

What is the science of the Raccelerate Formula?

The Raccelerate Formula helps educators reflect on their practice to avoid the atrocities associated with allegations of racism. Educators who have the opportunity to reflect on their practice also have an opportunity to improve education for all students. The Raccelerate Formula helps to reduce school violence, civil rights lawsuits, and racism claims against staff members.

How was the Raccelerate Formula developed?

In a recent article, California's school suspensions show racial disparity, disciplinary data was used to determine which schools needed additional diversity training. After evaluating the data, it was determined that the process was flawed because it uses quantity as the basic measure to determine the potential racism in the school.

It appears from the article that schools that had more than 200 recorded incidents were classified as racist and were provided the additional training. Using this as a threshold, thirty-two schools qualified for the additional diversity training.

The problem with using this type of evaluation is that some schools that were in need of additional training, according to their standards, were not provided the services because they did not meet the required 200 minimum disciplinary infractions. For example, Wheatland Union High School had 144 suspensions for 738 students. For this school the suspension rate was 15.45%. This is well above the national average of 7%. Another school that would have benefited from the additional training is Colfax Elementary. This school had 41 suspensions for 582 students. For this school the suspension rate was 7.04%. Additionally, there were 27% of the schools that were above the national average.

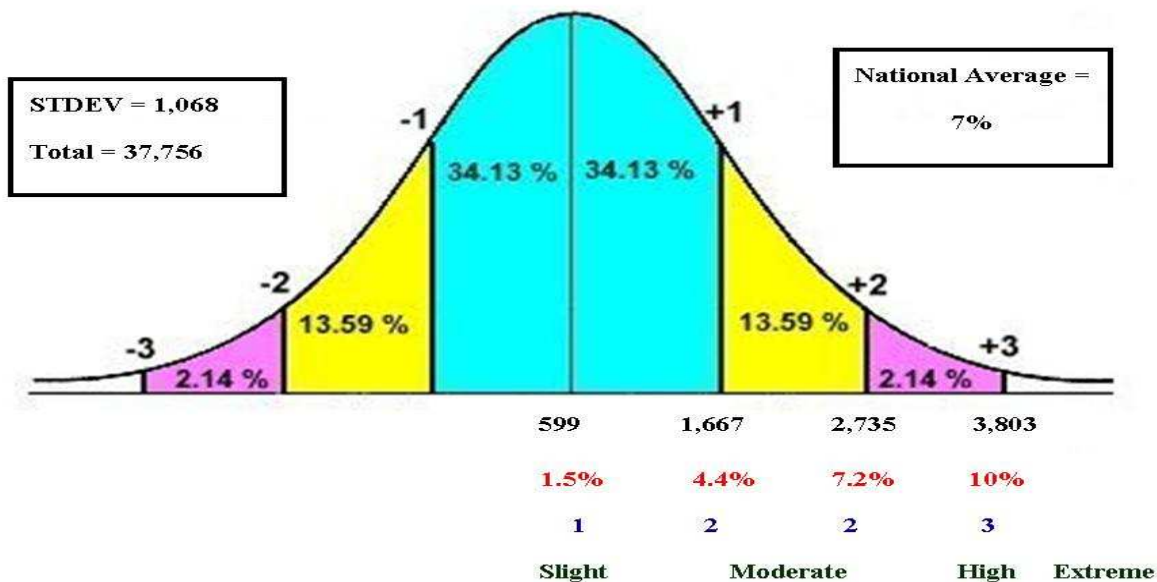
A better way to evaluate the California schools would have been to utilize the Normal Distribution Curve. In probability theory, the normal (or Gaussian) distribution is a very common continuous probability distribution. Normal distributions are important in statistics and are often used in the natural and social sciences to represent real-valued random variables whose distributions are not known.

The normal distribution is useful because of the central limit theorem. In its most general form, under some conditions (which include finite variance), it states that averages of random variables independently drawn from independent distributions converge in distribution to the normal, that is, become normally distributed when the number of random variables is sufficiently large. Physical quantities that are expected to be the sum of many independent processes (such as measurement errors) often have distributions that are nearly normal. Moreover, many results and methods (such as propagation of uncertainty and least squares parameter fitting) can be derived analytically in explicit form when the relevant variables are normally distributed.

The normal distribution is represented by the bell curve. The bell curve refers to the shape that is created when a line is plotted using the data points for an item that meets the criteria of normal distribution. The center contains the greatest number of a value and therefore would be the highest point on the arc of the line. This point is referred to the mean.

The important things to note about a normal distribution is the curve is concentrated in the center and decreases on either side. The bell curve signifies that the data is symmetrical and thus we can create reasonable expectations as to the possibility that an outcome will lie within a range to the left or right of the center, once we can measure the amount of deviation contained in the data .

The following figure reveals the normal distribution curve for the information provided in the article California's school suspensions show racial disparity.



The normal distribution curve reveals that the average rate for suspensions was 1.5%. This equates to 50% of the schools had a suspension rate of 1.5%. At the +1 standard deviation the suspension rate was 4.4%. This equates to 34.13% of the schools had a suspension rate from 1.5% to 4.4%. At the +2 standard deviation the suspension rate was 7.2%. This equates to 13.59% of the schools had a suspension rate from 4.4% to 7.2%. At the +3 standard deviation the suspension rate was 10%. This equates to 2.14% of the schools had a suspension rate from 7.2% to 10% which also exceeded the national out of school suspension rate.

These schools would have benefited from using the Raccelerate Formula. The Raccelerate Formula is designed to prevent the perception of racism. For the California schools that were at 1.5% they would have received a slight rating. This means that the perception of racism in schools is slight. For those schools that were between 4.4% and 7.2% they would have received a 2 rating which is equivalent to moderate. This moderate rating means that the school or educator is now on the fence of being perceived as racist. For the schools that were above 7.2%, the perception of racism goes from high to extreme. The Raccelerate Formula will help educators to reflect on their practice before any allegations of racism are formally made.