

Patient Name \_\_\_\_\_ Date of Birth \_\_\_\_\_

## The Safety Word Inventory And Literacy Screener (SWILS)

**Description:** A 29-item measure of children’s academic skills that can also be used as a springboard to injury prevention counseling. Normed on 934 children around the country, the SWILS is 78% sensitive and 84% specific to academic status in the areas of reading, math and written language.

**Directions:** Compute child’s age in years and months. Present the SWILS items to the patient (ages 6 to 14). Stop after 5 words read incorrectly or not attempted.

Give credit if the child reads or rereads the word correctly.

Do not give credit if emphasis is not on the correct syllable or if sounds or syllables are segmented (e.g., "voltAGÉ" is not credited, because the child emphasized the wrong syllable while "VOLT-age" is not credited due to segmentation—unless reread spontaneously, rapidly and correctly).

To decide if referrals are needed, use the following chart. Children scoring below cutoffs have a high probability of significant academic deficits. When making referrals to the public schools, document findings in writing to the school psychologist/director of special education and to the principal, and include information on vision and hearing status.

Age Range Years-Months	Date	Cutoff	Results	Decision notes
6-0 to 6-6		< 1	PASS FAIL	
6-7 to 6-10		< 2	PASS FAIL	
6-11 to 7-2		< 3	PASS FAIL	
7-3 to 7-10		< 5	PASS FAIL	
7-11 to 8-10		< 12	PASS FAIL	
8-11 to 9-2		< 19	PASS FAIL	
9-3 to 9-10		< 24	PASS FAIL	
9-11 to 10-6		< 25	PASS FAIL	
10-7 to 10-11		< 28	PASS FAIL	
11-0 to 11-11		< 28	PASS FAIL	
12-0 to 12-11		< 28	PASS FAIL	
13-0 to 14-0		< 28	PASS FAIL	

# The Safety Word Inventory And Literacy Screener (SWILS): Standardization And Validation

**Background:** When evaluating a school-aged patient, particularly for such issues as attention deficit disorder or learning disabilities, health care providers are encouraged to appraise children's school performance. As a consequence, health care providers need brief methods for detecting school problems that are functional in busy primary care clinics. Because well-visits also include other services such as anticipatory guidance and safety and injury counseling, it would be helpful for detection tools to facilitate delivery of more than one aspect of well-child care.

**Objective:** To develop a brief method for evaluating school performance for elementary age children and test its accuracy in identifying children with reading and other academic problems. By using common safety signs as the test stimuli, such a tool should also serve as a springboard to injury prevention counseling.

**Design/Methods:** Data were drawn from the standardization and validation data of an individually administered wide-range diagnostic achievement test using a geographically diverse, nationally representative sample of 934 children between 5 and 13 years of age. Children were administered the Comprehensive Inventory of Basic Skills-Revised (CIBS-R) which includes among its 10 subtests a 57 item measure of safety word recognition. Also collected was data from previously administered measures of academics and intelligence. Forty-one children were administered the measure twice in order to assess inter-rater reliability.

**Results:** Logistic regression analyses were deployed using children's performance on the 9 other subtests of the CIBS-R as the grouping variable, and as predictors, recognition of 57 safety words/phrases. Of these, 22 safety signs (e.g., "Keep out," "No Trespassing," "Danger") were found to be significant predictors of overall academic performance. An additional seven safety words were added due to their ecological significance (e.g., "High voltage," "Beware of Dog," "Poison," etc.)

The 29 safety and warning signs were highly correlated (Pearson  $r$ ) with a range of subtests from prior testing: The strongest relationships were with measures of sight word vocabulary (.70), and reading comprehension (.61). The latter provides evidence that correct pronunciation of the safety words is associated with comprehending them. Moderate correlations were found between safety/warning terms and subtests measuring spelling (.40), written expression (.40), general knowledge (.42), and verbal IQ (.41). Teacher ratings also enjoyed a moderate association (.44). Weaker or nonexistent associations were found with subtests measuring phonemic analysis (.35), nonverbal IQ (.31), math reasoning (.28), and math computations (.07). In viewing the relationship of the 29 safety and warning

signs with the domain scores from the CIBS-R, the following was found: moderate correlations with the Basic Reading Domain (.54), Reading Comprehension (.47), Mathematics (.44), Written Language (.58), and a weaker association with Listening Comprehension (.38).

Receiver Operating Characteristic was used to determine cut scores based on children's ages in relation to overall academic performance. Cut scores increased with age and produced sensitivity of 78% (range = 73% to 88% and specificity of 84% (range 77% to 87%) to academic performance above and below the 25th percentile—the point where children typically fail to benefit from group instruction and become eligible for remedial reading programs such as Title I). Children with performance below cut scores were 11 times more likely to have been retained in grade and 5 times more likely to receive a teacher rating of below average than were children performing above cut scores. Nevertheless, 72% of children with poor performance were not receiving special education or Title I services. Inter-rater reliability coefficients were high, and ranged from .64 to .98. Extrapolating administration times from data on the CIBS-R as a whole suggests the reduced safety words measure takes 3–4 minutes to administer and score.

**Conclusions:** The Safety Word Inventory and Literacy Screener (SWILS) consists of 29 words/phrases that take approximately 3–4 minutes to administer and score. The measure is also a sensitive and specific indicator of academic deficits. Use of the SWILS in primary care should enable clinicians to provide focused safety counseling while also screening for school problems.





**References:** American Academy of Pediatrics, The Injury Prevention Program (TIPP)  
<http://www.aap.org/family/tippmain.htm>

American Academy of Pediatrics, Office-Based Counseling for Injury Prevention (RE9427). *Pediatrics*. 1994; 94: 566-567  
<http://www.aap.org/policy/00410.html>

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<http://www.aap.org/policy/AC0002.html>

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<b>GO</b>	<b>EXIT</b>	<b>KEEP OUT</b>	<b>NO SMOKING</b>	<b>Don't Walk</b>
<b>BEWARE OF DOG</b>	<b>DANGER</b>	Fire Alarm	<b>Police</b>	<b>Warning</b>
<b>Shake Well</b> 	No Trespassing	<b>Do Not Disturb</b>	Emergency Exit	<b>Quiet Zone</b>
<b>EMERGENCY FIRE ESCAPE</b>	 Keep out of reach of children	Please Use Handrail	<b>Employees Only</b>	 <b>POISON</b>
<b>High Voltage</b>	<b>POISON</b>	<b>Fragile</b>	<b>Flammable</b>	<b>Explosives</b>
<b>Caution</b>	<b>RESTRICTED AREA</b>		<b>DISCARD UNUSED PORTION</b> After expiration date of 6/10/00	<b>CAUTION:</b> If swallowed, call MD or poison control center. Induce vomiting only if recommended by MD. Acids and lye solutions should be neutralized and <b>not</b> vomited.