

**Recent Growth**  
*Grade 5/Year 6*

**FAST Track Project Technical Report**  
**Robert Nix**  
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**Table of Contents**

- I. Measure Description
- II. Report Sample
- III. Scaling
- IV. Differences Between Groups
- V. Recommendations for Use
- VI. Descriptive Statistics
- VII. Correlations

**Citation**

*Instrument*

Peterson, A.C., Crockett, L., Richards, M., & Boxer, A. (1988). A self-report measure of pubertal status: Reliability, validity, and initial norms. Journal of Youth and Adolescence, *17*, 117 – 133.

*Report*

Nix, R.L. (2001). Recent Growth (Technical Report) [On-line]. Available: <http://www.fasttrackproject.org>

**Data Sources**

*Raw:* c6s

*Scored:* rgr6

**I. Measure Description**

Recent Growth is a 7-item scale that assesses children's physical development. There are three items – one each about growth spurts, body hair, and skin changes, such as acne – that both boys and girls answered. There are two items – one each about voice changes and facial hair – that boys only answered, and two items – one each about breast development and the onset of menstruation – that girls only answered.

Unlike other scales that assess puberty timing through physicians' direct examinations or with the aid of figure drawings or photographs, Recent Growth relies on children's verbal self-reports. In a large, longitudinal study of children from upper-middle income families, however, the authors of this scale have demonstrated that the pattern of means among items falls in the expected order; there is satisfactory internal consistency in children's responses; there are few instances in which children report being less well developed in an area than they have reported previously; observer's global ratings of children's development were reasonably highly correlated with children's responses; and direct measures of children's peak height velocity showed the appropriate pattern of correlations with children's self-reports.

**II. Report Sample**

This report is based on data from the Cohort 1 normative and high risk groups. These data were collected during the summer of the sixth year of Fast Track, when most children had just completed fifth grade. Children in the intervention group were not included in the analyses for this report. Children who were part of both the normative group and the high risk group were included with the high risk group only.

Altogether, data were collected from 257 normative group children and 135 high risk group children. Data were not collected from 51 (17 percent ) normative group children and 20 (13 percent ) high risk group

children. The number of subjects from each site is presented in the table below.

	Durham		Nashville		Pennsylvania		Seattle	
	n	missing	n	missing	n	missing	n	missing
Normative group	80	6	55	10	65	19	57	16
High risk group	35	4	37	3	33	7	30	6

### III. Scaling

. Each item of Recent Growth is answered on a 4-point scale. On this scale, a score of “1” indicates that the queried process has not started yet; a score of “2” indicates that the queried process has just started to occur; a score of “3” indicates that the queried process has definitely started to occur; and a score of “4” indicates that the queried process is complete. In their study, Peterson et al. (1988) combined all appropriate items for boys and all appropriate items for girls to form sex-specific total score scales.

### IV. Differences Between Groups

There was only one significant difference between the normative and high risk groups on any item of Recent Growth: Boys in the normative group were less likely to have had their voices start to change than boys in the high risk group. There was a marginally significant difference ( $p < .07$ ) between the normative and high risk groups on the boys’ total score – boys in the normative group were less advanced in their pubertal development – but there was no difference on the girls’ total score.

Results of univariate comparisons based on site, race, or sex within the normative and high risk groups are presented below. All comparisons that were significant are listed. (Blank spaces represent non-significant group differences.) Comparisons that were only marginally significant – between the .10 and .05 probability level – are indicated with a “+.” For the race subgroup comparisons, only children who were European American or African American were included.

Data set item or scale	Normative group			High risk group		
	Site	Race	Sex	Site	Race	Sex
c6sa1: Growth spurt						
c6sa2: Body hair	N > P	B > W			B > W	
c6sa3: Skin changes	N > D		F > M			
c6sb4: Voice change	N > P		NA			NA
c6sb5: Facial hair			NA			NA
c6sg4: Breast development			NA			NA
c6sg5: Started menstruating	N > P S	B > W	NA		B > W	NA
Boys’ total score		B > W	NA			NA
Girls’ total score		B > W	NA		B > W	NA

**KEY** In the normative vs. high risk group column, “HR” stands for high risk and “N” stands for normative. In the site columns, “D” stands for Durham, “N” stands for Nashville, “P” stands for Pennsylvania, and “S” stands for Seattle. In the race columns, “B” stands for African American or “black,” and “W” stands for European American or “white.” In the sex columns, “F” stands for female, “M” stands for male, and “NA” stands for not applicable.

### V. Recommendations for Use

For each item of Recent Growth, except c6sg5, children were given a response option of “I don’t know” which was coded as “5.” When using any of these items in statistical analyses, it is important to recognize what a score of “5” represents and recode it as appropriate.

For some reason, some male subjects have responses on items c6sg4 and c6sg5 and some female subjects have responses on items c6sb4 and c6sb5. These responses should be set to missing if there is any chance that they might be inappropriately included in statistical analyses.

The boys’ total score and girls’ total score are a mean of the five items relevant to each sex. All “I don’t know” responses were recoded as missing. For the item on the onset of menstruation, a “Yes” answer was

recoded from “1” to “4,” and a “No” answer was recoded from “2” to “1.” This is consistent with the manner in which Peterson and her colleagues scored Recent Growth.

## VI. Descriptive statistics

Descriptive statistics of the individual items and total scores on Recent Growth for the normative group are presented in the table below. Cronbach’s coefficient alpha was .69 for the boys’ total score and .70 for the girls’ total score.

Data set item or scale	Mean	SD	Skewness	Kurtosis
c6sa1: Growth spurt	2.30	0.88	- 0.32	- 1.15
c6sa2: Body hair	2.09	0.89	0.26	- 0.89
c6sa3: Skin changes	1.88	0.92	0.63	- 0.71
c6sb4: Voice change	1.79	0.84	0.52	- 1.09
c6sb5: Facial hair	1.38	0.61	1.65	2.87
c6sg4: Breast development	2.37	0.71	- 0.39	- 0.53
c6sg5: Started menstruating	1.77	1.31	1.13	- 0.73
Boys’ total score	1.82	0.58	0.64	0.13
Girls’ total score	2.07	0.70	0.31	- 0.82

Descriptive statistics of the individual items and total scores on Recent Growth for the high risk group are presented in the table below. Cronbach’s coefficient alpha was .57 for the boys’ total score and .59 for the girls’ total score.

Data set item or scale	Mean	SD	Skewness	Kurtosis
c6sa1: Growth spurt	2.30	0.89	- 0.26	- 1.11
c6sa2: Body hair	2.11	0.87	0.18	- 0.91
c6sa3: Skin changes	1.95	0.91	0.53	- 0.69
c6sb4: Voice change	2.10	0.85	0.06	- 1.09
c6sb5: Facial hair	1.53	0.68	0.91	- 0.34
c6sg4: Breast development	2.53	0.61	- 0.11	- 0.24
c6sg5: Started menstruating	1.63	1.24	1.48	0.20
Boys’ total score	1.96	0.54	0.13	- 0.82
Girls’ total score	2.10	0.58	0.67	0.79

## VII. Correlations

Correlation coefficients for the normative group are presented below the diagonal. Correlation coefficients for the high risk group are presented above the diagonal. All correlation coefficients that are significant at the .05 probability level are marked with a “\*”. Correlation coefficients that are marginally significant at the .10 probability level are marked with a “+”.

	c6sa1	c6sa2	c6sa3	c6sb4	c6sb5	c6sg4	c6sg5	B. total	G. total
c6sa1: Growth spurt		.23*	-.03	.05	.11	.35+	.15	.53*	.48*
c6sa2: Body hair	.30*		.22*	.00	.23+	.66*	.20	.61*	.68*
c6sa3: Skin changes	.20*	.39*		.44*	.36*	.25	.15	.69*	.53*
c6sb4: Voice change	.44*	.38*	.41*		.31*	NA	NA	.61*	NA
c6sb5: Facial hair	.28*	.35*	.38*	.48*		NA	NA	.64*	NA
c6sg4: Breast dev.	.38*	.55*	.38*	NA	NA		.20	NA	.68*
c6sg5: Started mnst.	.06	.47*	.28*	NA	NA	.31*		NA	.67*
Boys’ total score	.62*	.70*	.64*	.81*	.69*	NA	NA		NA
Girls’ total score	.57*	.81*	.70*	NA	NA	.69*	.71*	NA	