

**Example 5.7 (Constructing large sample simultaneous confidence intervals)** A music educator tested thousands of Finnish students on their native musical ability in order to set national norms in Finland. Summary statistics for part of the data set are given in Table 5.5. These statistics are based on a sample of  $n = 96$  Finnish 12th graders.

**Table 5.5** Musical Aptitude Profile Means and Standard Deviations for 96 12th-Grade Finnish Students Participating in a Standardization Program

Variable	Raw score	
	Mean ( $\bar{x}_i$ )	Standard deviation ( $\sqrt{s_{ii}}$ )
$X_1$ = melody	28.1	5.76
$X_2$ = harmony	26.6	5.85
$X_3$ = tempo	35.4	3.82
$X_4$ = meter	34.2	5.12
$X_5$ = phrasing	23.6	3.76
$X_6$ = balance	22.0	3.93
$X_7$ = style	22.7	4.03

Source: Data courtesy of V. Sell.