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Conceptual Versus Empirical Distinctions Among Constructs: Implications for Discriminant Validity

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In recent years, the term "employee engagement" has taken on a life of its own, probably based, in part, on its resonance as a term describing a deeper level of involvement and enthusiasm from the employee than the terms "job satisfaction" or "organizational commitment" might imply. The newer emphasis on absorption, passion, and affect may, in fact, better reflect the reason work attitudes matter to organizations. Meta-analyses show that job attitudes substantially relate to individual-level performance (Judge, Thoresen, Bono, & Patton, 2001) and business unit–level outcomes such as profit, sales, customer ratings, accidents, and turnover (Harter, Schmidt, & Hayes, 2002; Harter, Schmidt, Killham, & Asplund, 2007). These practically important relationships are likely a reflection of differences in the level of cognitive and emotional involvement and enthusiasm employees have for their work and companies, leading to discretionary effort, which in turn leads to a host of positive business outcomes. A key question is whether the newer constructs of engagement have discriminant validity relative to the older constructs of job satisfaction and organizational commitment that have been studied for decades.

Macey and Schneider's paper is based on an implicit assumption that may not hold true: If they and other researchers can make a logical or conceptual distinction between constructs or measures, then this distinction will exist in the minds of employees or respondents to surveys. The area of job-related attitudes may be an excellent example of the kind of construct proliferation that can cause industrial–organizational (I–O) psychology and organizational behavior to be major violators of the mandate for parsimony in science. The ability of I–O psychologists to create a wide variety of conceptual distinctions—many quite subtle—leading to a proliferation of proposed constructs (the jangle fallacy cited by Macey and Schneider [2008]) seems quite expansive. Macey and Schneider's paper is a well-intentioned attempt to deal with this problem but is based on an implicit assumption that substantial new evidence suggests is false.

Advanced measurement methods can now serve as critical theoretical tools to determine whether constructs that can be argued to be conceptually distinct are in fact empirically distinct. If they are empirically distinct, then they will correlate considerably less than 1.00 after the appropriate

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corrections for bias due to measurement error. If they are not, the resulting correlation will be 1.00 or nearly so.

Emerging evidence indicates that many (often subtle) conceptual distinctions among different work attitudes made by I–O psychologists are not—and probably cannot be—made by employees and other respondents. For example, Le, Schmidt, Lauver, and Harter (2007) showed that after the appropriate corrections for measurement error, the lower bound correlation between job satisfaction and organizational commitment was .92, and this value was the same whether the corrections were made via structural equations modeling methods or a newer method derived from generalizability theory. Most I–O psychologists feel that it is very clear that job satisfaction and organizational commitment are quite distinct conceptually—and indeed, they are conceptually distinct. However, this logical distinctiveness is of no import for applied research if employees do not see or recognize it. The correlation of .92 indicates that employees, in their everyday perceptions of work, do not see this distinction. This is critical because it is precisely these everyday perceptions of work that we are attempting to measure and to build theories on.

Harrison, Newman, and Roth (2006) pointed out that the pattern of correlations found in individual studies and in meta-analyses makes it "reasonable to treat job satisfaction and attitudinal [organizational] commitment as specific reflections of a general attitude, *as each is a fundamental evaluation of one's work experiences*" (emphasis in original). Different aspects of job satisfaction are highly correlated, and measures of overall job satisfaction and measures of organizational commitment are even more highly correlated than satisfaction facets are with each other. Harrison et al. labeled the general work-related attitude factor they identified "the attitude–engagement factor" and postulated that attitude theories of Ajzen and Fishbein (1977, 1980) provide the theoretical basis for postulating that this factor should affect overall individual performance. In fact, Harrison et al. found this general factor to be more highly related to performance than were the narrower work attitude factors. Their conclusion is that many work attitude construct distinctions do not matter for prediction of important work outcomes. Of course, the quality of the measurement matters, but many of the finely differentiated construct distinctions do not.

As another example, Macey and Schneider make frequent reference to the Gallup measure of employee engagement (Q12® or GWA), conceptually describing it as a measure of "conditions under which people work" but one where "the state of engagement is not assessed." Harter et al. (2002) describe the instrument as "a measure of employee perceptions of work characteristics . . . the quality of people related management practices, and . . . antecedents to personal job satisfaction and other affective constructs." Engagement occurs when "individuals are emotionally connected and cognitively vigilant." Conceptually, Harter et al. differentiate between measures of "actionable work group–level facets" such as clarity of expectations, having the tools needed to do the work, having opportunities to progress and learn, and recognition for good work from the more general theoretical measures of job satisfaction. The Q12® measure comprises "engagement conditions," each of which is a causal contributor to engagement, and the composite or sum of which is said to measure "engagement" through measurement of its causes. Macey and Schneider conceptually argue that "any measure that asks how satisfied an employee is with conditions at or of work or asks about the presence of particular conditions of or at work are not measures of any of the three facets of the engagement construct we have elucidated" (p. 26). Although we (Harter et al., 2002), and others (i.e., Avery, McKay, & Wilson, 2007), hold different views from Macey and Schneider regarding conceptual alignment between Q12® and other theories of engagement (i.e., Kahn, 1990), these are conceptual and theoretical propositions. A key question is whether these distinctions hold up

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empirically; that is, whether the different constructs show discriminant validity.

Harter et al. (2002) reported that the disattenuated correlation between satisfaction (satisfaction with one's company, measured on a scale with "extremely dissatisfied" to "extremely satisfied" end points) and employee engagement as measured by Q12® at the business unit level was .91. Satisfaction (affective) is one of the subcategories listed within Macey and Schneider's element called "state engagement." More recent research (Le et al., 2007) indicates Q12®, measured at the individual-level, correlates well above .8 with organizational commitment and with the Utrecht Work Engagement Scale 7 (Schaufeli, Bakker, & Salanova, 2006), another "direct" measure of engagement cited by Macey and Schneider as an example of state engagement. Once aggregated at the business or work unit level (the level at which employee survey data are usually reported and acted on by managers), the correlations will, again, approach 1.0. Macey and Schneider emphasize the importance of the distinction between work attributes (an example being Gallup's Q12®) and the construct state engagement. However, these appear to be empirically colinear once appropriate methods are used for correcting for biases due to measurement error (Schmidt, Le, & Ilies, 2003). In fact, at least three conceptually distinct constructs cited by Macey and Schneider (satisfaction, commitment, and affective engagement) are almost perfectly colinear with the composite of Q12®.

This is an important finding. If a composite of items measuring work conditions is convergent with the conceptually direct measures of these constructs, it calls into question the need for or value of the direct measures in applied work inasmuch as the direct measures assess psychological states (e.g., feelings of enthusiasm), which are more difficult for managers and employees to act on and change than are the conditions or attributes of work.

Newer and more accurate methods of correcting for bias due to measurement error (Le, Schmidt, & Putka, in press) will likely show that there is considerable redundancy in the constructs measured in work attitude surveys. If so, then what this means is that for a wide variety of job attitude measures, conceptual distinctions such as those examined in such detail by Macey and Schneider may not have differentiated meaning in the minds of employees responding to surveys. What matters is the practical value of the measure. And the practical value depends to a great extent on the usefulness of the information obtained to management as a tool for improving employee attitudes and performance. That is, the critical point is that the information provided be *actionable*. This is the strength of instruments like the Gallup Q12®. Each item is actionable and generalizably related to important business outcomes (Harter et al., 2002; Wagner & Harter, 2006).

Longitudinal research may be critical for attainment of a better understanding of the role of work attitudes. Maximizing opportunities for longitudinal research may require use of measures that organizations are willing to continue to use over time. We encourage researchers to invest more time and effort in developing actionable measures that can lead to longitudinal research studies. The widespread and frequent use of well-researched practical measures may considerably broaden the scope of employee attitude research and the resulting cumulative knowledge because organizations are more likely to utilize actionable measures.

We are not implying that all measures are the same or that any measure of employee attitudes will measure the same underlying construct. Each measure should undergo empirical development and scrutiny for reliability and validity evidence. For instance, we agree that personality variables such as conscientiousness, called "trait engagement" by Macey and Schneider, are conceptually and empirically distinct from work attitudes in general. For example, Judge, Heller, and Mount (2002) showed in a meta-analysis that the Big Five personality traits do not completely determine job satisfaction, even after correcting for measurement error. Although personality traits and job satisfaction are correlated, they are not

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correlated at a level that suggests colinearity. The Macey and Schneider construct "behavioral engagement" may or may not be empirically different from their construct of state engagement. That is a matter for future research, but we predict that for self-report measures, the construct-level correlation will be quite high (at least .90). We also suspect that self-report measures of state engagement and behavioral engagement will show high convergence with the general attitude–engagement construct once the appropriate corrections are made for measurement error. We believe that the evidence suggests that when appropriate corrections are made for such biases, many of the traditional attitudinal variables (including satisfaction, commitment, engagement, and well-researched composites of work conditions) are, in fact, measuring the same general construct.

The tendency to ignore the key question of empirical distinctiveness is not a problem limited to the Macey and Schneider paper. It is a widespread problem in the area of job attitudes in general—and perhaps other areas of I–O psychology also. Whether intended or not, this stance represents broad disrespect for the principle of parsimony. The proliferation of attitudinal constructs is contrary to the principle known as Occam's razor. On the other hand, a finding that these supposedly distinct constructs are, in fact, empirically perfectly or nearly colinear in the minds of real people in real organizations would be a great step forward toward parsimonious explanations of employee attitudes and behavior. It would also greatly aid the accumulation of research findings that benefit organizations. This would be a virtual revolution in our understanding of work-related attitudes.

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