

2022 TELPAS
Score Distributions and Statistics
by Content Area and Grade

Glossary

This glossary provides definitions for the statistical terms that appear in the tables and graphs in this section (“TELPAS Alternate 2022 Score Distributions and Statistics by Content Area”) of Appendix E. Definitions of statistical terms and concepts in the other sections are given in [Chapter 3](#) or [Chapter 6](#).

Descriptive Statistics

Mean The mean is a measure of central tendency. It is the average score for the assessment. It is computed by summing the scores of all students and dividing the sum by the total number of students (N).

Median The median is another measure of central tendency. It is the score at the middle of the frequency distribution for the assessment. It is computed by finding the score at which there are the same number of scores above as there are below.

Mode The mode is another measure of central tendency. It is the most frequently obtained score for the assessment. It is determined by computing the frequency distribution and finding the score point with the highest frequency (n-count).

Range The range is a measure of statistical dispersion (variability or spread). It is the difference between the lowest and highest scores obtained by students on the assessment. It is computed by subtracting the lowest score from the highest score.

Interquartile Range The interquartile range is another measure of statistical dispersion (variability or spread). It is the difference between the 1st and 3rd quartiles (or 25th and 75th percentiles) of the score distribution for the assessment. It is computed by subtracting the score at the 1st quartile (the point that splits the lowest 25 percent of the scores) from the score at the 3rd quartile (the point that splits the highest 25 percent of the scores).

Standard Deviation (SD) The standard deviation is another measure of statistical dispersion (variability or spread). It is an indicator of the degree of score variation around the mean. It is computed using the following formula:

$$SD = \sqrt{\frac{\sum_{i=1}^N (X_i - \bar{X})^2}{N - 1}},$$

where X_i is the score for student i , $\bar{X}$ is the mean score and N is the total number of students who took the assessment.

Variance The variance is another measure of statistical dispersion (variability or spread) around the mean. It is computed as the square of the standard deviation (SD).

Skewness The skewness is an indicator of the shape of the score distribution. It measures the extent to which the score distribution “leans” to one side of the mean. A positive skewness indicates that the score distribution leans below the mean. A negative skewness indicates that the score distribution leans above the mean. A skewness of zero indicates that the score distribution is symmetric around the mean. It is computed using the following formula:

$$Skewness = \frac{N}{(N-1)(N-2)} \sum_{i=1}^N \left(\frac{X_i - \bar{X}}{S_X} \right)^3,$$

where X_i is the score for student i , $\bar{X}$ is the mean score, S_X is the standard deviation (SD) and N is the total number of students who took the assessment.

Kurtosis The kurtosis is another indicator of the shape of the score distribution. It measures the “peakedness” of the score distribution. A positive kurtosis is referred to as *leptokurtic*, meaning that the distribution has a more acute peak around the mean and fatter tails. A negative kurtosis is called *platykurtic*, meaning the distribution has a lower, wider peak around the mean and thinner tails. It is computed using the following formula:

$$Kurtosis = \frac{N(N+1)}{(N-1)(N-2)(N-3)} \sum_{i=1}^N \left(\frac{X_i - \bar{X}}{S_X} \right)^4 - \frac{3(N-1)^2}{(N-2)(N-3)},$$

where X_i is the score for student i , $\bar{X}$ is the mean score, S_X is the standard deviation (SD) and N is the total number of students who took the assessment.

Frequency Distributions

Frequency (Freq) This is the number of students who obtained the particular score point on the assessment.

Cumulative Frequency (CumFreq) This is the number of students who obtained a score that is less than or equal to the particular score point on the assessment.

Percentage (Pct) This is the percentage of students who obtained the particular score point on the assessment. It is computed as: $Pct = Freq \div N \times 100$.

Cumulative Percentage (CumPct) This is the percentage of students who obtained a score that is less than or equal to the particular score point on the assessment. It is computed as: $CumPct = CumFreq \div N \times 100$.

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**Table D.5.1. Spring 2022 TELPAS Assessments Reading
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Grade	Subject	N	Mean	Median	Mode	Range	Interquartile Range	SD	Variance	Skewness	Kurtosis
Grade 2	Reading	96,881	1482.47	1468	1423	645	115	81.28	6606.43	0.68	0.66
Grade 3	Reading	98,869	1525.26	1520	1436	874	157	106.20	11278.70	0.44	0.20
Grade 4	Reading	100,364	1541.91	1535	1498	923	150	109.40	11967.76	0.53	0.47
Grade 5	Reading	99,025	1580.03	1571	1535	923	157	119.68	14323.04	0.41	0.29
Grade 6	Reading	94,750	1537.90	1535	1578	833	130	89.66	8039.12	0.15	0.20
Grade 7	Reading	92,630	1550.68	1556	1601	833	132	94.27	8886.73	0.15	0.06
Grade 8	Reading	82,020	1540.62	1540	1558	719	118	79.64	6342.62	0.24	0.21
Grade 9	Reading	84,695	1531.30	1532	1468	719	118	84.07	7067.23	0.13	0.51
Grade 10	Reading	59,080	1523.69	1519	1502	686	117	86.08	7410.29	0.50	0.71
Grade 11	Reading	48,934	1527.26	1519	1546	686	109	85.38	7289.79	0.38	0.90
Grade 12	Reading	36,212	1525.68	1519	1502	686	109	82.96	6883.12	0.35	1.21

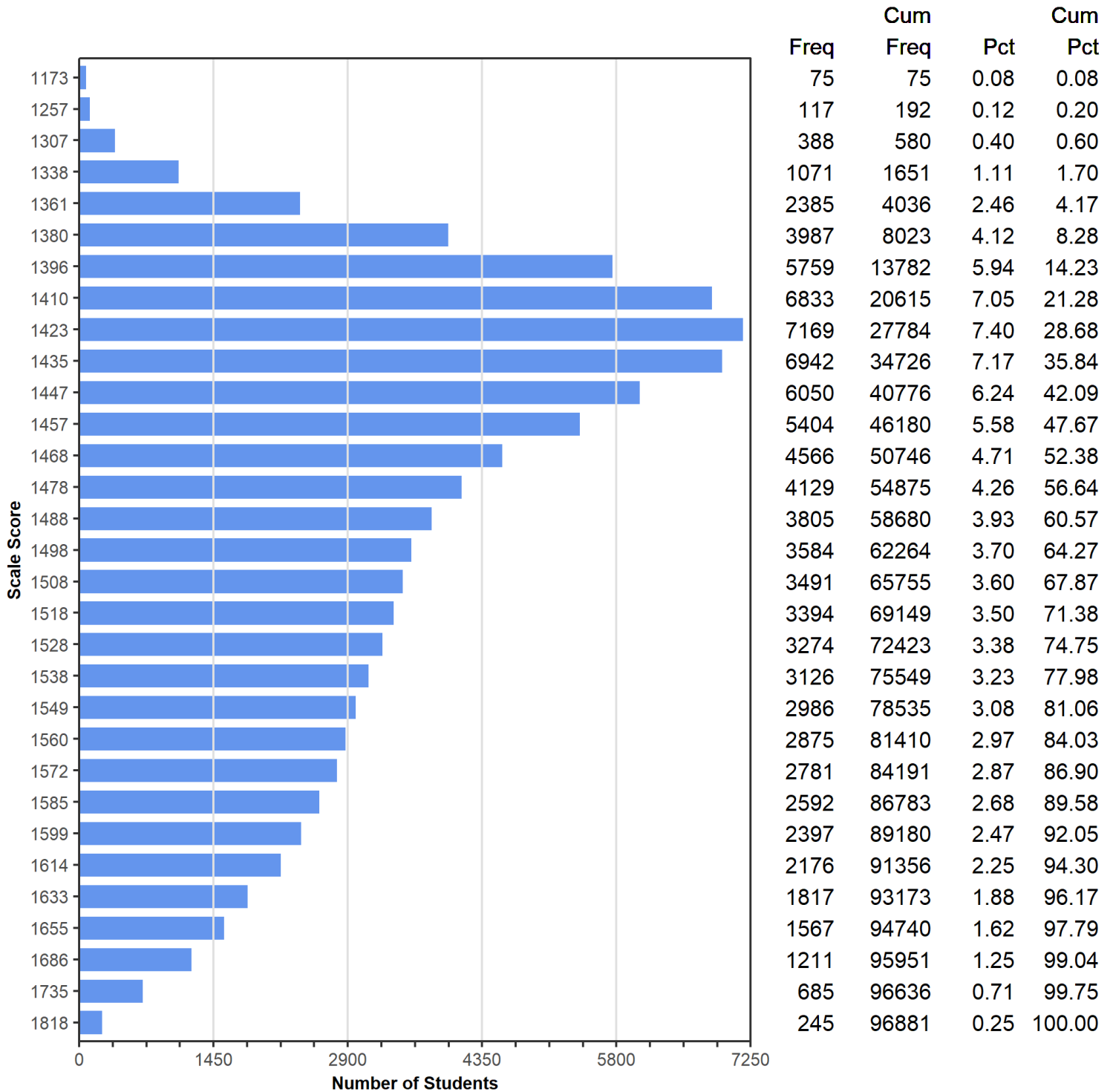
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Grade	Subject	N	Mean	Median	Mode	Range	Interquartile Range	SD	Variance	Skewness	Kurtosis
Grade 2	Listening	96,798	1555.06	1554	1595	654	106	76.60	5867.48	-0.07	0.54
Grade 3	Listening	98,773	1603.11	1610	1648	654	94	82.81	6858.22	-0.14	0.83
Grade 4	Listening	100,313	1539.43	1545	1573	621	104	77.05	5936.91	0.19	0.54
Grade 5	Listening	98,946	1562.35	1558	1609	621	101	82.31	6775.45	0.10	0.45
Grade 6	Listening	94,648	1570.03	1570	1621	641	113	85.40	7293.59	0.21	0.34
Grade 7	Listening	92,493	1582.91	1585	1645	641	126	90.35	8163.47	0.11	0.19
Grade 8	Listening	81,917	1592.15	1601	1645	641	114	93.17	8680.38	0.01	0.06
Grade 9	Listening	84,485	1539.61	1538	1595	538	110	80.95	6553.22	-0.05	0.24
Grade 10	Listening	58,929	1550.63	1550	1595	538	100	77.72	6040.16	0.00	0.26
Grade 11	Listening	48,739	1553.53	1563	1595	538	90	76.45	5844.67	-0.03	0.42
Grade 12	Listening	36,024	1551.85	1550	1595	538	90	73.88	5458.04	-0.06	0.77

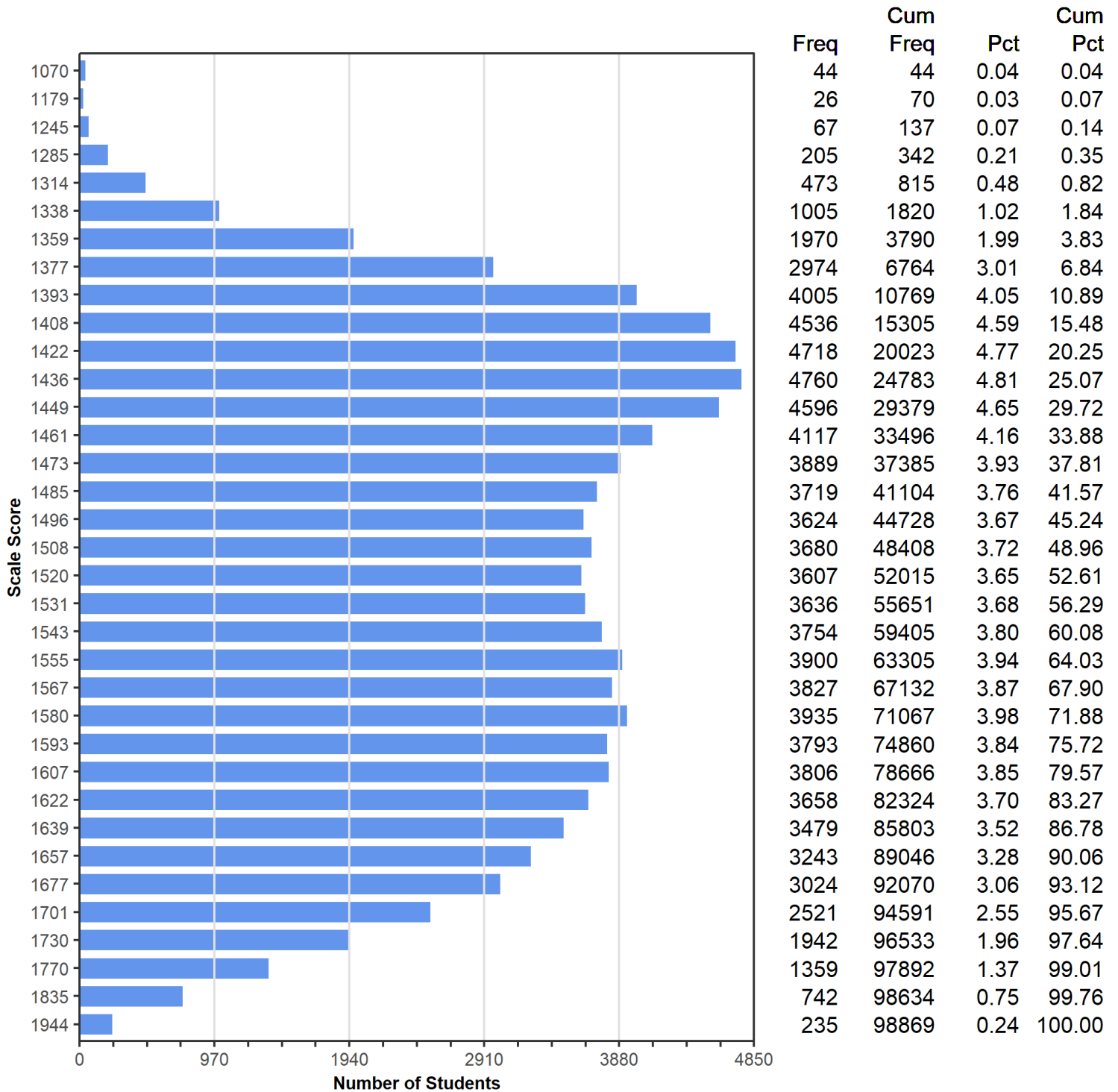
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Scale Score Descriptive Statistics (Online only)**

Grade	Subject	N	Mean	Median	Mode	Range	Interquartile Range	SD	Variance	Skewness	Kurtosis
Grade 2	Speaking	96,798	1462.11	1467	1287	468	97	80.10	6416.18	-0.36	0.12
Grade 3	Speaking	98,773	1492.32	1501	1527	468	96	82.19	6755.09	-0.46	0.54
Grade 4	Speaking	100,313	1519.62	1519	1555	333	68	56.71	3216.45	-0.37	0.83
Grade 5	Speaking	98,946	1522.58	1529	1555	333	68	58.77	3454.19	-0.36	0.68
Grade 6	Speaking	94,648	1518.87	1523	1541	267	63	48.05	2309.00	-0.24	0.32
Grade 7	Speaking	92,493	1513.56	1515	1541	267	56	49.60	2460.16	-0.23	0.20
Grade 8	Speaking	81,917	1512.49	1515	1531	267	56	51.19	2620.62	-0.22	0.11
Grade 9	Speaking	84,485	1503.43	1507	1408	272	76	59.71	3565.50	-0.09	-0.59
Grade 10	Speaking	58,929	1510.24	1518	1408	272	83	61.27	3754.55	-0.15	-0.56
Grade 11	Speaking	48,739	1512.60	1518	1408	272	83	62.15	3862.04	-0.16	-0.54
Grade 12	Speaking	36,024	1510.99	1518	1408	272	83	62.78	3941.89	-0.14	-0.59

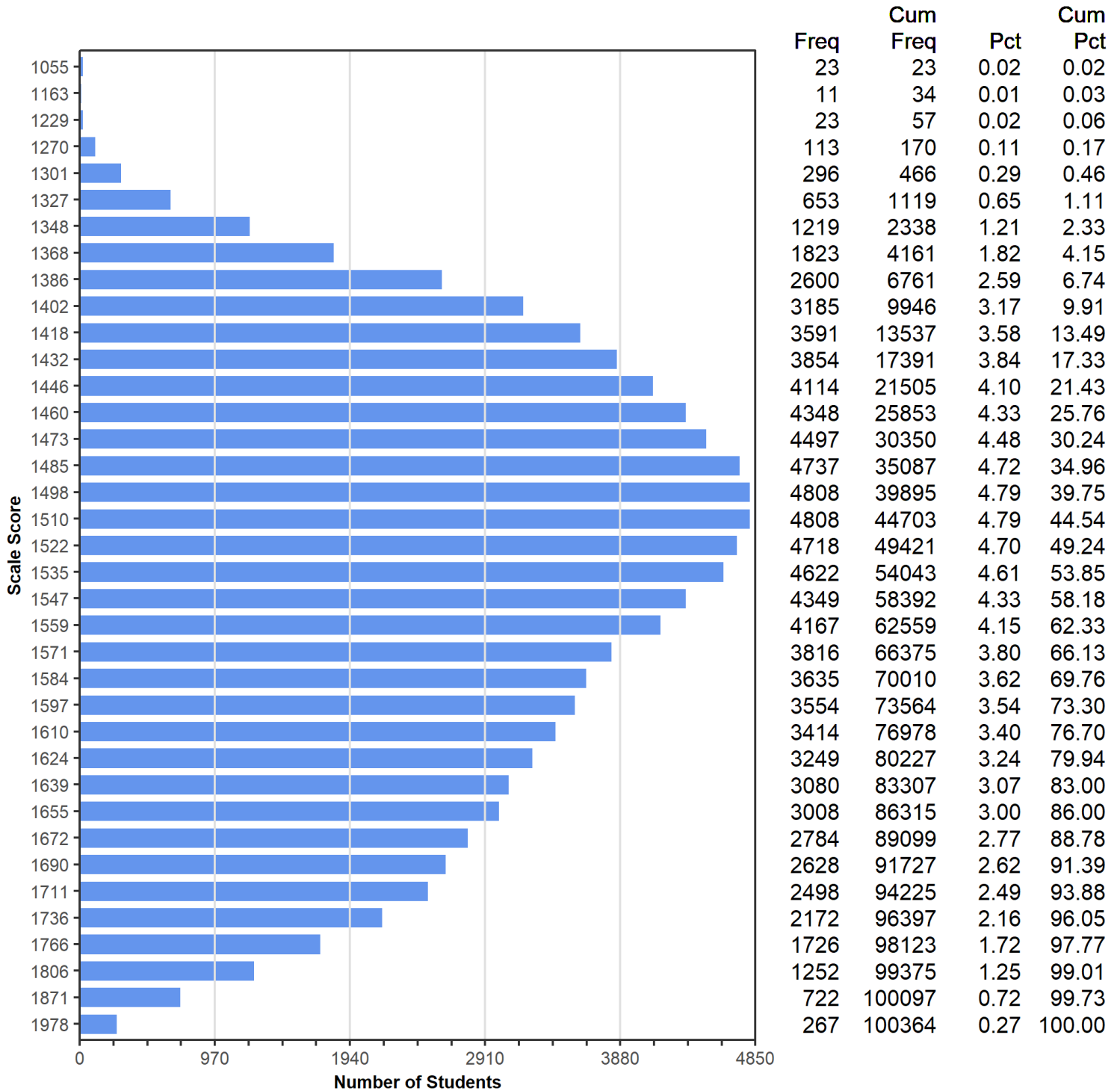
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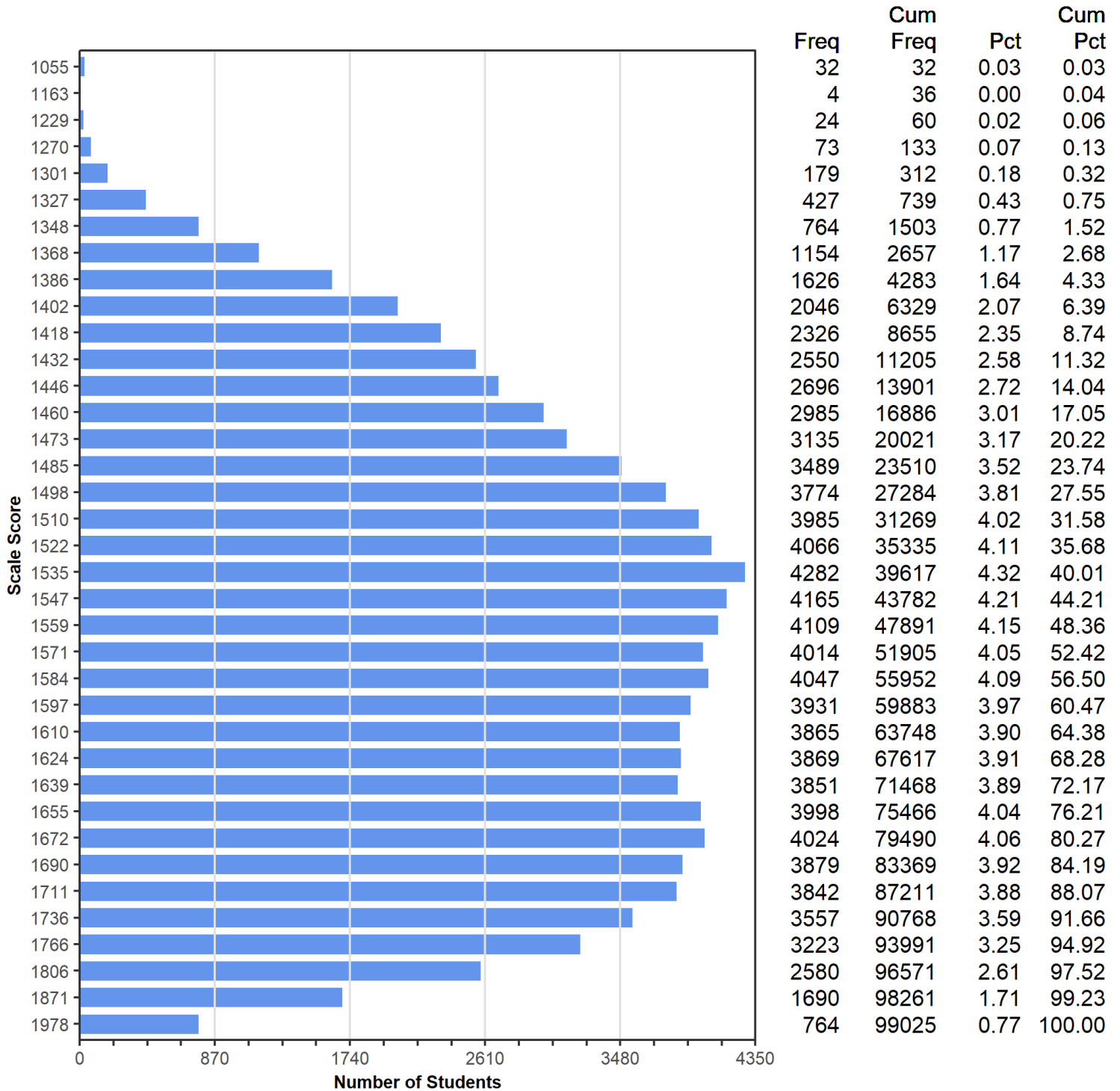
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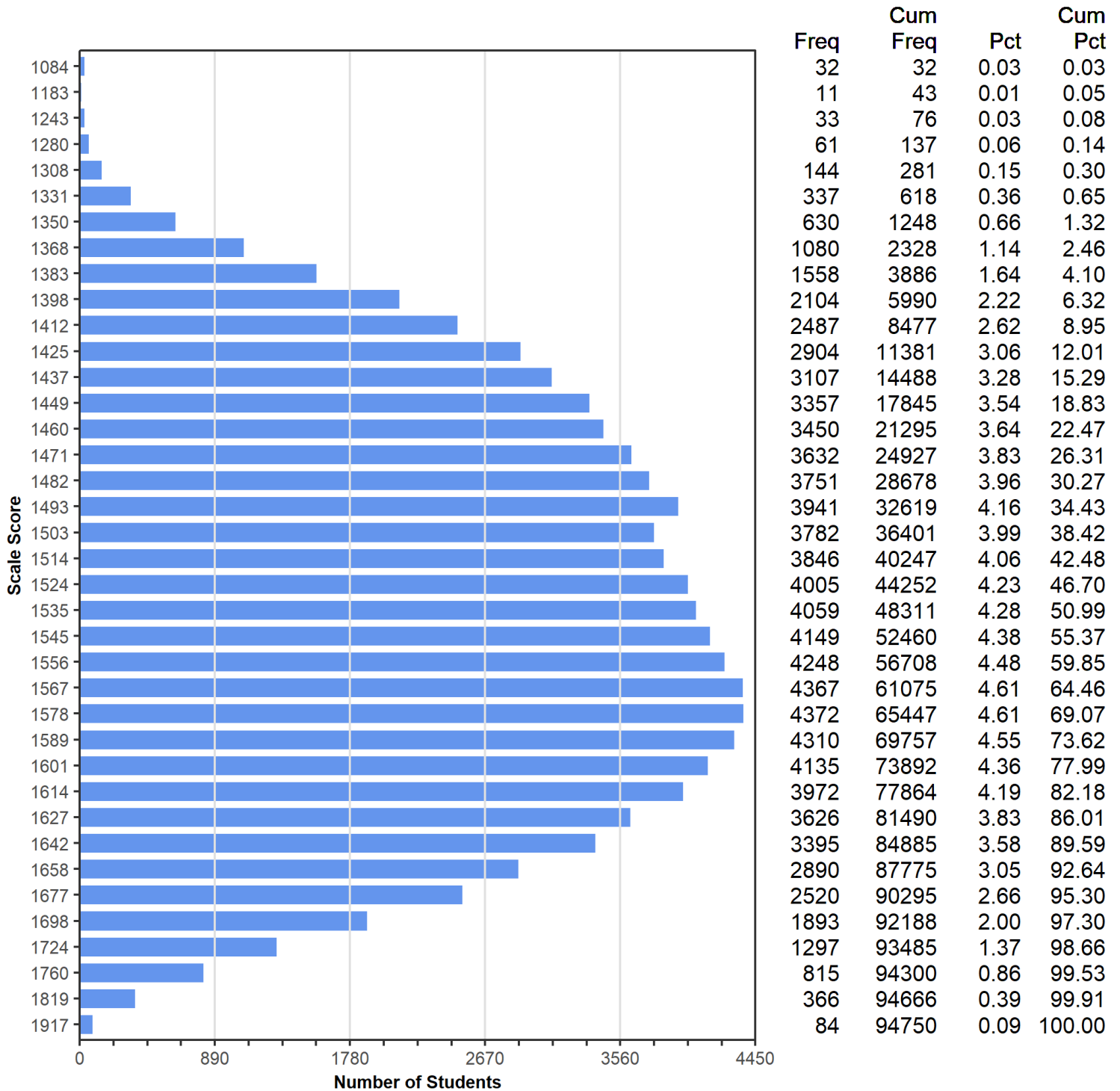
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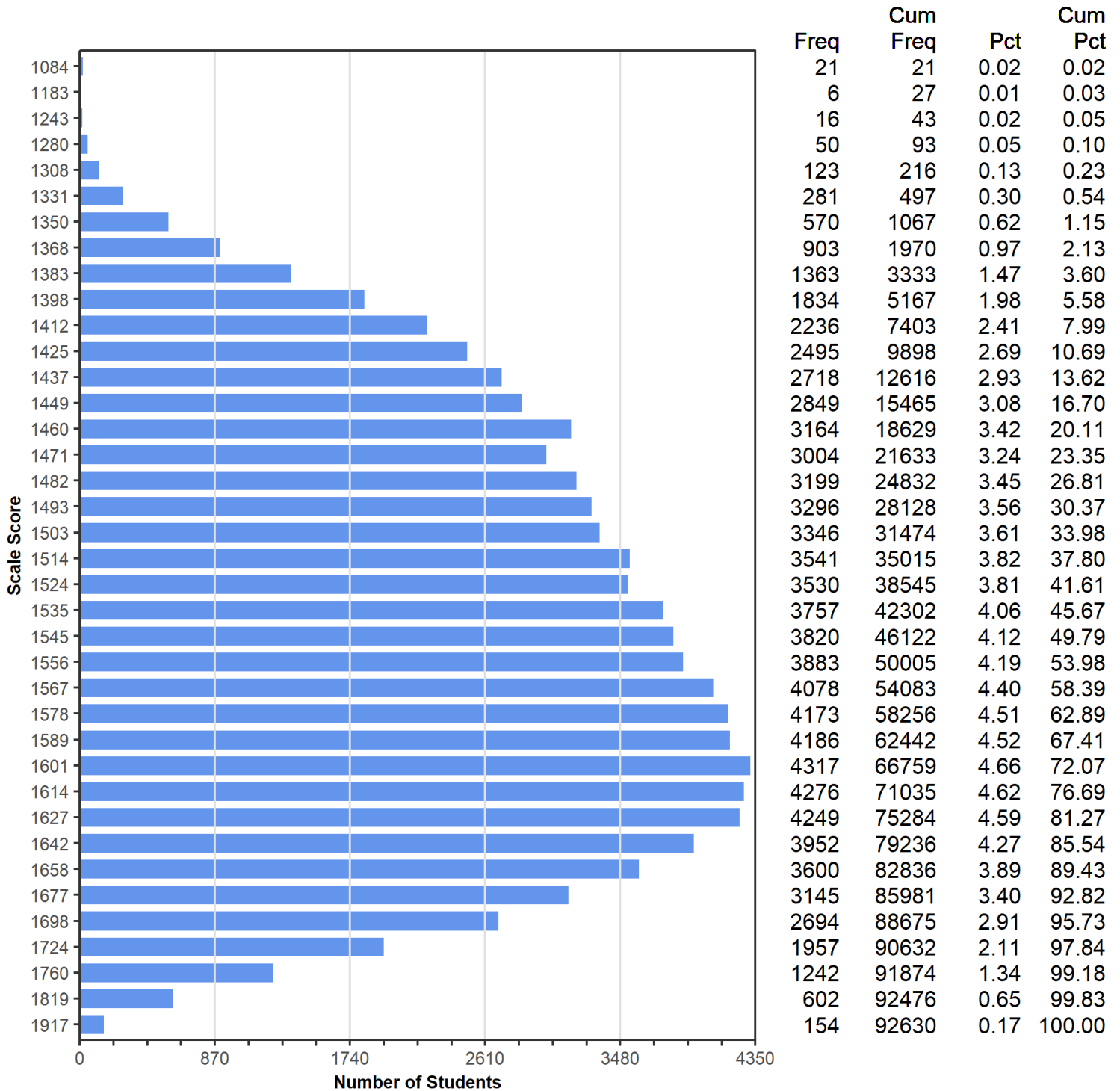
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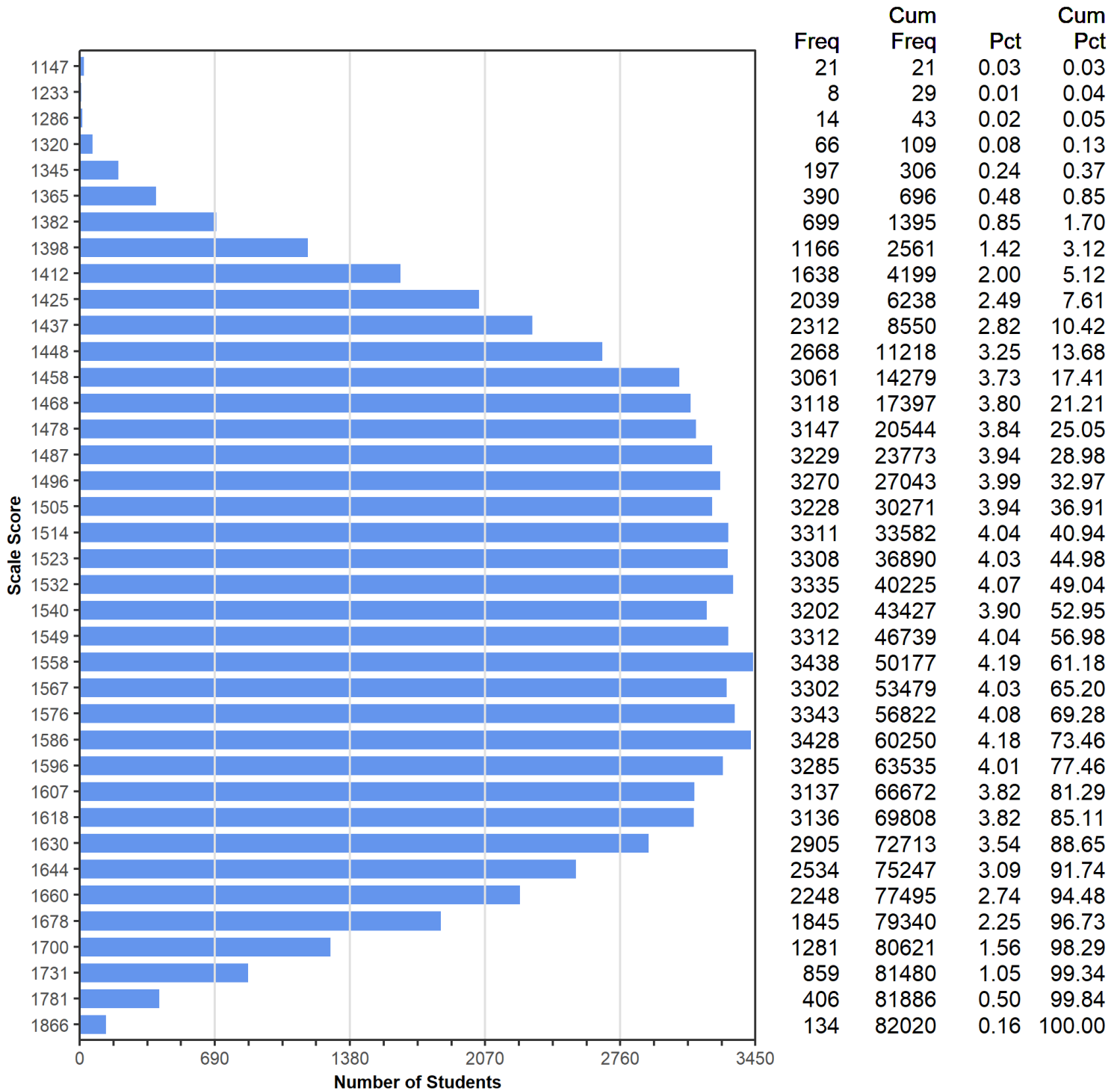
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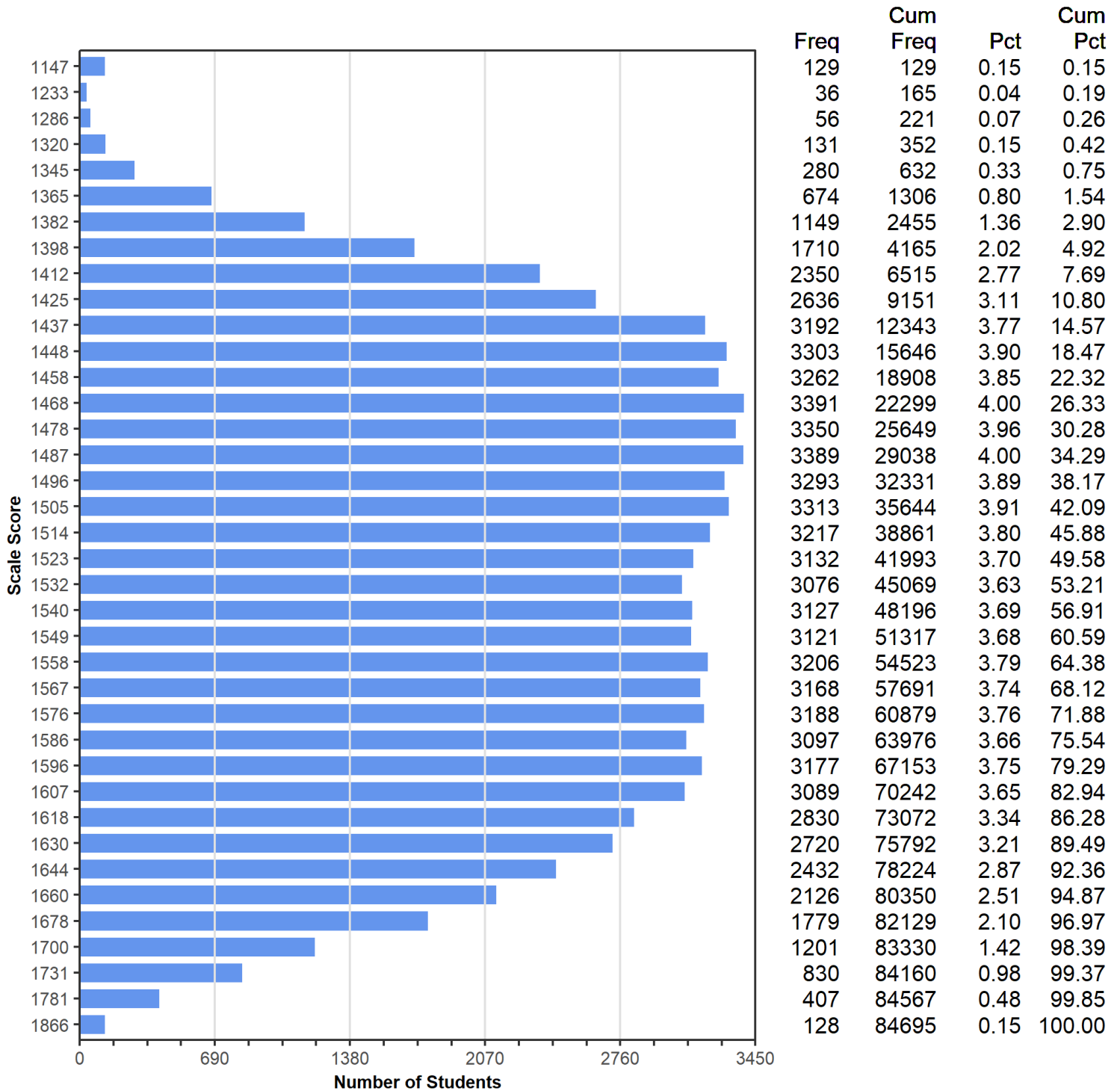
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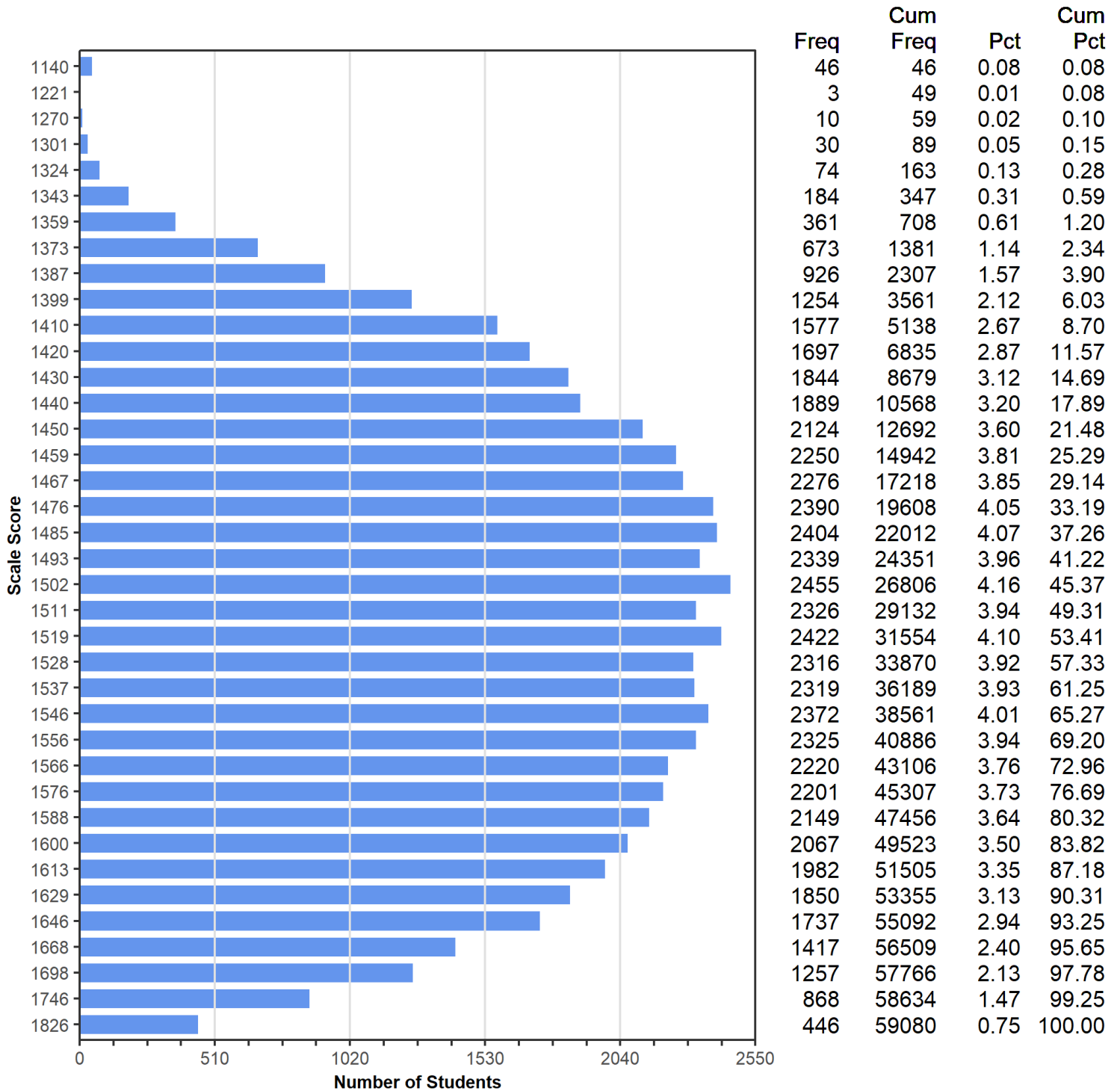
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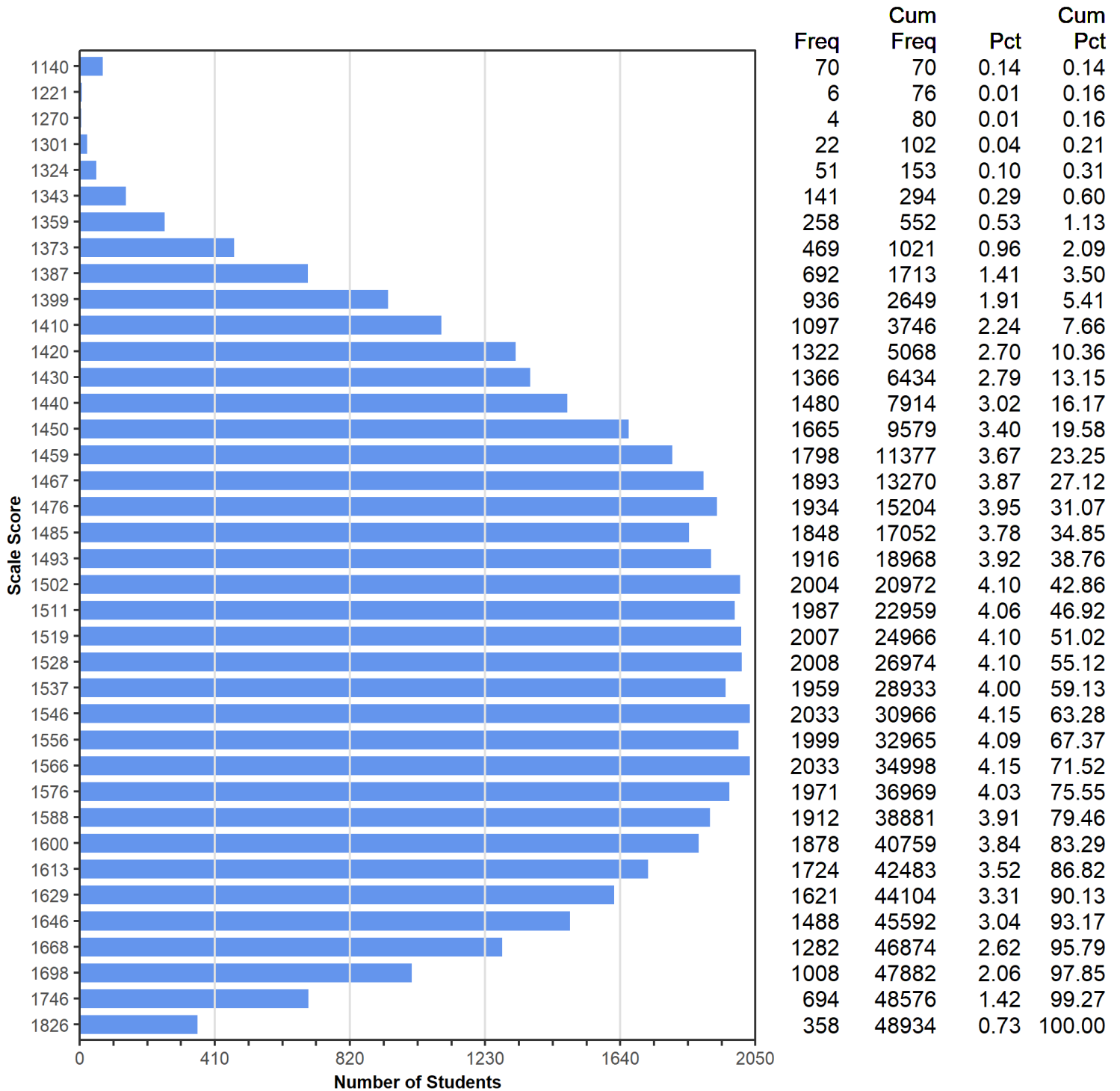
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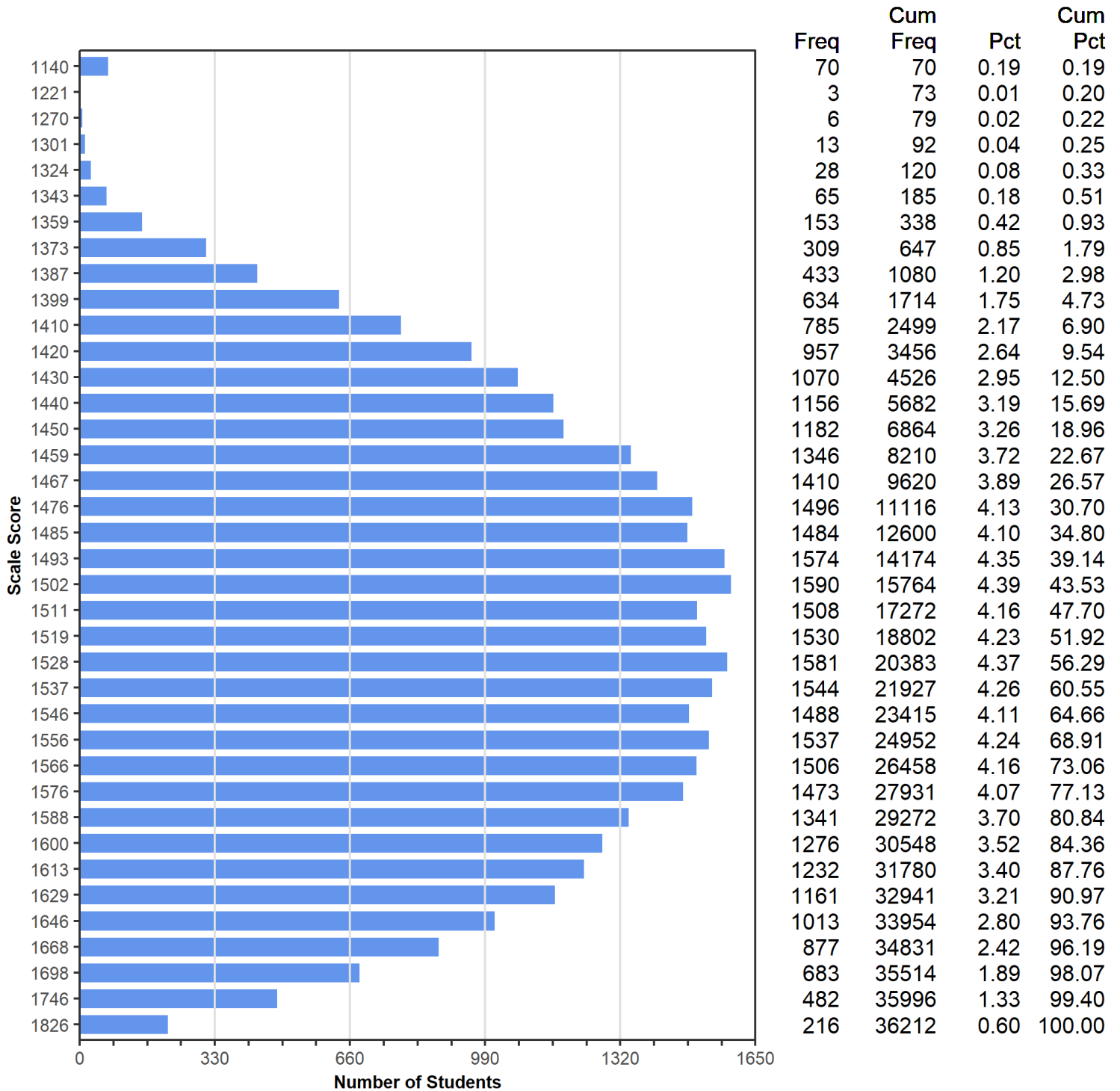
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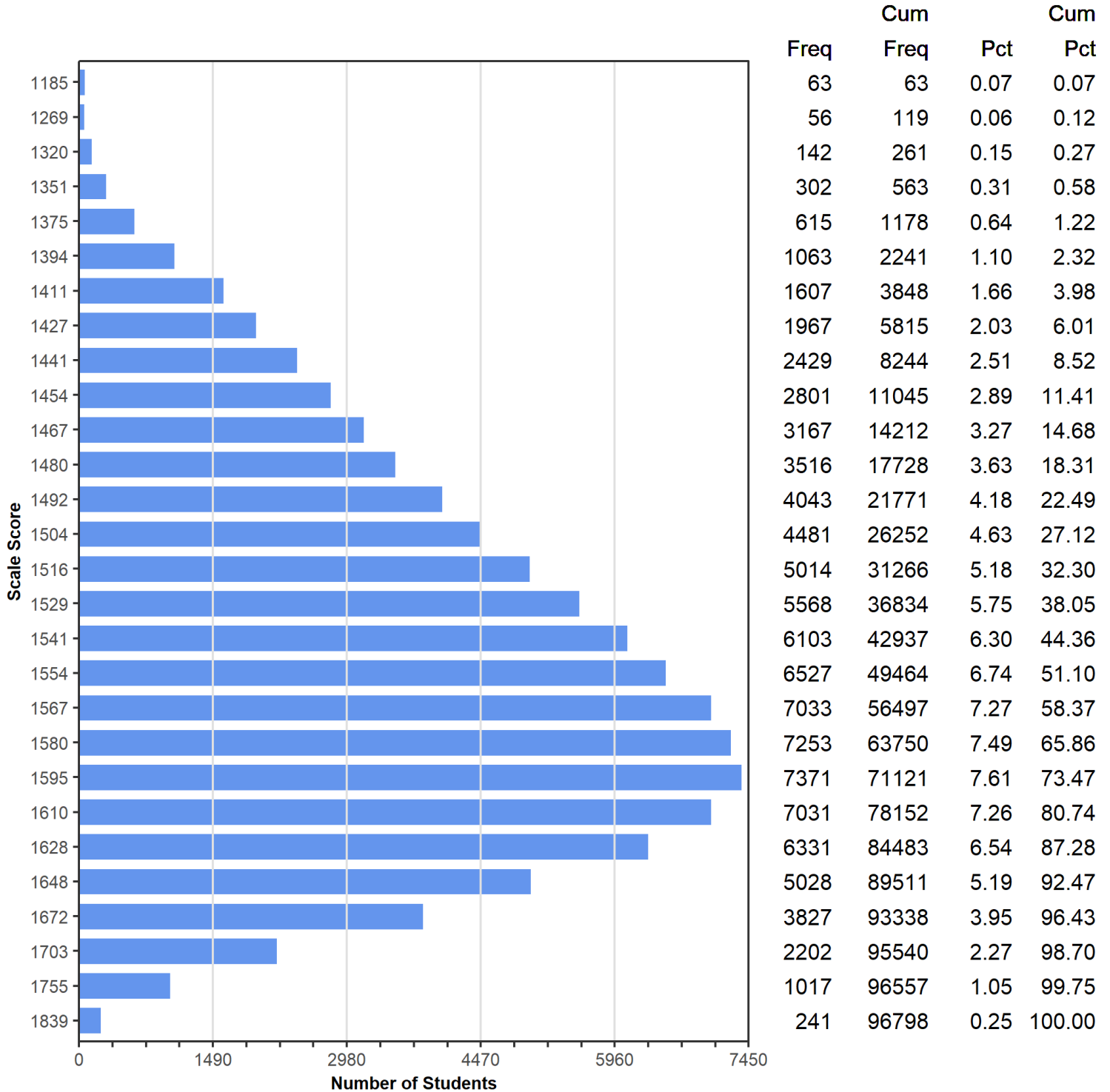
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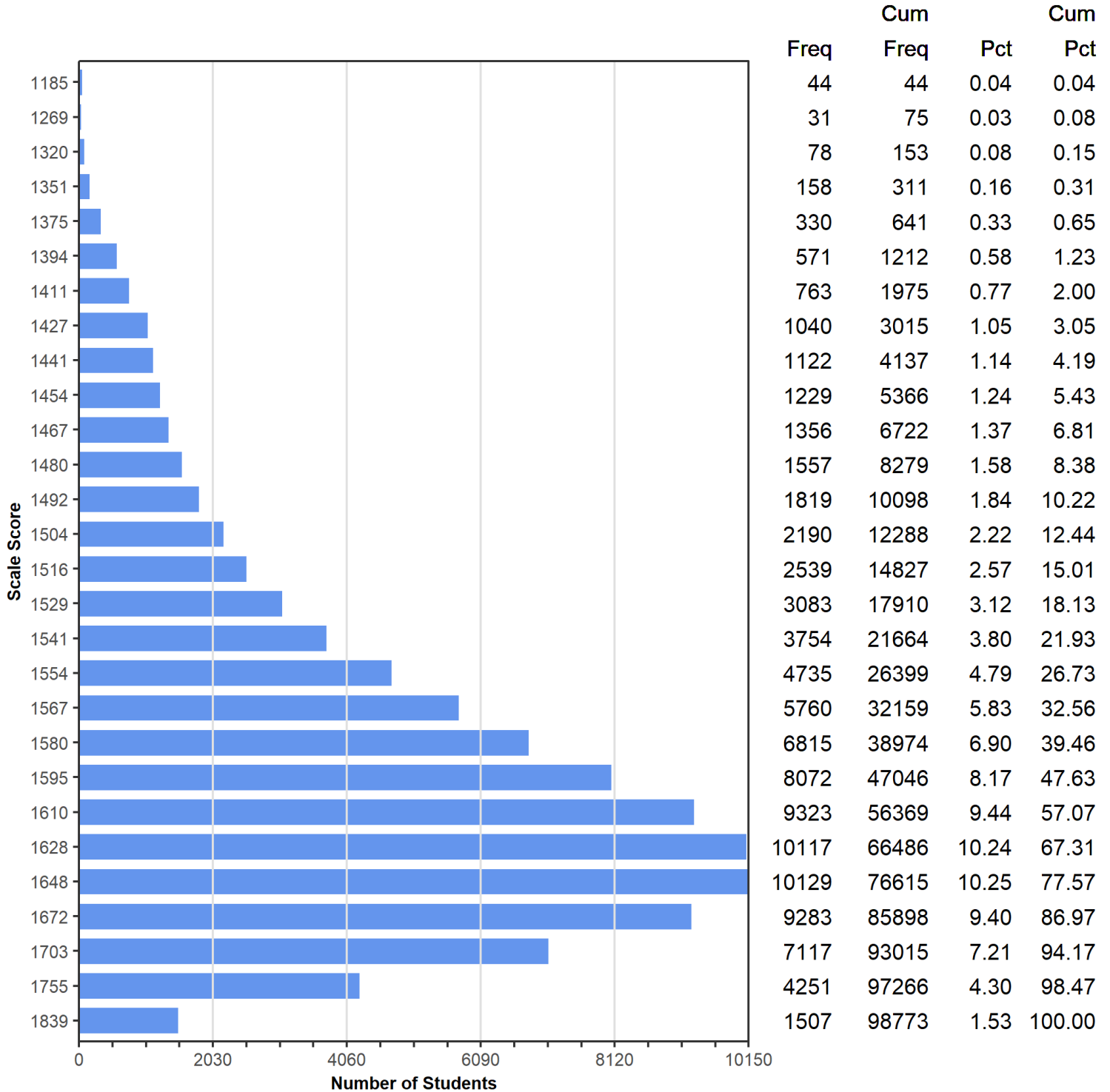
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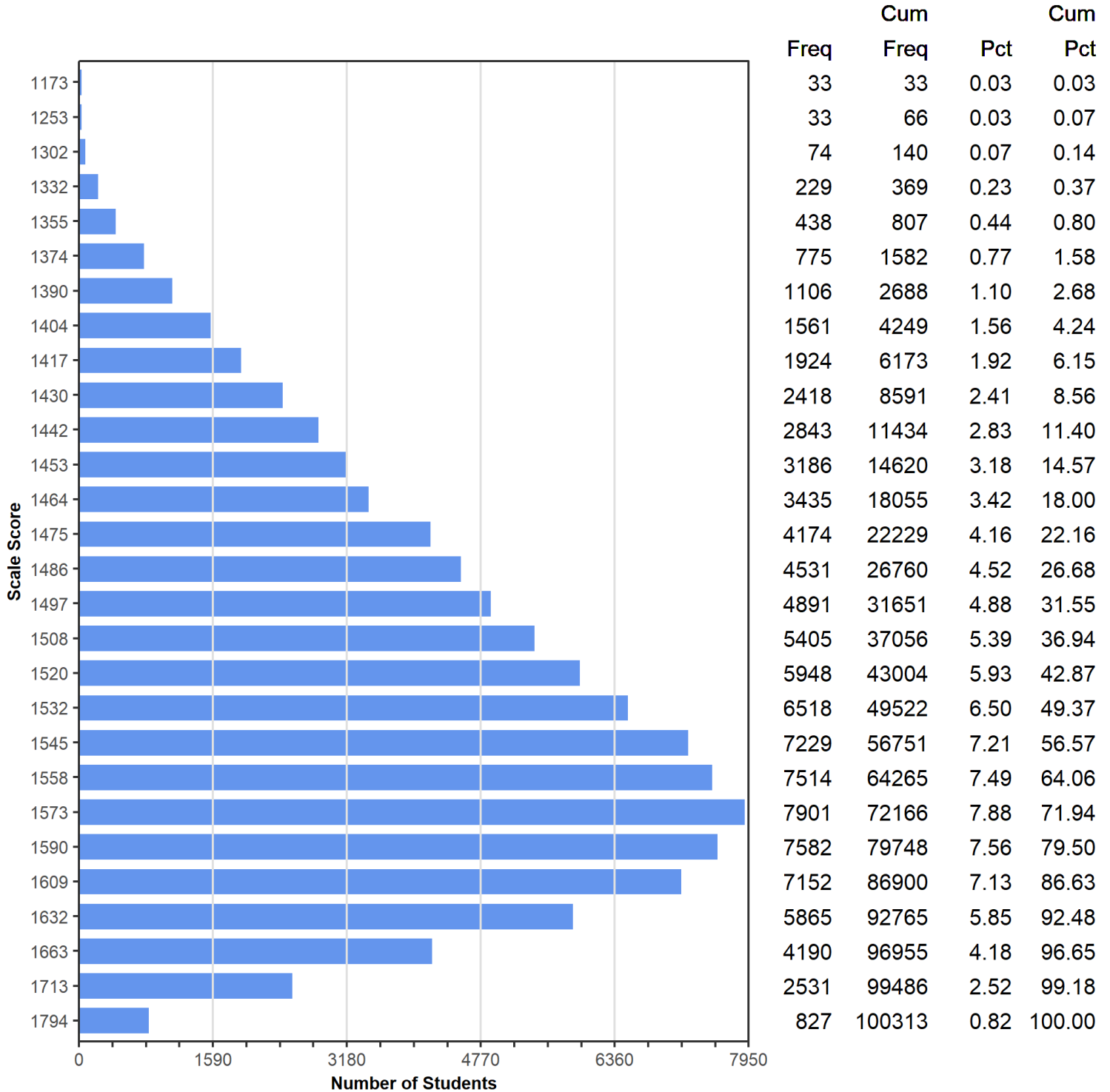
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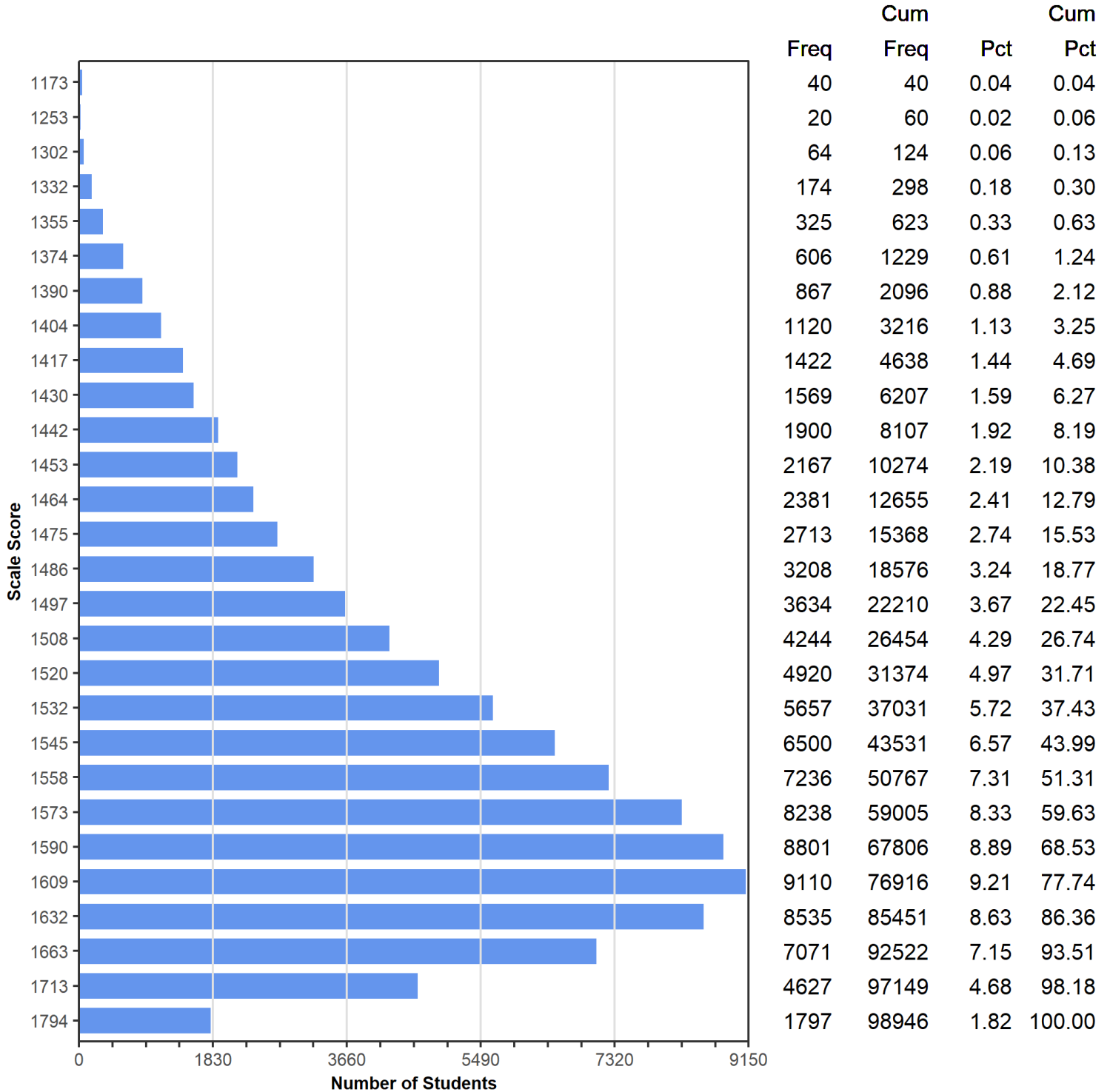
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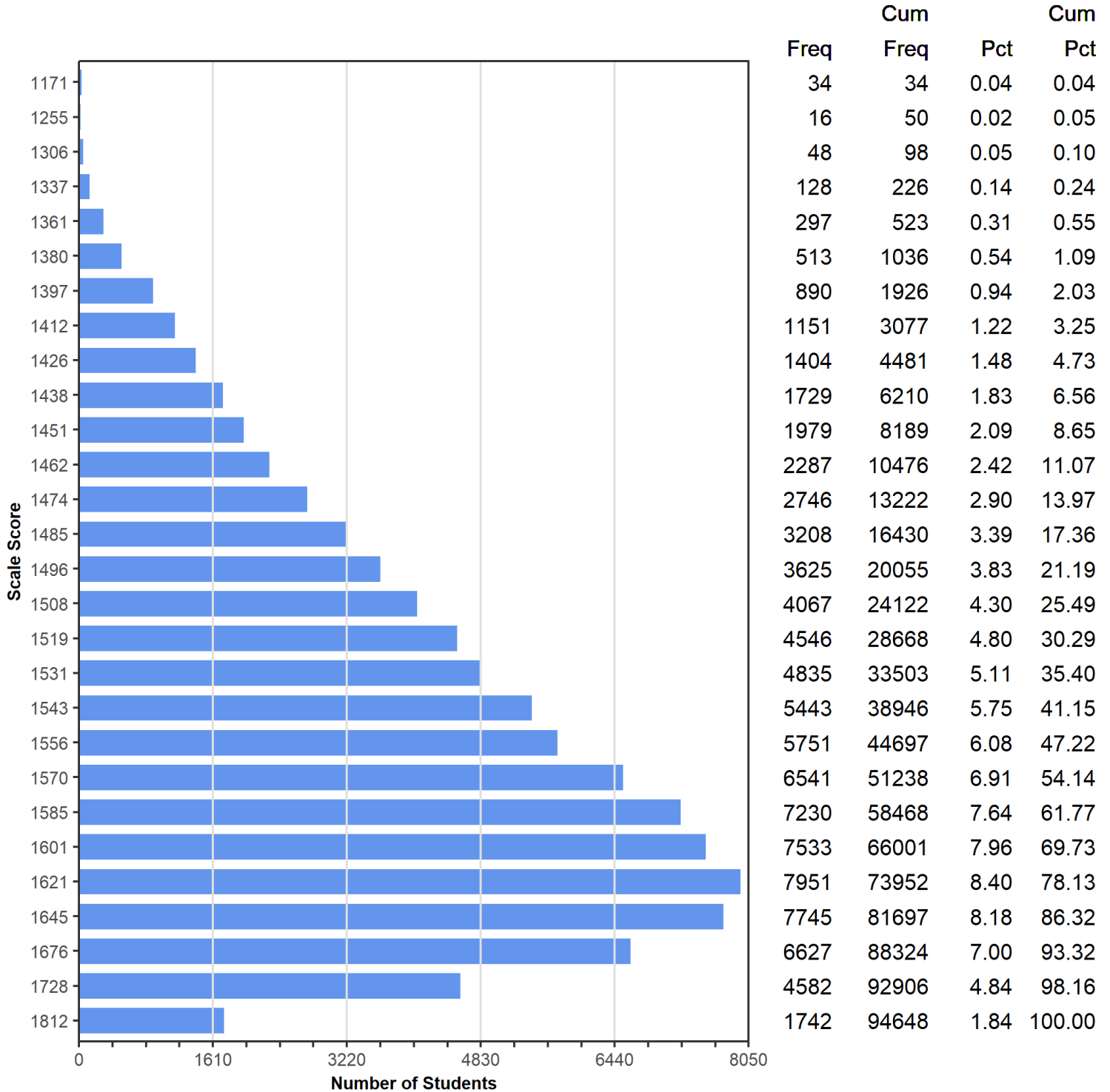
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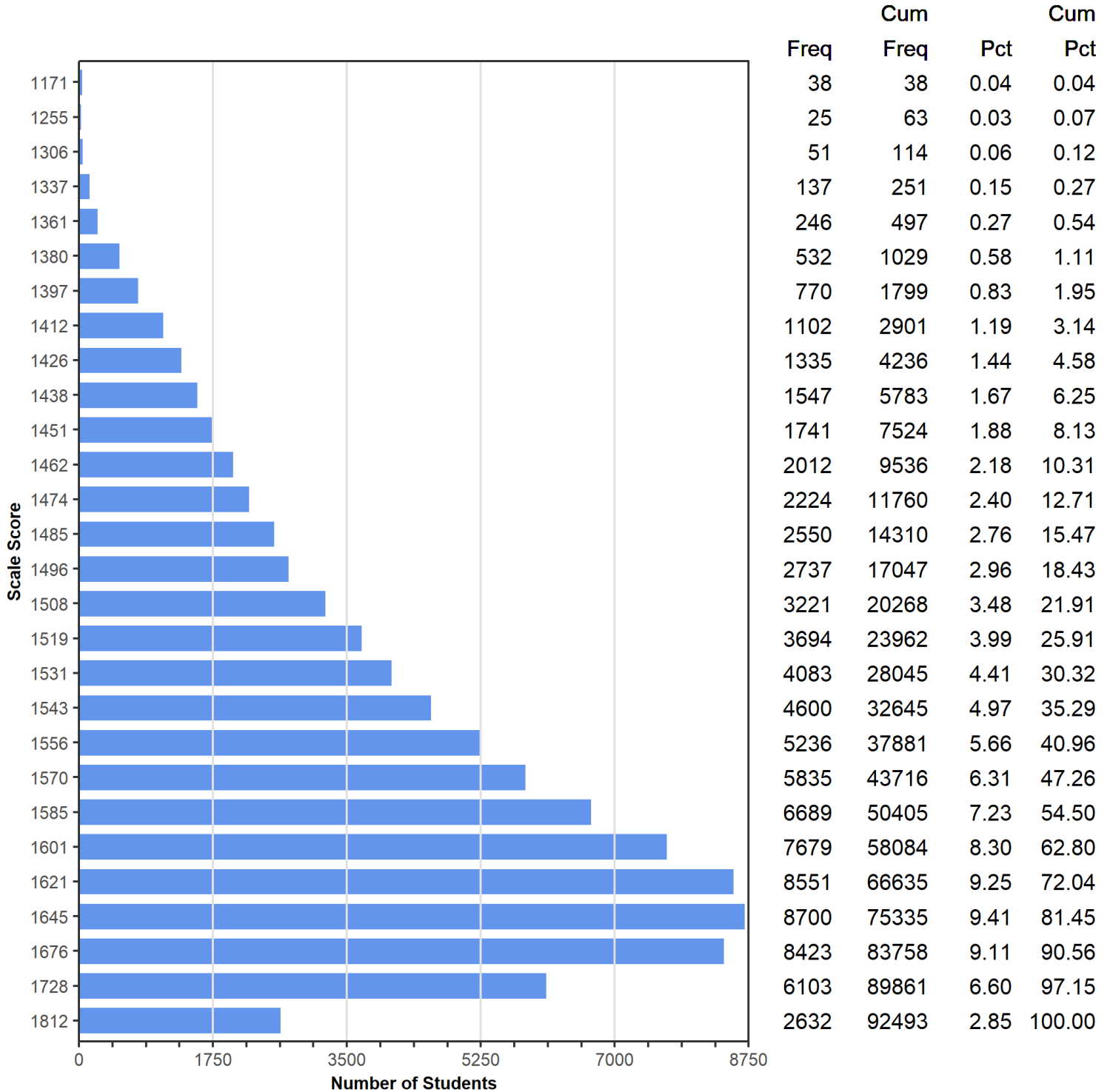
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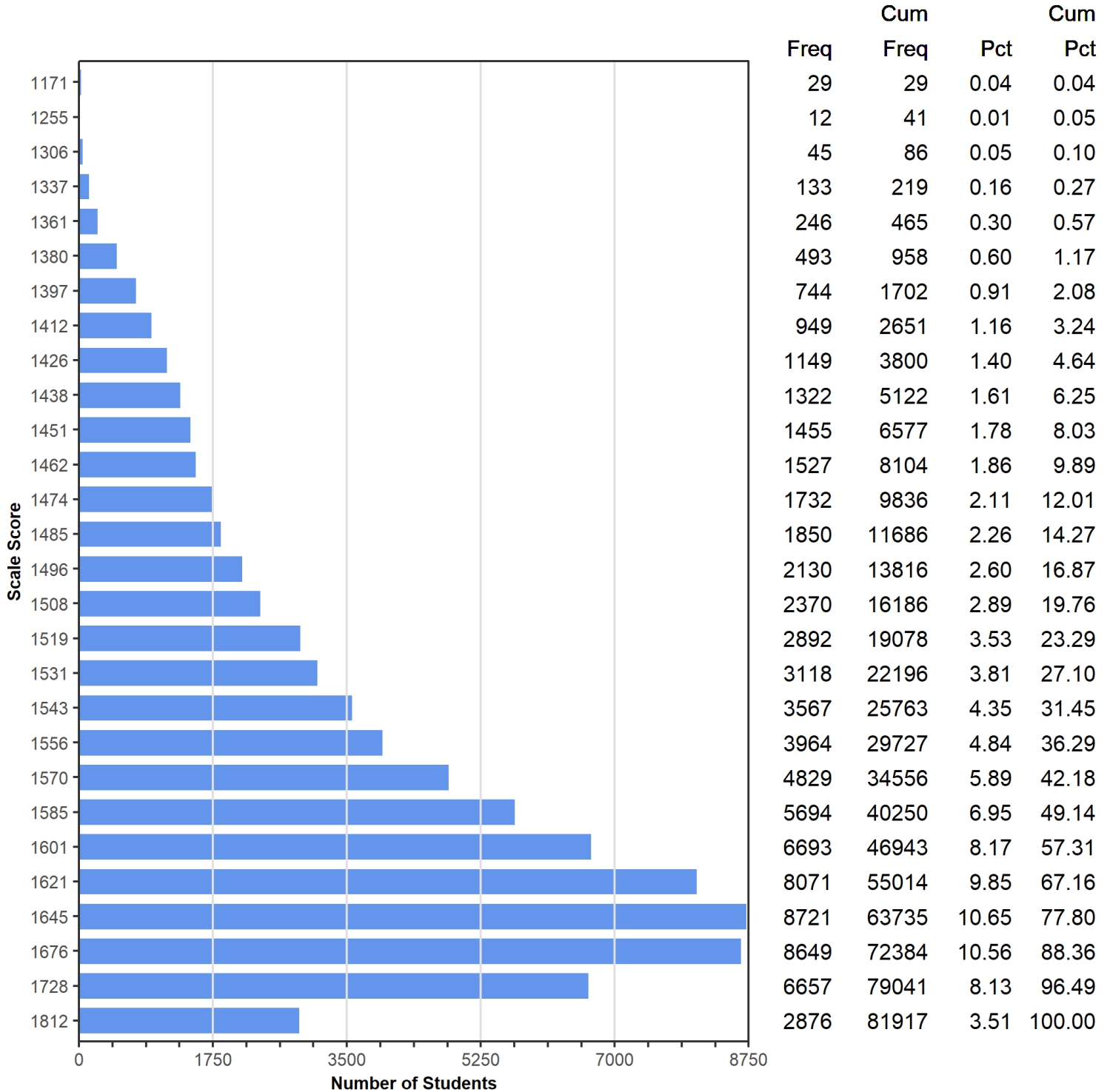
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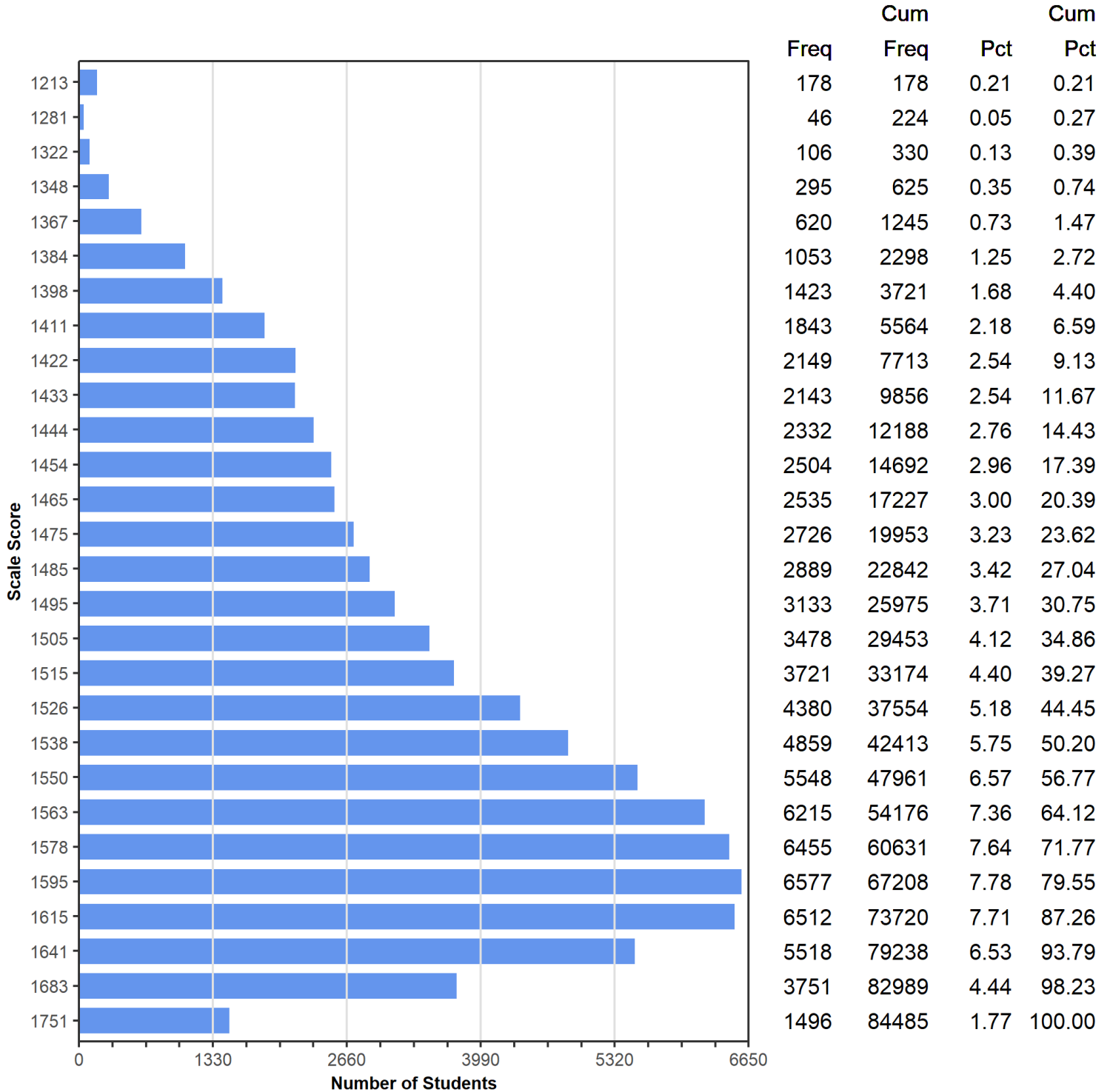
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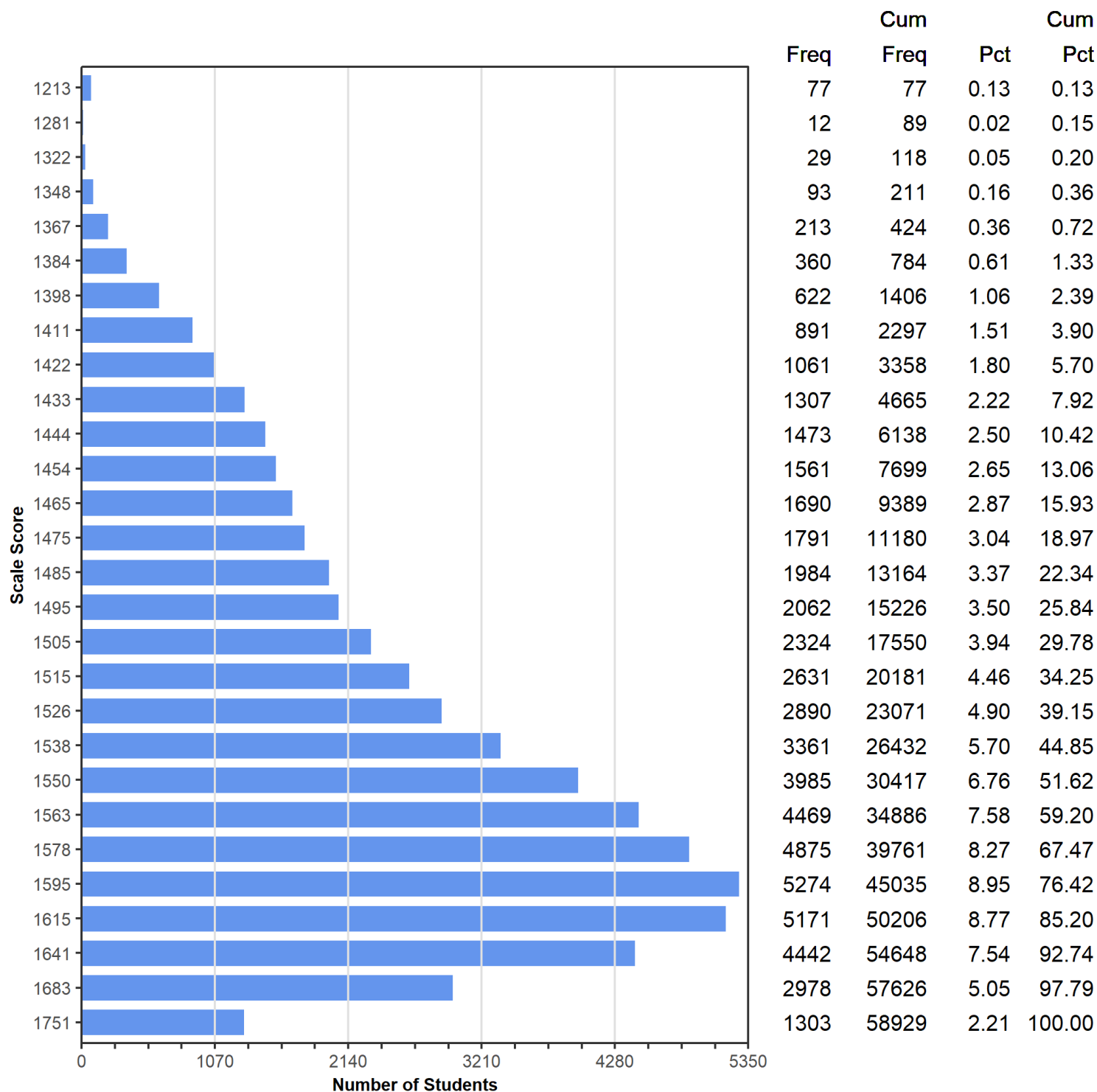
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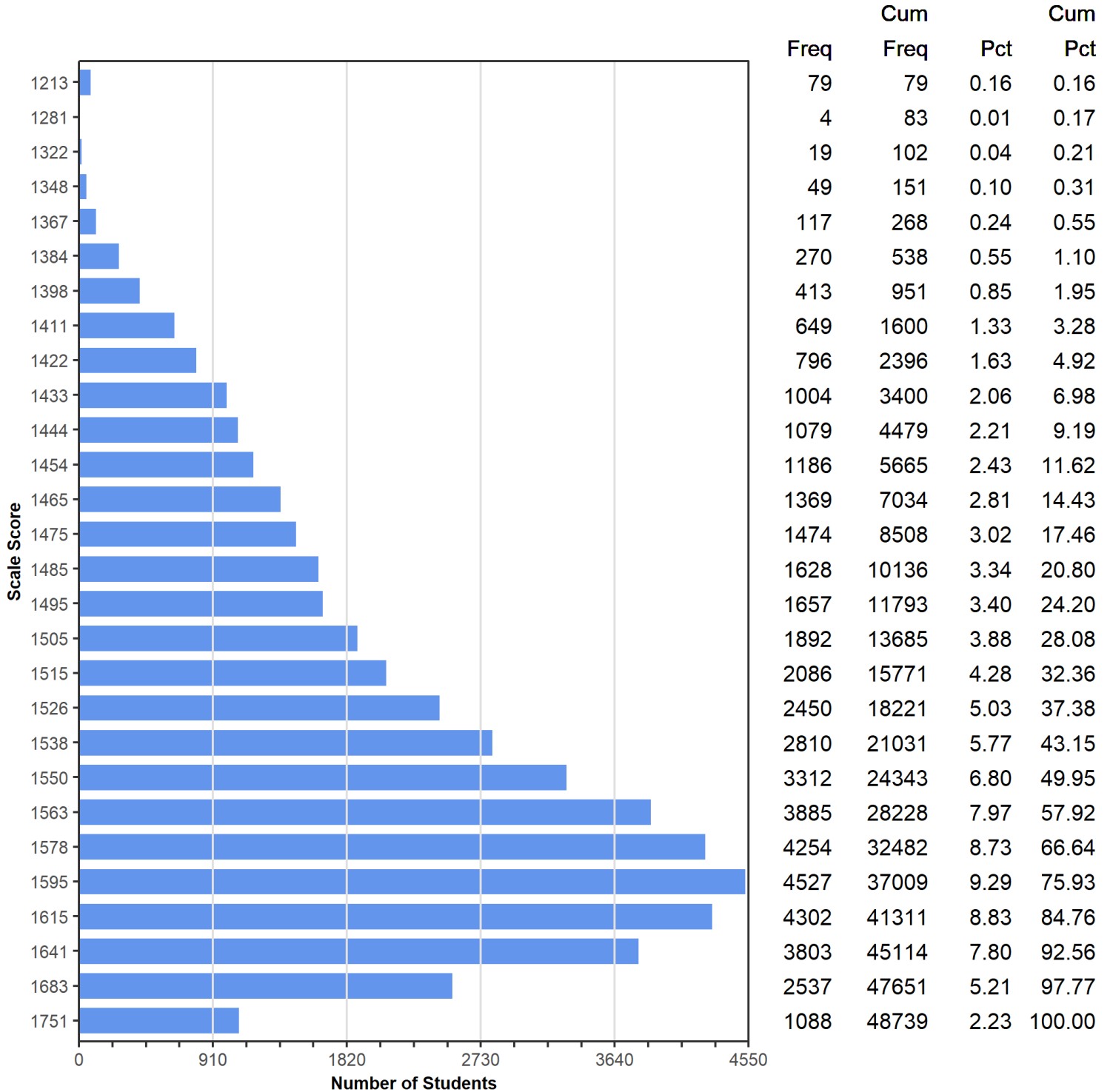
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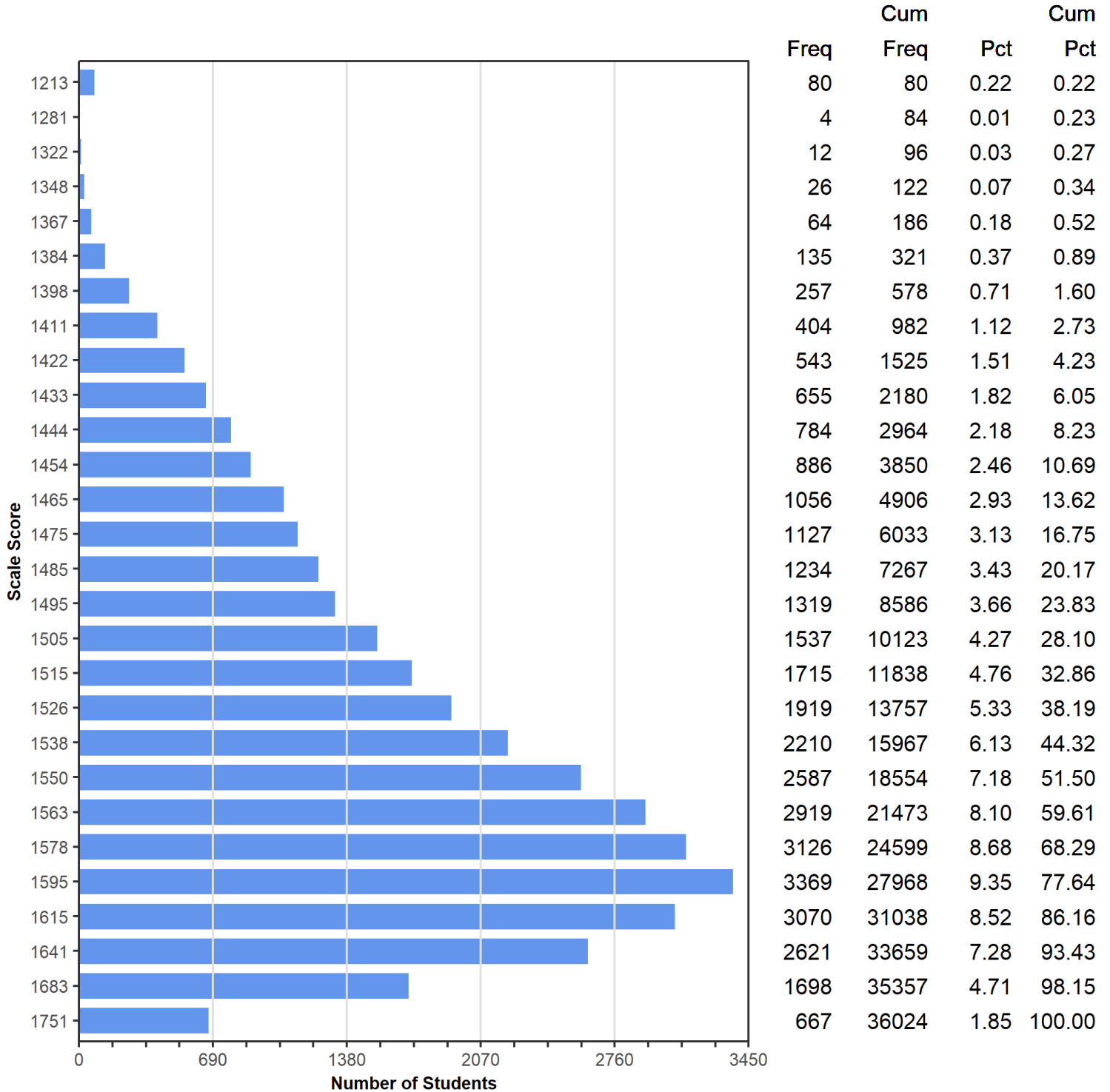
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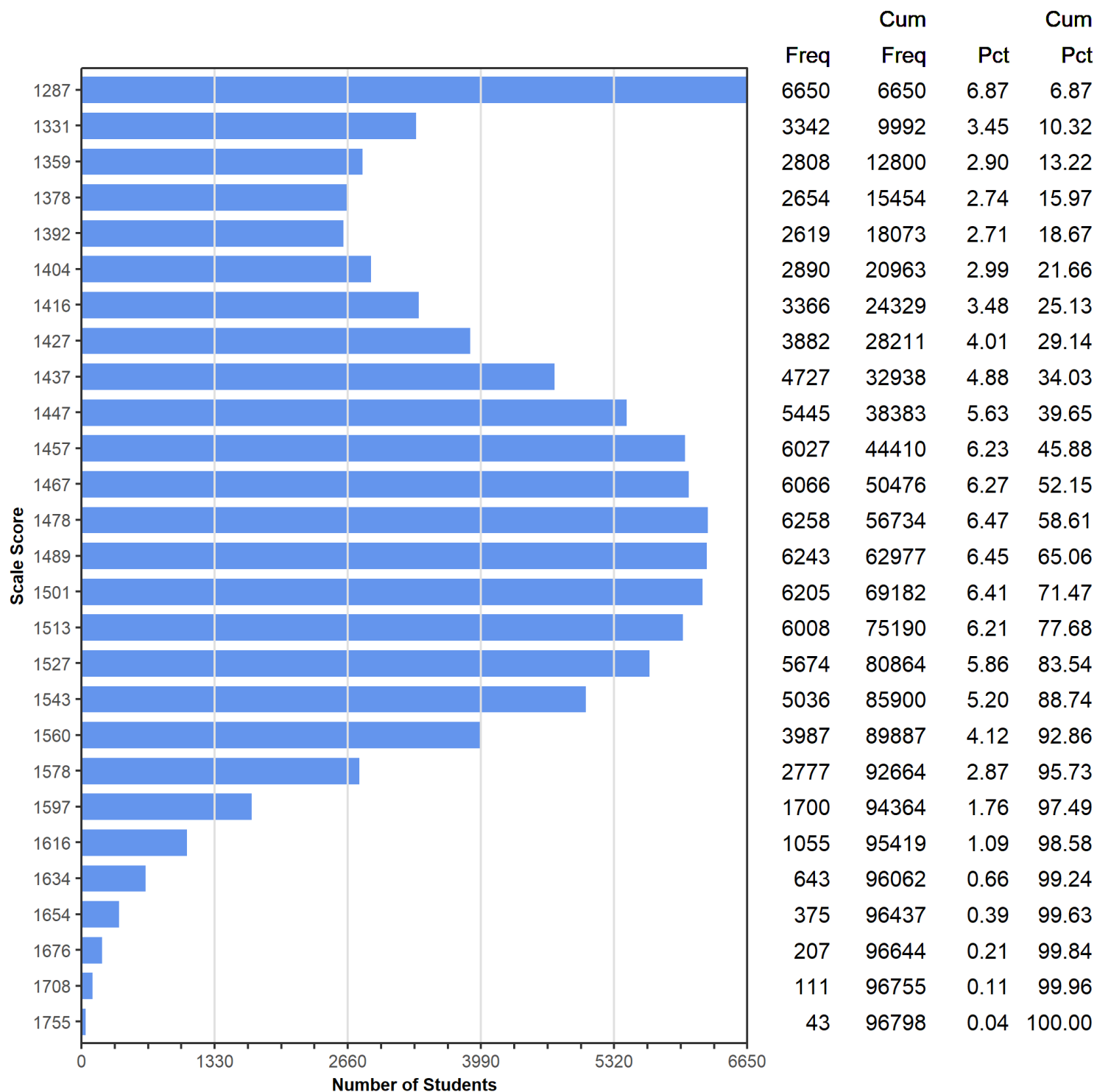
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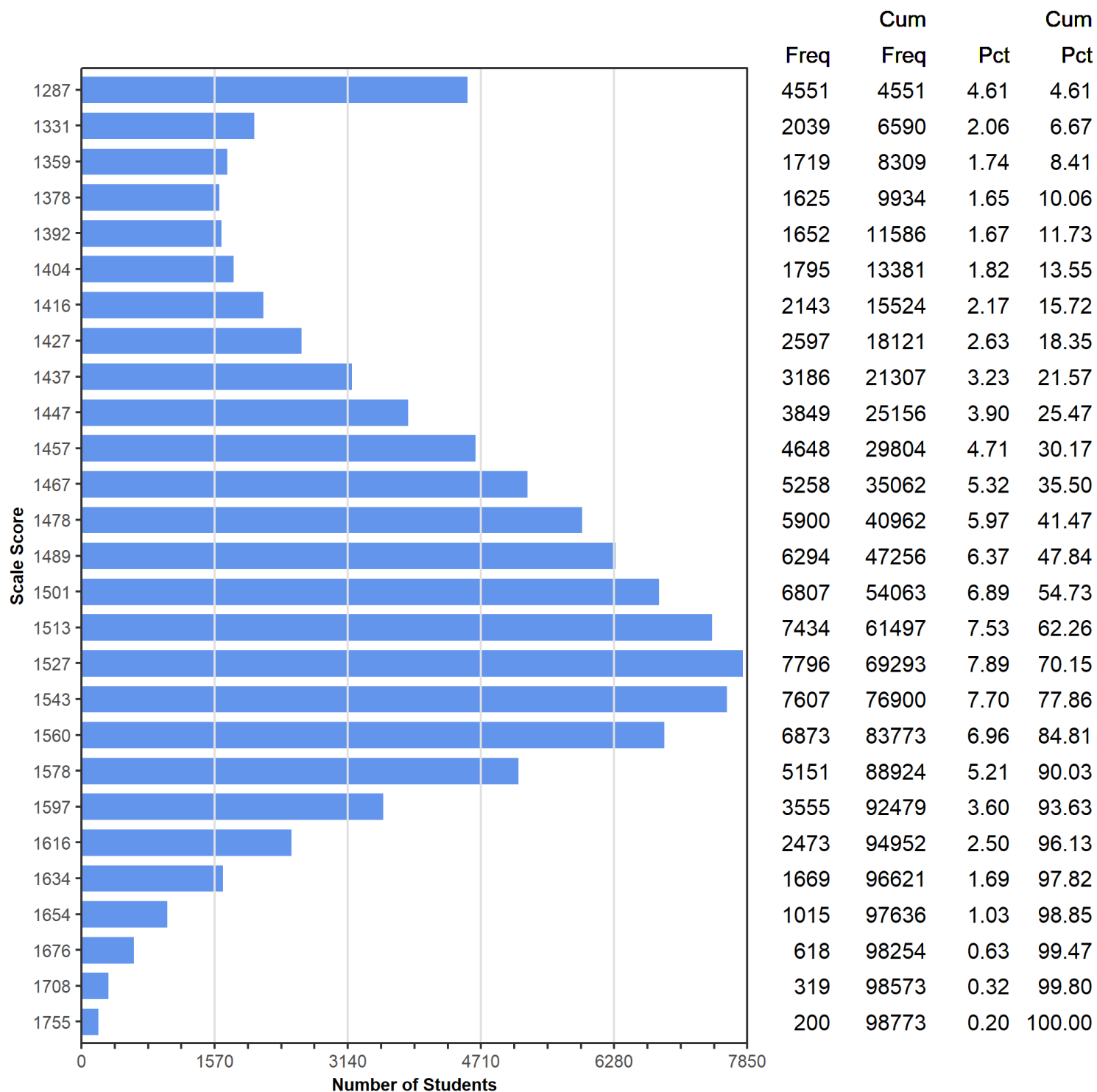
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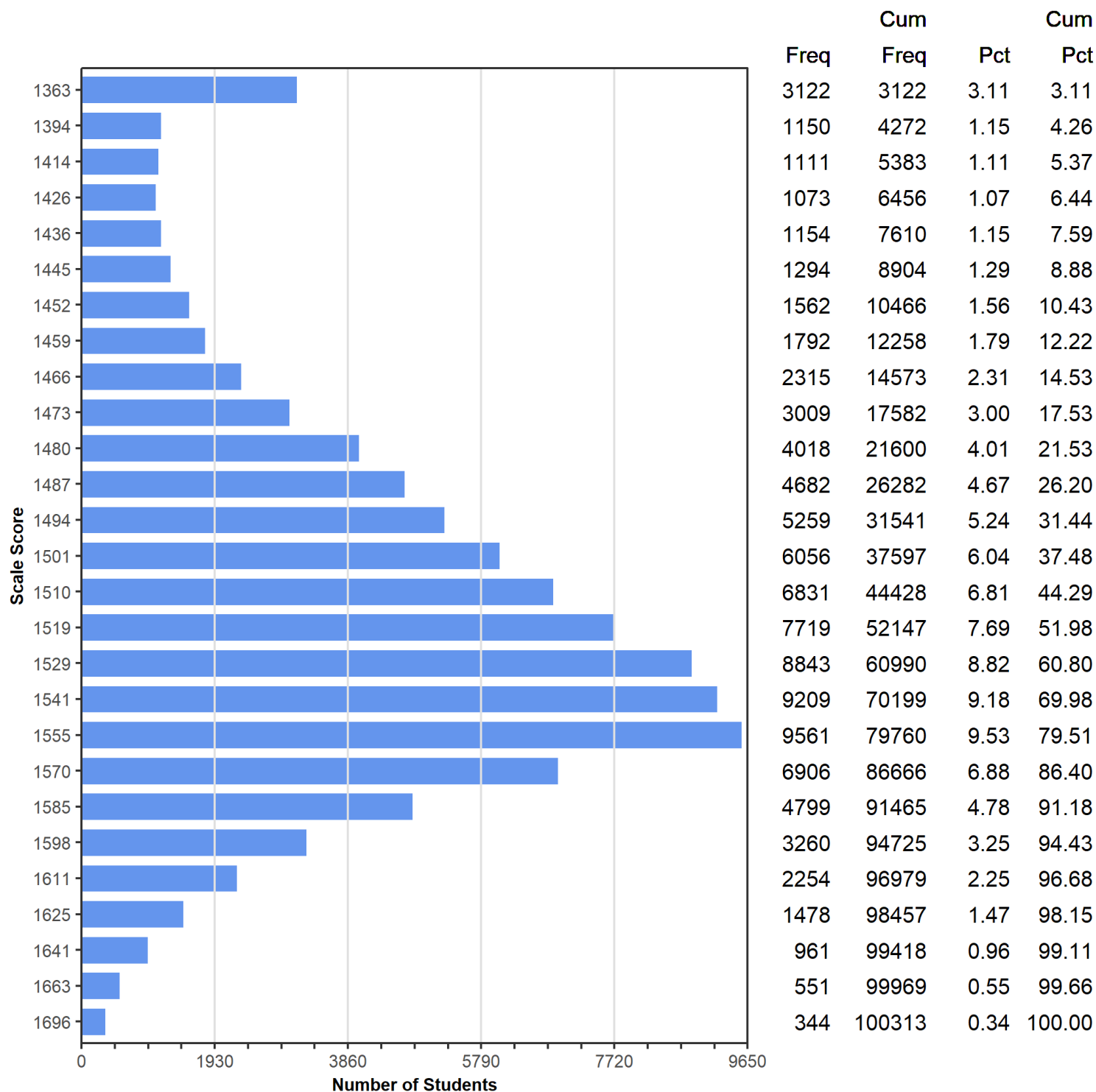
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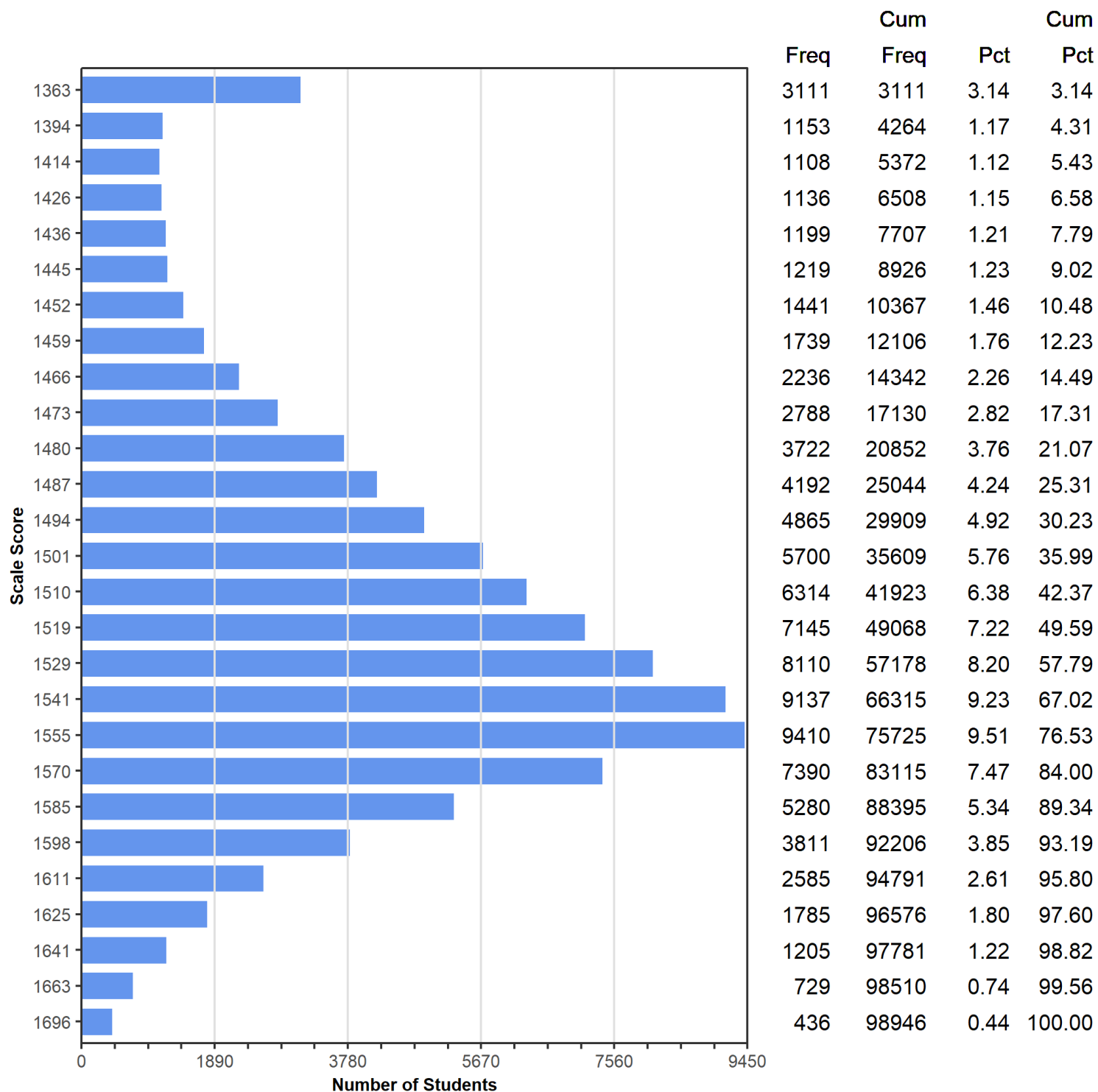
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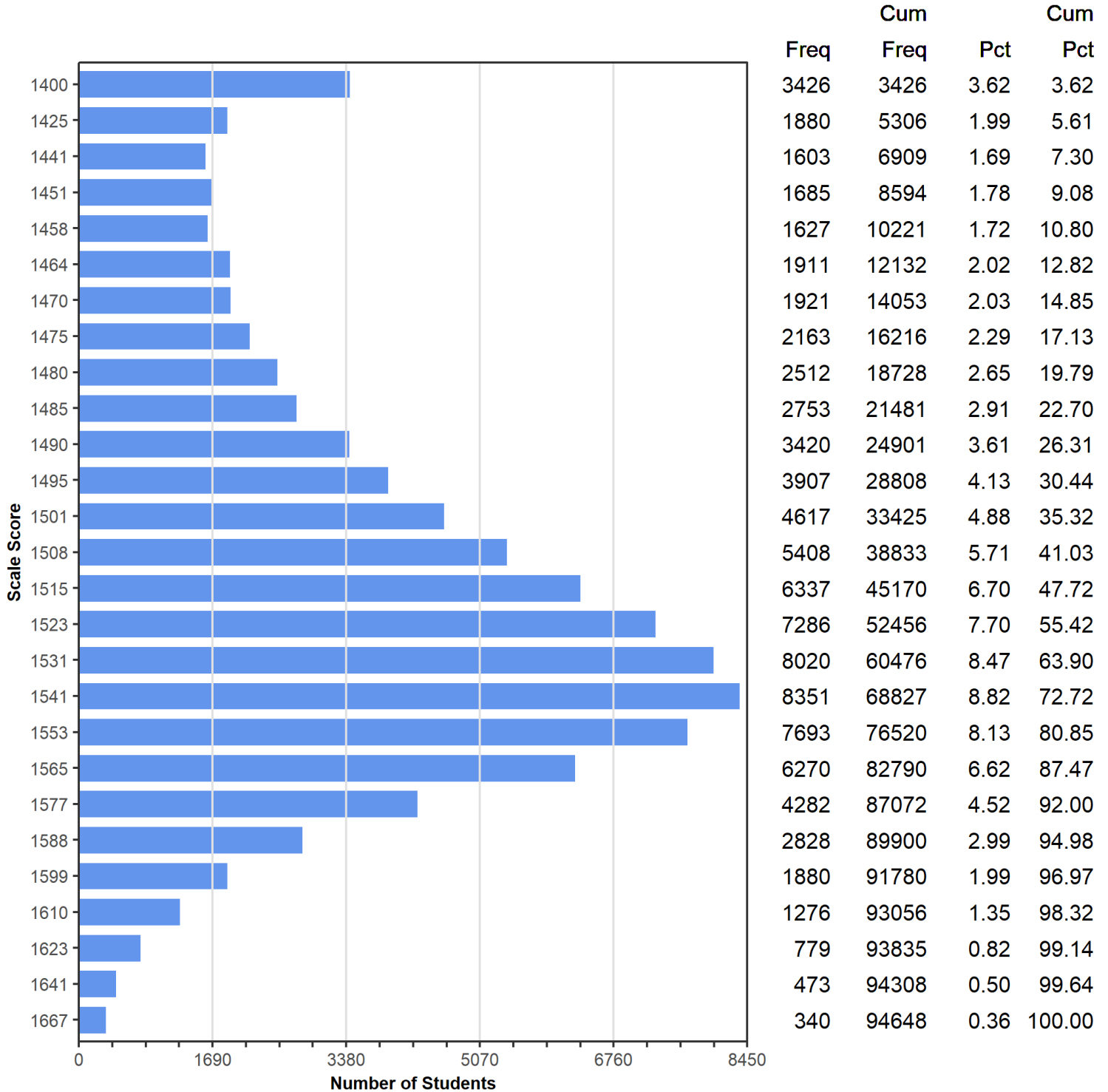
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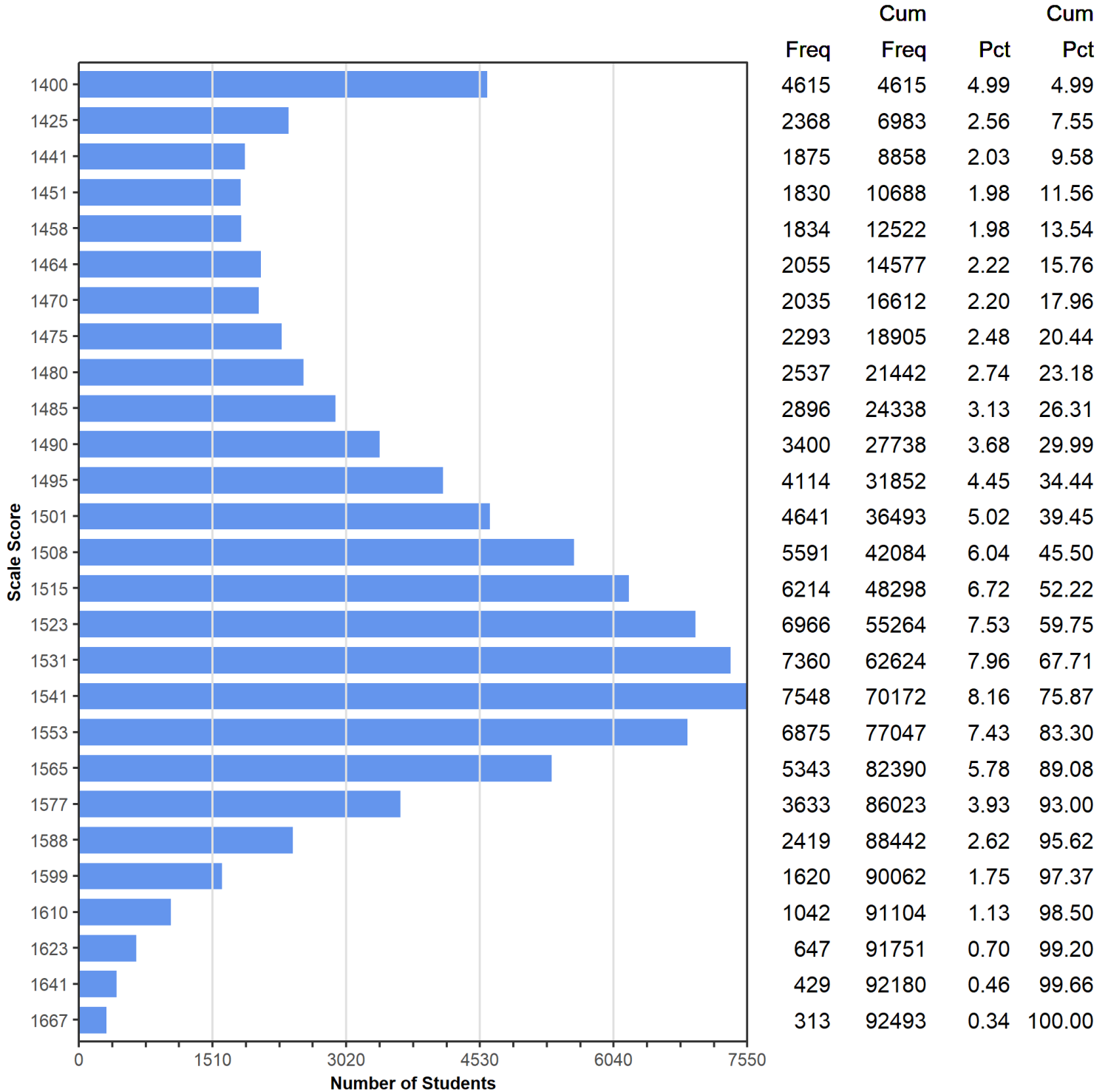
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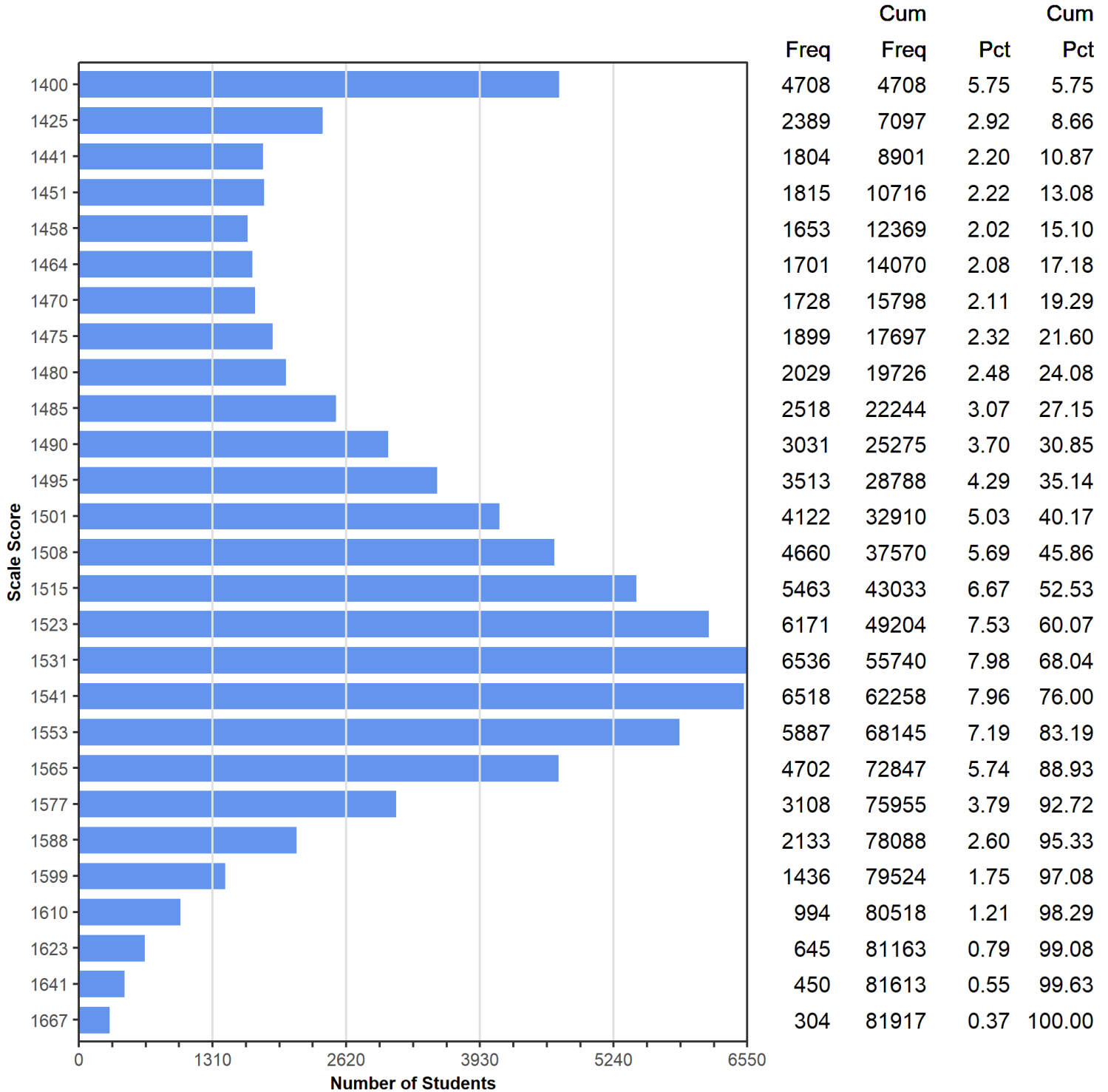
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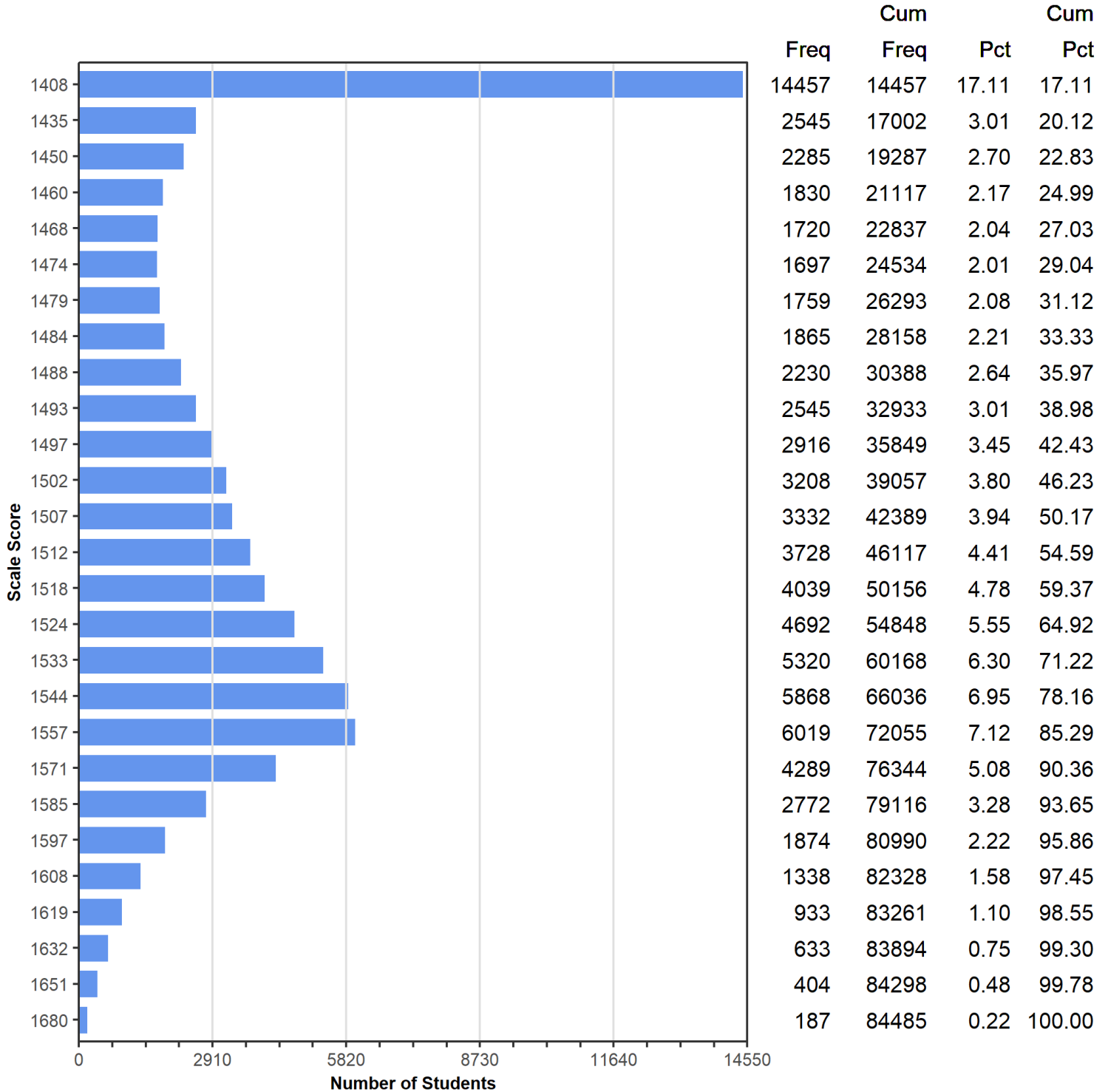
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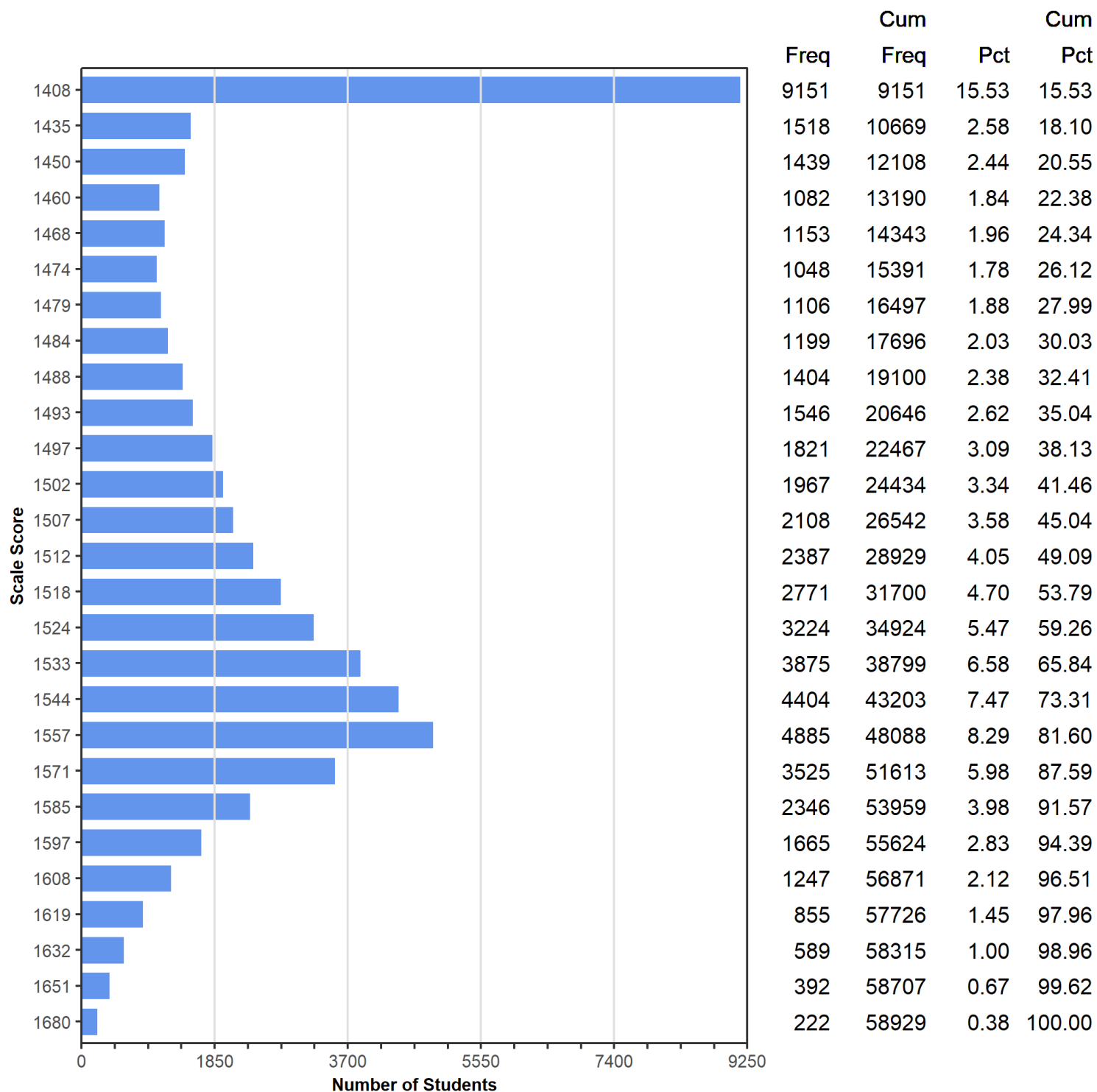
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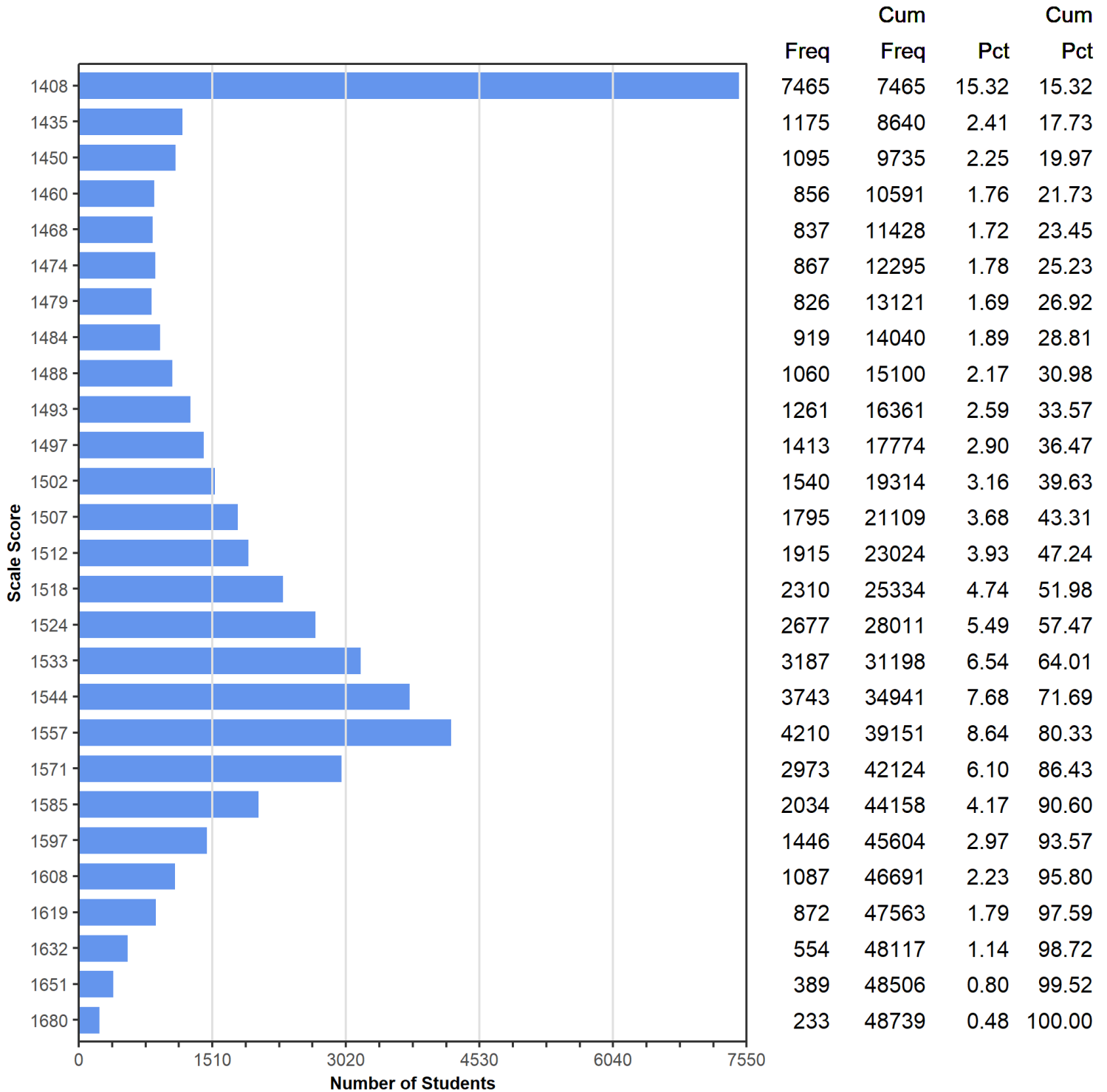
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**Figure D.5.31. Spring 2022 TELPAS Grade 10 Speaking
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**Figure D.5.32. Spring 2022 TELPAS Grade 11 Speaking
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**Figure D.5.33. Spring 2022 TELPAS Grade 12 Speaking
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