

# Thurstone's Crime Scale Re-Visited

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In 1927, Louis Thurstone published a paper explicating the method of paired comparisons utilizing for this purpose the scaling of 19 criminal offenses. The purpose of his study was to further the cause of producing linear scales of social values. It was his lifelong task. The results of the 1927 study produced a crime scale that was replicated in order to determine how rankings of criminal offenses in 1927 compared to those of 1998, slightly more than that 70 years.

Thurstone chose these 19 offenses:

Abortion	Embezzlement	Perjury
Adultery	Forgery	Rape
Arson	Homicide	Receivingstolengoods
Assault and battery	Kidnapping	Seduction
Bootlegging	Larceny	Smuggling
Burglary	Libel	Vagrancy
Counterfeiting		

## Method

Thurstone arranged the criminal offenses so each was paired with each of the other listed offenses. This produces  $(n - 1) = 171$  pairs. He administered the list to 266 students at The University of Chicago. In preliminary work, Thurstone found that some college students were not familiar with various terms, so he provided a sheet of definitions.

## Sample

I used the same set of pairs and with the assistance of students in my psychometrics classes, administered the 171 pairs with the same definitions to a large number of samples including, for the sake of this comparison, 260 college students. As near as I can determine, my study replicated his methodology in sample size and composition. The materials used were exactly the same.

## Results

Paired comparisons for the 19 offenses produces a large

array of items, 171, which presents a considerable task to each subject, but an even greater task when tabulated by hand and transformed from individual responses to tally sheets, subsequently totaled and converted from proportions to a linear scale.

The development of linear scaling was a goal of Thurstone and the method of paired comparisons was one of the techniques he used. The method of equal interval scaling is another of his methods. But like the method of equal appearing intervals, paired comparisons especially when computed by hand, requires much time and detailed effort. It is no surprise that these onerous methods are ignored in favor of simpler methods such as Likert scaling. [However, I might add that we are the losers in social science for this neglect and that the process can be greatly simplified with the use of computer software. Using BIGSTEPS and WINSTEPS greatly reduces the labor and produces a Rasch analysis of the scale.

There are several ways the comparisons between the two samples might be made. Fortunately, Thurstone provided scale values for the 1927 scale to which the current values could be compared. These values are given in Table 1. A scatter plot of the 19 points for each of the criminal offenses is most revealing. Figure 1 gives a plot of the criminal offenses numbering the offenses in the order presented in Table 2. The correlation between the two sets of values is 0.51 significant beyond the .05 level. The 95% control lines indicate that almost all of the data points are within and only item 11, bootlegging, is an outlier. Using 68% control lines, not shown, item 17, seduction, and item 19, vagrancy, are outliers but each one is only slightly above and below the 68% control lines respectively.

## Discussion

The remarkable similarity in scaling criminal offenses by two similar samples of college students and separated by 70 years appears remarkable. The availability of Thurstone's methodology and resulting scale values, allowed the comparison to be more exact than many sample comparison are

Figure 1 Map of criminal offenses

CRIMERAT.MHS

Scale Value	1927 data	1966 data	1999 date
100	Rape	Homicide	Homicide
95	Homicide		
90			Kidnapping Rape
85		Rape	
80		Kidnapping	
75			
70	Abortion, Seduction Kidnapping		
65	Adultery Arson	Arson Assault-battery	Perjury
60			Assault-battery, Counterfeiting Arson, Forgery
55			
50	Perjury Embezzlement Counterfeiting Burglary, Forgery		Abortion, Adultery, Smuggling Libel
45	Assault-battery	Abortion, Burglary	
40	Larceny	Embezzlement Adultery, Perjury Counterfeiting, Larceny Seduction	
35		Forgery	
30	Smuggling, Libel Bootlegging Receiving stolen goods	Smuggling, Libel	Bootlegging, Burglary Receiving stolen goods
25		Embezzlement Seduction	
20		Receiving stolen goods	
15		Bootlegging	
10			Larceny
5			
0	Vagrancy	Vagrancy	Vagrancy

over the space of such a period of time. The general liberality of college age students compared to adults is not a factor of this study, but one cannot help but be struck by the similarity in scaling criminal offenses for this age group. The results suggest that the ranking of criminal offenses has not undergone any substantial changes for this period of time for this age group. Bootlegging, understandably so, rated higher in the late 1920's than it does today. Seduction was rated higher in the earlier sample than among current students; the recent news coverage of "sexual" matters in the nation's capitol does not make this difference surprising. More recent coverage of criminal reporting in the media, often in connection with politicians whose behavior appears to be under increased scrutiny, has not substantially changed students' perceptions of criminal offenses except for those already noted.

Methodology may play a positive part in these results. It is fortunate that a researcher of Thurstone's stature was involved in the initial study. His work was thorough, complete and easy to follow. These are traits important in social science research. Replication was relatively easy. It is important to know whether or not social values are stable. If there is change, the researchers need to be aware of the change in direction and the degree of the change. Social values are intangible and not easy to determine. People have strong feelings about crime and recent coverage in the media has, perhaps, polarized opinions as against reasoned scrutiny of values and their origins. These findings suggest that there is surprising stability in college students' perceptions of the seriousness of criminal offenses.

**References**

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