10; \* p < .05; \*\* p < .01; <sup>2</sup> n = 13; <sup>3</sup> n = 12

#### Boys

Relative pubertal timing			
Model (hierarchical linear regression analyses)	1	2	3
Predictors	β	β	β
<i>Father absence</i> <sup>1</sup>	.19	-	-
<i>Socioeconomic stressors in childhood</i> <sup>2</sup>		-.11	.14
<i>Quality of marital relationship of the parents</i> <sup>2</sup>			.57
<i>Quality of maternal relationship</i> <sup>2</sup>			.32
R <sup>2</sup>	.04	.01	.35

Notes: <sup>1</sup> n = 13; <sup>2</sup> n = 12, both biological parents

#### Girls

correlation of pubertal timing of girls and their mothers (n = 13)	
<i>Relative pubertal timing</i> : Spearman-Rho = .22	<i>Age at menarche</i> : Pearson r = .29

### Predicting age at first intercourse and number of sexual partners

#### Girls

Predictors (linear regression analyses)	Age at first intercourse		Number of sexual partners	
	β	R <sup>2</sup>	β	R <sup>2</sup>
<i>Relative pubertal timing</i>	-.92**	.85**	.50	.25
<i>Age at menarche</i>	.73*	.52*	-.20	.04

Notes: \* p < .05; \*\* p < .01; n = 8

#### Boys

Predictor (linear regression analyses)	Age at first intercourse		Number of sexual partners	
	β	R <sup>2</sup>	β	R <sup>2</sup>
<i>relative pubertal timing</i>	.03	.01	-.10	.01

Notes: n = 9

## CONCLUSIONS

Empirical evidence of the evolutionary theory of socialization of Belsky, Steinberg and Draper (1991) was investigated in a longitudinal sample of 26 adolescent girls and boys. Consistent with theory, pubertal timing of the girls (but not of the boys) was predicted by the quality of parental relations in childhood, and pubertal timing of the girls (but also not of the boys) was a significant predictor for the age at first intercourse. The results support the “psychosocial acceleration theory” of the prediction of pubertal timing for girls (Ellis, 2005, p. 172). They also support the hypothesis that early and frequent reproduction may be different aspects of a “quantitative” reproductive strategy (Chisholm, 1999; Ellis, 2005). Altogether, the results speak for different developmental pathways of girls and boys with respect to the predictions of the evolutionary theory of socialization of Belsky, Steinberg and Draper (1991). Furthermore some indications hint to the hypothesis of a context-sensitive hereditary transmission of pubertal timing of girls in this sample (Chasiotis, 1999).