

The age of the girls and the boys in the Tanner stages

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The following table shows the ages of girls and boys when they reached the different Tanner stages.

Table 1: Age of girls and boys when reaching the Tanner stages (medians of the results of the studies listed)

Girls			
Tanner stages	Age in years	Number of values	Studies
B2	9,7	33	Akre et al., 2013; Aksglaede et al., 2009; Atay et al., 2011; Biro et al., 2013; Bodzsar et al., 2015; Boyne et al., 2010; Campbell et al., 2004; Cabrera et al., 2014; Chen et al., 2014; Codner et al., 2004; Dai et al., 2014; Facchini et al., 2008; Feibelman et al., 2015; Guo et al., 2011; Ireton et al., 2011; Jaruratanasirikul et al., 2014b; Jirawutthinana et al., 2012; Jones et al., 2009; Kashani et al., 2009; Khadgawat et al., 2016; Ma et al., 2009; Rabbani et al., 2008; Rabbani et al., 2010; Sadigh et al., 2006; Roelants et al., 2009; Rubin et al., 2009; Russo et al., 2012; Saffari et al., 2012; Sun et al., 2012b; Susman et al., 2010; Wang et al., 2016; Wohlfahrt-Veje et al., 2012; Wohlfahrt-Veje et al., 2016; Zsakai et al., 2012
B3	11,2	24	
B4	12,6	21	
B5	14,2	18	
P2	10,8	29	
P3	11,9	22	
P4	12,8	20	
P5	14,4	17	
Boys			
Tanner stages	Age in years	Number of values	Studies
G2	11,0	11	Bodzsar et al., 2015; Boyne et al., 2010; Dai et al., 2014; Facchini et al., 2008; Herman-Giddens et al., 2012; Jaruratanasirikul et al., 2014a; Lam et al., 2014; Ma et al., 2011; Papadimitriou et al., 2011; Roelants et al., 2009; Sørensen et al., 2010; Sun et al., 2012a; Susman et al., 2010; Tomova et al., 2010; Wang et al., 2016; Zsakai et al., 2012
G3	12,9	10	
G4	13,8	9	
G5	15,5	9	
P2	12,0	14	
P3	13,2	12	
P4	13,9	11	
P5	15,1	11	

B2-B5: Tanner stages of breast development; P2-P5: Tanner stages of pubic hair development. G2-G5: Tanner stages of genital development.

The studies listed were identified by the author in 2017 using a systematic literature search. Only English and German language studies that determined the exact age at reaching the Tanner stages were selected. Only results for girls and boys born around 1990 or later were considered. Groups that may be atypical with regard to pubertal development, such as those treated with medication, were not included. In recent decades, the age at which girls reach puberty has declined by 0.24 years per decade, according to one meta-analysis (Eckert-Lind et al., 2020). Therefore, it may be that in the last five years since the literature review was conducted, the age at reaching puberty has decreased slightly.

There seems to be a consensus in science that reaching Tanner stage 2 of breast development or the onset of breast development marks the beginning of (physically visible) puberty in girls (see, for example, Rosen, 2004). Accordingly, girls do not typically reach puberty at age eleven, as has been widely claimed (Seto, 2017), but rather at age nine. U.S. girls also typically reach Tanner stage 2 of breast development at age nine (Kozinetz, 1991; Sun et al., 2002; Herman-Giddens et al., 1997; Susman et al., 2010; Cabrera et al. 2014; Biro et al., 2013). Girls are not in Tanner stages 2 and 3 (preference age „hebephilia“) at ages eleven to 14, but at ages nine to twelve. Girls are not in Tanner stage 4 (preference age "ephebophilia") at 15 to 16/17 years, but at twelve to 14 years. Also, in a meta-analysis published in 2020, girls in the majority of recent studies reached Tanner stage 2 breast development at nine years of age (Eckert-Lind et al., 2020). Accordingly, the desire of girls from the age of ten and of boys from the age of eleven was and is not evidence of preferential desire of prepubescents ("pedophilia"). The American Psychiatric Association's (APA) statement in the "pedophilia" definition of the "DSM-5" „prepubescent child or children (generally age 13 years or younger)“ (American Psychiatric Association (ed.), 2013, p. 697) is misleading and a pseudoscientific statement. Given the true ages of the girls and boys in the Tanner studies, and given the results of darkfield studies on the proportion of "minors", women, and "pedophilic" adult men among all "perpetrators" of "sexual abuse" of "minors," the author estimates that only about 0.5 percent of all "perpetrators" are "pedophilic" men (see especially Ajduković et al., 2013; Dombert et al., 2015; Ó Ciardha et al., 2021).

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Girls - study title	B2	B3	B4	B5	P2	P3	P4	P5
The age of onset of pubertal development in healthy Thai girls in Khon Kaen, Thailand		9,3				10,8		
Pubertal Development in a Random Sample of 4,020 Urban Iranian Girls	10,15	12,2	14,28	15,43	10,48	11,78	14,12	15,48
National Estimates of the Pubertal Milestones Among Urban and Rural Chinese Girls	9,18	11,22	14,21	17,39	11,65	13,12	15,29	18,34
Assessment of Pubertal Development in Iranian Girls	9,7	11,17	12,73	14,58	10,3			
Timing and secular trend of pubertal development in Beijing girls	9,5	12	12,5	17,6	11,1	12	13,8	17,9
Biometry and sexual maturity in a sample of Colombian schoolchildren from El Yopal	10,21	11,5	12,45	13,84	11,68	12,65	13,55	15,32
Age of puberty in a representative sample of Iranian girls	10,14	10,94	11,78	12,24	10,78	11,64	12,18	12,5
Age of puberty in Iranian girls living in Tehran	9,74	11,1	13,14	14,29	10,49	11,49	12,55	14,41
Declining age of puberty of school girls in southern Thailand	9,6	10,9	12,4	14,9	11	12,2	14,1	15,9
Pubertal Characteristics in Girls of Qazvin Province, Iran	9,4	10,43	11,1	12,6	9,45	10,45	11,15	12,55
Puberty and Influencing Factors in Schoolgirls Living in Istanbul: End of the Secular Trend?	9,65	10,1	11,75	14,17	10,09	11,19	12,33	14,68
Puberty in a sample of Brazilian schoolgirls	9,81				10,2			
Sexual Maturation Pattern in School Girls of Rural India: A Cross Sectional Study from Nagpur	10,4	12,2	15,1	16,4	10,6	13	15,5	16,87
Timing of maturation and predictors of menarche in girls enrolled in a contemporary British cohort	10,14	11,6			10,92	11,97		
Is puberty starting earlier in urban South Africa?	10,14				10,37			
Longitudinal Development of Secondary Sexual Characteristics in Girls and Boys Between Ages 9.1.2 and	9,8	11,3	12,7	14,2	10,2	11,5	12,7	14,2
Early onset of puberty in young girls: An Italian cross-sectional study	9,75	11,21	12,48	14,04	10,09	11,33	12,29	13,8
References for growth and pubertal development from birth to 21 years in Flanders, Belgium	10,7	11,8	12,8	14,8	11	11,9	12,7	14,5
Puberty in modernizing Kazakhstan: A comparison of rural and urban children	11,01	12,94	15,97		11,84	13,08	14,68	
Recent Decline in Age at Breast Development: The Copenhagen Puberty Study	9,86	10,97	12,29		11,09	11,74	12,5	
Onset of Breast Development in a Longitudinal Cohort	9,4							
Growth, Body Composition, and the Onset of Puberty	8,8	10,7	11,8	14,3	9,9	11,05	11,95	13,25
Timing of reproductive maturation in rural versus urban Tonga boys								
Age at Onset of Puberty and Adolescent Depression	9,4				11,8			
Age at Onset of Puberty in Apparently Healthy School Girls from Northern India	10,8	12,6			10,9	12,5	13,1	
Onset of Breast and Pubic Hair Development and Menses in Urban Chinese Girls	9,2	10,37			11,16	12,4		
Pubertal Onset in Boys and Girls Is Influenced by Pubertal Timing of Both Parents	9,95				10,99			
Age of thelarche and menarche in contemporary US females: a cross-sectional analysis	9,7							
Association between obesity and sexual maturation in Chinese children: a multicenter study	9,69	11,59	13,59					
Ponderal gain, waist-to-hip ratio, and pubertal development in girls with type-1 diabetes mellitus	8,89	10,36	11,74	12,84	10,38	11,28	12	13,1
Early breast development in girls after prenatal exposure to non-persistent pesticides	10,4							
Sexual maturation pattern in the mirror of socioeconomic background	9,61	11,3	12,67	14	11,08	12,09	13,25	13,97
Earlier menarche can be an indicator of more body fat: study of sexual development and waist circumf	9,84				11,42			
The 2nd Hungarian National Growth Study (2003–2006)	9,44	10,93	12,64	13,71	10,68	11,96	12,96	13,56

Boys - study title	G2	G3	G4	G5	P2	P3	P4	P5
National estimates of pubertal milestones among urban and rural Chinese boys	11,24	13,11	14,39	16,17	12,67	13,58	14,76	16,48
Pubertal development timing in urban Chinese boys					12,78	13,94		
Pubertal Maturation of Contemporary Greek Boys: No Evidence of a Secular Trend	10,9	12,5	13,7	14,6	11,2	12,9	13,5	14,6
Recent Changes in Pubertal Timing in Healthy Danish Boys: Associations with Body Mass Index	11,59	13,13	13,61	14,31	12,38	13,25	13,67	14,45
Secondary Sexual Characteristics in Boys Data From the Pediatric Research in Office Settings Network	9,86	12,21	13,48	15,56	11,14	12,53	13,49	15,82
Longitudinal Development of Secondary Sexual Characteristics in Girls and Boys Between Ages 9.1.2 and	10,3	12,3	13,4	14,8	11,3	12,6	13,6	15
References for growth and pubertal development from birth to 21 years in Flanders, Belgium	11,4	12,9	13,9	15,3	11,9	13	13,9	15,2
Puberty in modernizing Kazakhstan: A comparison of rural and urban children	10,29	13,16	14,59	16,25	12,77	14,15	15,33	17,45
Growth and Development of Male External Genitalia								
Growth, Body Composition, and the Onset of Puberty					11,3	12,8	13,7	14,2
Age at Onset of Puberty and Adolescent Depression	11				11,7			
Prepubertal organochlorine pesticide concentrations and age of pubertal onset among Russian boys	9,5				12			
Association between obesity and sexual maturation in Chinese children: a multicenter study			13,1					
Age of onset of pubertal maturation of Thai boys					12	13,3	14,8	16,6
Sexual maturation pattern in the mirror of socioeconomic background	12,07	12,93	14,13	15,68	12,58	13,42	14,46	15,14
The 2nd Hungarian National Growth Study (2003–2006)	11,62	12,82	13,76	15,46	12,25	13,22	14,09	14,95