Current Directions in Personnel Selection Research

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ABSTRACT—For many decades, the focus of personnel selection research was on developing selection tests that maximized prediction of job performance; the approach was typically lacking in theoretical bases. The past two decades saw significant shifts in research to a focus on the nature of constructs and their interrelationships, characterized by an approach that emphasizes theoretical understanding of the phenomena under investigation. This article provides an overview of how a construct-oriented approach underlies major current directions in scientific research on personnel selection. Emerging trends that are likely to constitute issues of enduring importance are discussed.

KEYWORDS—job performance; construct validity; person–environment fit; multilevel research; changes over time

A major area of research in industrial and organizational psychology is personnel selection, concerned with identifying individuals from a pool of applicants who are suitable to work in a target job position. Matching persons to work must often take into account more than just the job itself; it may have to consider the group and organizational contexts in which the person needs to function. Psychologists approach selection research by focusing on the individual applicant’s knowledge, skills, abilities, and other characteristics (e.g., personality traits) that are believed to predict subsequent job performance and other work-relevant outcomes such as job satisfaction and commitment to the organization.

For many decades, selection research focused on describing and comparing different selection procedures, the primary objective being to develop selection tests that maximized prediction of job performance. Examples of typical research questions were “Can personality tests predict job performance?” and “Which predicts job performance better—cognitive ability tests or personality tests?” The attempt to empirically determine the best predictors of performance typically lacked a theoretical basis. Researchers sought an optimal selection battery that would offer the highest validity in predicting job performance based on some rudimentary theory or educated guess that certain personal characteristics should affect how an individual performs the job. Although the atheoretical search for maximally valid predictors may seem consistent with the goal of applied practice in organizations, it negatively affected the scientific status of selection research. Selection research was criticized as a descriptive and comparative enterprise whose research findings had little explanatory value. For example, studies reporting higher predictive validities for cognitive ability tests than for personality tests did not provide explicit theory or evidence to explain the findings. Without strong theory, it was difficult to generalize the relationships between predictors and performance constructs across different measures, samples, and contexts. Practically, the lack of robust generalization meant a lack of useful guides for applied practice in personnel selection.

The above characterization is no longer appropriate to describe current research in personnel selection, because the field has undergone substantive changes in focus and approach. Specifically, research over the past two decades has focused increasingly on the nature of constructs and their interrelationships and has emphasized theoretical understanding of the phenomena being studied. Descriptive research questions have been replaced by more construct-oriented and explanatory ones such as “Are there different dimensions of job performance that may explain how validities of selection tests differ and vary across different contexts?”; and “Are there different ways in which job performance may change over time, which in turn affect our understanding of the relationships between selection tests and performance-related outcomes?” This article provides an overview of how a construct-oriented approach underlies current scientific research on personnel selection and explicates the current trends that are likely to constitute issues of enduring importance in selection research. This state-of-the-art look at the field offers a point of departure for psychologists and human resource professionals to examine selection research and draw from it practical applications that are scientifically defensible.
Current research consistently adopts or at least advocates a construct-oriented approach to the study of the validity of selection procedures. A construct-oriented approach begins with conceptual definitions of the predictor and criterion constructs of interest (e.g., conscientiousness and job performance) and explicates how predictors and criteria relate to each other. Relevant theory and/or previous empirical research are used to explain participants’ patterns of responses on predictor and criterion measures and the extent to which the responses indicate where participants stand on the constructs assessed by the measures. The theory and research may also be used to specify a priori what antecedents and consequences should (and should not) be associated with the constructs, based on the definitions of the constructs. Data are collected to empirically test the hypotheses and gather evidence of validity for the constructs in question.

A construct-oriented approach addresses important practical problems in selection. One such problem faced by organizations concerns the use of tests (e.g., cognitive-ability tests) that are valid predictors of job performance for both majority and minority candidates but almost always show large group differences in mean test scores that favor the majority group. An organization’s need to use a valid test may conflict with its goal to hire a diverse workforce. Several construct-oriented studies have provided conceptual and empirical bases for minimizing test bias and ethnic-group difference in test scores, by removing irrelevant constructs that are not intended to be measured by tests and obtaining more accurate validity estimates. For example, the research program summarized by Schmitt and I (Chan & Schmitt, 2004) highlighted the importance of breaking down test scores into components based on test construct and test method and linking these components to constructs not intended to be assessed by the test (e.g., perceptions of whether the test is fair). In one such study, we (Chan & Schmitt, 1997) compared scores of black and white Americans on a video-based situational judgment test with their scores on a written version of the same test; we showed that differences in test scores between the two groups were substantially less on the video-based version than on the written version. Similarly, meta-analytic research has allowed researchers to distinguish between construct differences and differences in testing method as separate sources of variation in results across studies (Schmitt, Clause, & Pulakos, 1996).

THE CONSTRUCT-ORIENTED APPROACH TO PERSONNEL SELECTION

The construct-oriented approach to the study of dimensionality of constructs (i.e., the differentiation of a construct into its distinct conceptual components) has led to significant advances. The most notable advance concerns the understanding of job performance as a multidimensional construct. For many decades, personnel selection treated job performance as the single undifferentiated criterion to be predicted in selection. This changed when Campbell and his colleagues proposed a theory of job performance that broke performance down into multiple distinct dimensions (Campbell, McCloy, Oppler, & Sager, 1993). Since then, selection researchers have significantly expanded the notion of job performance to include distinct dimensions such as task performance, which refers to behaviors associated with the proficiency in accomplishing tasks that are directly related to the organization’s primary objectives; contextual performance, which refers to behaviors that contribute to organizational effectiveness through their effects on the psychological, social, and organizational context of work (Borman & Motowidlo, 1993); various forms of adaptive performance related to novel demands in the work situation (Pulakos, Arad, Donovan, & Plamondon, 2000); various forms of organizational citizenship behaviors, which are discretionary behaviors that promote the effective functioning of the organization but are not directly or explicitly recognized by the formal reward system (Organ, 1997); and various forms of counterproductive behaviors that hurt or hinder the organization’s value (Sackett, 2002).

The expansion of the definition of performance and recognition of its multidimensional nature led to streams of research demonstrating that different predictor constructs and selection tests will offer optimal predictive validity depending on the performance dimension or dimensions of interest. For example, research has shown that task performance is better predicted by cognitive ability tests whereas contextual performance is better predicted by personality tests.

NATURE OF PREDICTOR–CRITERION RELATIONSHIPS

By conceptually defining constructs, the construct-oriented approach allows us to focus on how predictors and criteria relate to each other. Researchers are increasingly paying attention to the relative predictive efficacy and explanatory value of broadly versus narrowly defined constructs and to the necessity of matching predictors with criteria that are at similar levels of specificity. The goal of the research will likely determine the appropriate level of specificity. For example, general dimensions may be more useful for maximizing prediction of a criterion (e.g., using general cognitive ability to predict job performance) in a parsimonious and generalizable manner whereas specific dimensions may be more useful for increasing theoretical understanding of the criterion (e.g., linking specific cognitive abilities to specific dimensions of job performance).

The efforts to better understand the nature of constructs and predictor–criterion relationships are producing new research directions that are qualitatively different from the traditional prediction paradigm, which assumed a bivariate linear
relationship between predictor and criterion. For example, when used as a predictor of job performance, work experience was traditionally construed and measured as tenure (i.e., number of months or years on the job). In a construct-oriented approach, however, tenure is only one of several possible dimensions of work experience; researchers have developed typologies of experience dimensions (e.g., Tesluk & Jacobs, 1998). Drawing on these typologies and on skill-acquisition research in cognitive psychology, I argued that the amount of task experience may be linearly associated with performance when the experience is in different task types sharing the same deep structure (because of the development of adaptive expertise) but that the relationship between experience and performance may be curvilinear (in the form of an “inverted U” shape) when the experience is in similar routine tasks (because of stimulus-generalization errors associated with proceduralization; Chan, 2000). The specific form of the relationship between a predictor and a criterion has direct implications for personnel selection. For example, an inverted-U-shaped function indicates that people with moderate scores on the predictor are more likely to be better performers on the job than high or low scorers.

PERSON–ENVIRONMENT FIT

Studies on person–environment fit examine the match between the person and the work environment in which the person functions. The environment may refer to the job, the work group, or the organization. The extent of person–environment fit or misfit may be predictive of criteria such as job performance, satisfaction, and commitment to the organization. The magnitude of the predictive validity, however, is dependent on the nature of the person, environment, and criterion constructs in question.

Construct-oriented studies on person–environment fit clearly specify the type of complementary fit or supplementary fit under investigation. Complementary fit is concerned with the match between the needs or capabilities of the person and what the environment offers to or requires of the person. For example, the organization may demand time and ability, and the extent to which the employee supplies these resources affects complementary fit. Supplementary fit is concerned with the similarity in values, beliefs, and other characteristics between the person and the organization. For example, the extent to which employees with creative interests have the opportunity in the organization to engage in unstructured and unconventional activities affects supplementary fit. If studies of both types of person–environment fit are to provide principled accounts of individual adaptation at work, a construct-oriented approach that explicates issues of dimensionality and predictor–criterion relationships is necessary (Chan, 2000). In addition, cutting-edge research questions concerning when and how fit may have negative effects (e.g., through groupthink processes) and when and how misfit may have positive effects (e.g., through innovative ideas) can only be adequately addressed by explicating the nature of the constructs and construct relationships involved.

LEVELS OF ANALYSIS

Traditionally, psychologists approach personnel selection from a micro perspective that focuses almost exclusively on individual-level variables such as the individual’s traits and job performance. With the increasing use of work groups to accomplish tasks in organizations, researchers have to deal with issues of staffing such groups. Hence, researchers have to move beyond the individual level to consider variables at higher levels (e.g., group, organization) of analysis. For example, a study concerned with identifying individual difference variables that predict work-group performance has to deal with constructs and data at both the individual and group levels of analysis.

Multilevel constructs and data bring with them complex conceptual, measurement, and data-analysis issues. In response, researchers using construct-oriented approaches have developed organizing frameworks to help them clarify conceptualizations, decide on measurements or operationalizations of similar constructs at multiple levels, and identify the types of relevant evidence to support the multilevel hypotheses (for review, see Chan, 2005).

CHANGES OVER TIME

The construct-oriented approach to personnel selection has contributed to studies of performance changes over time. For many decades, predictor–criterion relationships were described in terms of static models of job performance without any attention being paid to temporal aspects of performance constructs. Yet an individual’s job performance may change over time in various ways (e.g., it may increase or decrease or there may be changes in the number or nature of underlying dimensions—such as changing from many distinct types of organizational citizenship behaviors to only two distinct types, those directed at the organization and those directed at other individuals in the organization). These performance changes are important in selection research. For example, when performance changes over time either in terms of level or dimensionality, including job incumbents with varying levels of job tenure in a validation study could affect and confound estimates of validity and make it difficult to interpret predictor–criterion relationships.

A construct-oriented approach provides the conceptual basis to hypothesize about, test, and interpret performance changes over time, which in turn allows us to draw practical implications for important selection issues such as changes in test validities, changes in mean performance, changes in rank order of individuals’ performance, and changes in dimensionality of performance. In addition, by specifying construct-related change over time, appropriate longitudinal designs and data-analytic techniques can be applied in research to examine important
issues relating to changes in job performance over time. These issues include the nature of new performance dimensions associated with changes in job demands or different points in time of the individual’s job tenure; the form of the intraindividual change trajectory (e.g., linear versus quadratic, increasing versus decreasing) and individual differences in the rate of intraindividual change; and associations among performance dimensions and the trajectories by which they change over time (Chan, 1998). The study of changes over time is an important new direction in selection research that is likely to benefit from, as well as contribute to, the modeling of longitudinal processes in other areas of psychology, in terms of both conceptual and methodological advances in change assessment.

CONCLUSION

In summary, selection research has undergone substantive changes as researchers increasingly adopt and advocate a construct-oriented approach to conceptualization, measurement, data analysis, and interpretation of results. Research efforts have moved away from the atheoretical application of the bivariate prediction paradigm and toward developing and testing theory-driven models of job performance that attempt to incorporate issues of performance dimensionality, predictor–criterion relationships, person–environment fit, levels of analysis, and changes over time. Research questions such as “Which test best predicts job performance?” are increasingly being replaced by questions on how, when, and why which types of selection tests are related to which aspects of job performance. The adoption of a construct-oriented approach in selection research will lead to theoretical and methodological progress, and this progress is likely to be closely linked to an interdisciplinary approach that borrows from and contributes to areas of basic psychological research.

Recommended Reading


REFERENCES


