

Implications of the Case Studies of Creative People for Psychometrics

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There are at least three generalizations to be drawn out of the extremely engaging series of case studies of creative people that appeared in the April 2001 issue of the *American Psychologist* (Sternberg & Dess, April 2001). One is that no profile of scores on a range of psychometric tests, or even such a profile accompanied by a profile of the environment of the kind typically generated from questionnaires designed to measure home, school, and organizational climate, would have made it possible to describe these people in meaningful ways, let alone capture the person-environment interactions described.

The cases thus provide striking illustrations of the proposition that the way in which most psychologists have tried to describe and explain individual differences is not only unduly simplistic but actually inappropriate.

In essence, what these authors actually did was spell out the way in which specific aspects of the environment engaged with the motives of the person concerned to release a subset of the components of competence that make for one type of effective behavior or another. To do this formally, it would be necessary to develop an agreed-on descriptive framework akin to that used by biologists to describe the features of organisms that interact with specific features of their environments to make for different types of effectiveness.

The consequences of not developing such a framework may be highlighted by pursuing the analogy with biology. Where would zoologists have got to if they had sought to account for the bulk of the variance in the animal kingdom in terms of 1 (g), 5 (Big 5), or even 16 variables? Where would they have got to if they had tried— independently of the variance between species—to describe the variance in environments in terms of 10 or 12 variables? Just where would they have ended up if they had then tried to account for the effects of environments on animals by correlating the scores on the animal variables (taken one at a time) with the environmental variables?

From our present vantage point, such a procedure would be patently absurd. Yet this is precisely what most psychologists concerned with individual differences have sought to do for the past century.

If psychologists wish to move forward, it would behoove them to pay close attention to what the authors of these articles actually did. As I see it, this was first to note the idiosyncratic motives or preoccupations of the individuals they set out to describe. They then moved on to discuss the particular pattern of competencies those individuals brought to bear to translate their motives into effect. While doing this, they looked at the way various aspects of the environment reinforced or negated the individuals' values and led them to release and develop competencies crucial to modifying their environments and translating their motives into effect.

If I am right, what this means, given the analogy suggested earlier, is that psychologists need to develop agreed-on descriptive frameworks, somewhat like those used by chemists and biologists, to describe people, their environments, and the interactions that transform both people and their environments as the environment and the individual engage with each other.

In developing such frameworks, it will be necessary to pay attention to the fact—so far almost completely neglected by psychologists—that groups of people have emergent properties that cannot be determined by adding up the properties of the individuals who compose them any more than it is possible to determine the properties of copper sulfate by adding up the properties of copper, sulfur, and oxygen. What is more, people behave very differently in different contexts, just as copper behaves very differently in an environment consisting of pure water and in an environment of sulfuric acid. Just as both the copper and the sulfuric acid mutually transform each other (while their components remain unchanged), so people and their environments mutually transform each other.

Thus, psychologists not only need to set about mapping the transformational processes that occur in homes, schools, and workplaces, they also need to develop frameworks of descriptors suitable for use at different levels in the system. Psychologists need frameworks equivalent to the hierarchy of frameworks used to classify foodstuffs, digestive systems, animals, and ecological niches.

There is another generalization to be drawn out of the case studies. This is that creativity is a difficult and demanding process that is only engaged in—and thus only becomes visible—while people are engaged in activities that motivate them. Thus, some people develop and display creativity while figuring out how to put people at ease, others while dealing with drunks, others while creating political turbulence—and so on almost ad infinitum. Creativity is a complex process in which aspects of the environment are ingested and cumulative and substitutable components of competence built together in a manner analogous to the way in which the organs of the body are assembled to enable the organism to function. However, note that creativity looks very different in different contexts (just as copper looks very different when combined with both sulfur and oxygen and when combined with oxygen alone) and is just as invisible in those contexts as copper is in its contexts until one develops appropriate analytic processes that start by asking, "What kinds of activity is this person strongly predisposed to carry out; what are his or her idiosyncratic motives?"

The authors of these articles focused on superstar creativity of a kind valued by, and therefore visible in, Western culture. For the reasons discussed above, psychologists tend to overlook the specific forms of superstar creativity displayed by each and every human being despite the fact that the development

and use of all these forms of creativity—this diversity—are vital to the survival of society. Spearman noted the problem back in 1925:

Every normal man, woman, and child is a genius at something. . . . it remains to discover at what. . . . It cannot be detected by any of the testing procedures at present in current usage. But these procedures are capable . . . of vast improvement. (p. 8)

Finally, let me return to my assertion that psychologists need a range of descriptors at different levels. At one level, human beings may be analyzed into patterns of motives and competencies interacting with their environments. At the next level, they may be viewed as wholes in the context of a wider pattern of groups and organizations. To characterize and differentiate these groups, organizations, and societies, psychologists need descriptors at a different level. Yet, as the case studies illustrate, the interactions flow both ways. Psychologists will not get very far in understanding the reasons why human organizations and societies are so dysfunctional by summing the properties of the individuals who compose them. No amount of evidence relating to the extent of human destruction of human habitat or of people's awareness of the extent of that destruction will enable anyone to initiate the actions that are needed to fix it. That requires simultaneous analysis and description at different levels, especially in terms of the system of which the individuals form a part.

Readers interested in pursuing these ideas may refer to Raven (1997) and Raven and Stephenson (2001).

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