

Every day people make judgements (ratings) and make decisions based on them. Although judgement (rating) is an individual process it may affect not only individuals, but also social groups. Rating is crucial in many cases of social research, education system or functioning of organizations. We often ask respondents to rate a phenomenon on a given scale, teachers in schools rate their pupils, and in corporations employees rate each other on their employer request.

Like in the case of physical measurement, rating process is also subject to measurement errors. These errors are known as the "rater effect". The term refers to all components of a score which are not associated with the measured attribute but are related to the rating process itself – mainly the rater. Most commonly described effects are: halo, leniency (or severity), restriction of range (sometimes called central tendency) or extremism and reliability (or agreement). These errors cannot be avoided and we can aim only to minimize them.

The most common solution to minimize the rater effect is the multiple ratings procedure. It is both time consuming and expensive. However, if other measures than ratings (even not very precise) are available, we can use a statistical model to estimate the rater effect without the use of multiple ratings. In such a manner the least probable scores can be identified and verified. Elimination of low reliable scores can result in higher overall reliability of the measurement tool (e.g. a survey or a test). The research objective of the project is to create and test such a statistical model.

Using multiple ratings to minimize the rater effect is not always effective. Applying statistical methods that do not require multiple ratings to effectively estimate the rater effect allows for better resource allocation and provides time and cost savings. As a result, it should lead to faster development in many fields of science that utilize the rating process. An accurate identification of low reliable scores and raters allows to improve the overall reliability of many research results or student assessments. That is of a great significance to the development of society.