Criterion Theory and Development[1][2]

A criterion represents a standard (Dunnette, 1963), or an "external measurement of some attribute or behavior against which to make some evaluation" (Jewell & Siegall, 1990). Across many of its applications, the field of industrial-organizational (I-O) psychology is concerned with the testing of phenomena of interest against one or more important outcomes or criteria. In I-O psychology, some of the most commonly used criteria are absenteeism, turnover, and job performance.

For many of the methodologies that are central to the work of I/O psychologists - such as personnel selection, job analysis, performance appraisal, and training evaluation - the appropriate selection, definition, and measurement of criteria are essential. Further, the selection and measurement of appropriate, meaningful criteria is also essential to the building of useful theories. Both applied and scientific conclusions that are based on faulty criterion have little value and may in fact mislead decision makers who rely on those conclusions.

To establish criterion-related validity of a test used to select employees, for example, one must demonstrate that a predictor, or set of predictors, is related to another variable, or criterion of particular interest that one intends to predict (Jewell & Siegall, 1990). Further, a researcher needs to know enough about the nature of that relationship to infer causality, that is, whether a predictor (e.g., critical reasoning skills) affects the criterion (e.g., decision making on the job), and not the other way around. Further, the researcher should rule out other factors that may affect this relationship. If for example, a supervisor rates a person's decision making performance after learning that person achieved a top score on a critical reasoning test, the supervisor's knowledge of that high test score could affect his or her rating of the person's performance as much as or even more so than the person's actual ability- a condition known as criterion contamination.

Through the years, I-O psychology has developed and refined criterion theory to help better the scientific community's ability to test against standards. Indeed, what has been coined the "criterion problem" within I-O psychology has primarily been a concern within personnel selection, though it certainly persists in other domains, such as the evaluation of organizational development (Jex, 2002). When deciding on appropriate criteria to test personnel selection system against, the aforementioned criterion problem is primarily concerned with the investigative processes regarding the decision of what desired outcome to measure. With regard to an organizational development program or change initiative, an organization may want to use some measure of organizational (rather than individual employee) effectiveness as a desirable outcome of an organizational development program. However, defining a single, comprehensive measure of organizational effectiveness may prove difficult. One could use financial performance, operational efficiency, employee attitudes and behaviors, or some other criteria. The best approach, however, often is to use multiple criteria when assessing such programs or initiatives, as they yield a more most complete and comprehensive understanding of the diverse potential effects of such a program (Jex, 2002). Considerations such as this illustrate that tradeoffs often exist between what is easy to measure and what may be more meaningful.

In determining the criterion on which to focus efforts, a host of potential biasing factors demand consideration. These biasing factors (adapted from Brogden and Taylor, 1950) are:

1. *Criterion Deficiency* – Omission of pertinent elements from the criterion.
2. *Criterion Contamination* – Introducing extraneous elements into the criterion.
3. *Criterion Scale Unit Bias* – Inequality of scale units in the criterion.
4. *Criterion Distortion* – Improper weighting in combining criterion elements.

Criterion bias, for example, has been shown to impact supervisor ratings (Lefkowitz and Battista, 1995). Though the degree of bias varies in different situations, such factors as supervisors' liking of subordinates, expectations regarding employee's qualifications, and ethnicity-match greatly influence – and hence reduce the accuracy of - supervisor ratings.

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The landscape of criterion theory is more defined and better understood than ever (Hough & Ones, 2001). However, the globalization and general expansion of the modern workforce further complicates the criterion problem. It is possible, for example, that use of a predictor may improve outcomes in one area of an organization, while proving detrimental in another. Future research regarding criterion theory has much to consider regarding the contemporary workplace.

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