

Special Issue:

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## The Devil Is in the Details: Why the Answer to Most Questions About Creativity Will Always Be “It Depends”

ABSTRACT

“Creativity” is an abstract concept. To make progress, creativity research needs to think about creativity in more concrete ways.

*Keywords:* creativity, domain specificity, creativity assessment, divergent thinking, intrinsic motivation.

In the year the *JCB* was born Robert Pirsig had not yet found a publisher for *Zen and the Art of Motorcycle Maintenance*. Initially rejected by 121 publishers—a Guinness record for books that eventually became bestsellers (Adams, 2006)—it was eventually published in 1974. The book made its first appearance in the *JCB* just 2 years later (Behrens, 1976).

Despite its title, the real subject of *Zen and the Art of Motorcycle Maintenance* was not either Zen or motorcycle maintenance. Pirsig explained that, despite its title, “it should in no way be associated with that great body of factual information relating to orthodox Zen Buddhist practice. It’s not very factual on motorcycles, either” (p. ix). The subtitle, *An Inquiry into Values*, came closer, and it was really just one value that interested Pirsig: “quality.”

Quality, like creativity, is everywhere. Whether one is talking about poetry, painting, publicity, or plumbing, quality matters.

But what is “quality”? One reviewer of *Zen* suggested it is “a combination of ethics and aesthetics necessary in every creative process to lend meaning to the activity” (Gerling, 1995, p. 97). I find it hard not to think, “Okay, ethics and aesthetics may well be part of quality, but still . . . just what is ‘quality?’”

I have somewhat the same response to the most common definition of creativity. I agree that creativity is an idea or product that is original and fits the constraints of the situation (Plucker, Beghetto, & Dow, 2004), but it does not feel like that definition gets me very far. Should a composer ask herself, “Is this original, and does it fit my constraints?” *Hamlet* was original (even though based on a Norse legend) and it fits the “constraints” of being a play about that legend, but simply being original and fitting some ill-defined constraints does not really tell us much about why *Hamlet* is more creative than so many other plays.

Definitions of both creativity and quality always feel too abstract to apply directly. Conceptually they may be fine, but operationally of little value. “As soon as you try to define it, something goes haywire” (Pirsig, 1974, p. 207). Pirsig reminds us that “Definitions are the foundation of reason” (p. 216), but when it comes to judging or understanding actual quality or actual creativity, definitions do not seem to get us very far.

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Although quality certainly matters to psychologists, there is no subfield of psychology devoted to the study of quality. Another definition of quality can help us understand why: Quality is “the standard of something as measured against other things of a similar kind” (<https://en.oxforddictionaries.com/definition/quality>). One can recognize high-quality poetry and high-quality plumbing, but only with respect to other things of the same kind. Quality in poetry and plumbing have very little in common other than a very abstract sense of, well, having quality. Saying that they combine ethics and aesthetics cannot tell us if poetry and plumbing have quality; it is only *after* recognizing that they have quality that we might further observe that they combine ethics and aesthetics. It is only in comparison to “other things of a similar kind” that we can know their quality.

For these reasons, a psychology of quality could not get us very far. And neither can a psychology of creativity. We can study quality, or creativity, in plumbing and quality, or creativity, in poetry, but any study of either quality or creativity as a general concept necessarily comes up short. We cannot predict the quality of someone’s plumbing based on the quality of their poetry. So it is with creativity.

Not all abstract concepts have this problem. Conscientiousness, for example, is an abstract concept, and yet one’s conscientious doing one kind of activity is predictive of conscientiousness in many other activities. Where intelligence falls on this generality-specificity continuum is much debated, but psychometric evidence suggests there is some degree of carry-over across many different kinds of activities; people who evidence intelligence when doing X are more likely than chance to evidence intelligence when doing Y. And scores on different tests of intelligence are highly correlated, as are measure of conscientiousness (Neisser et al., 1996; Roberts, Jackson, Fayard, Edmonds, & Meints, 2009).

Fifty years ago it was assumed that creativity was a general trait. One could apply one’s creativity in any activity one chose, just like conscientiousness. Task-specific skills and knowledge were important, of course, but creativity transcended task, just as intelligence was presumed to. Creativity research and assessment were based on that assumption (Plucker, 1998).

That approach allowed some progress toward understanding creativity. But because *actual* creativity—the ideas and products that are both original and appropriate—varies so widely from activity to activity, there are severe limits on how far creativity research and theory can go under the assumption that creativity is not task-dependent. This is why creativity research, theory, and assessment have stalled and why there is little likelihood that much more progress can be made (with the exception of research that has looked at creativity by discipline rather than as a monolith; see below for a few examples). It may also be why there are so many contradictory research findings. The correct answer to far too many questions about creativity is “It depends,” and only research, theory, and assessment approaches that recognize this are likely to make any progress (Baer, 2016).

Here are five examples of the many areas in which “it depends” is the correct answer.

How is creativity is related to:

1. Mental illness?

2. Assessment?

3. Divergent thinking?

4. Intrinsic motivation?

5. Conscientiousness?

1. Research has shown that creative people tend to be both less sane and more sane than other people, which has led to very intense debates and much confusion. Only by understanding that the answer depends on the kinds of creativity in which one is interested has been resolved. In some fields, such as the arts, there is a positive correlation between high levels of creativity and mental illness, whereas in the sciences there is no mental illness-creativity connection. As Simonton (2010) wrote, “geniuses in the natural sciences tend to be more mentally healthy than in the social sciences; geniuses in the social sciences, more so than those in the humanities; and geniuses in the humanities, more so than those in the arts” (pp. 226–228).

2. Much of creativity assessment is still based on essentially the same tests that were around at the birth of the *JCB* 50 years ago, the two Torrance Tests of Creative Thinking, which come in two versions, figural and verbal. Torrance himself found these two tests were measuring two different, unrelated cognitive skills. “Reponses to the verbal and figural forms of the TTCT are not only expressed in two different modalities . . . but they are also measures of different cognitive abilities. In fact, Torrance

- (1990) found very little correlation ( $r = .06$ ) between performance on the verbal and figural tests” (Cramond, Matthews-Morgan, Bandalos, & Zuo, 2005, pp. 283–284).
3. The Torrance Tests are actually measures of divergent thinking, and the fact that the two most widely used divergent thinking measures are essentially uncorrelated suggests that, whatever contribution to creativity divergent thinking might make, it is likely to depend very much on the kind of creativity one needs. This was confirmed by a re-analysis of the long-term predictive validity of the two versions of the Torrance Tests by Plucker (1999). The verbal divergent thinking scores did predict creative performance, but figural divergent thinking scores did *not* predict the same outcomes. Plucker concluded that “The importance of verbal DT relative to figural DT may be due to a linguistic bias in the adult creative achievement checklists. For example, if a majority of the creative achievements required a high degree of linguistic talent, as opposed to spatial talent or problem solving talents, the verbal DT tests would be expected to have a significantly higher correlation to these types of achievement than other forms of DT” (p. 110). Whether or not the Torrance divergent thinking tests predicted actual creativity depended on the kind of creativity in which one was interested. This might also help explain the sometimes conflicting results of studies of the effect of brainstorming, a technique designed to produce divergent thinking. The answer might be that it depends on what kind of divergent thinking one is trying to produce.
  4. Research on the impact of rewards on creativity has also led to conflicting findings (Amabile, 1996; Baer, 1997, 1998, 2016; Eisenberger & Cameron, 1996), where, once again, the result seems to depend on other things (including age, gender, the kind of reward and how it is offered, and possibly the kind of task being rewarded). And of course intrinsic motivation varies greatly within individuals. A person may be interested in both poetry and plumbing, interested in neither, or interested in just one and not the other. A person’s intrinsic interest in different activities is not a general personality trait. It depends, almost completely, on the kind of activity, so we should not be surprised that creativity-motivation links might vary as well.
  5. Conscientiousness appears to be a fairly general trait, as noted above. This means that people who are conscientious doing one kind of activity tend to be conscientious doing other kinds of activity. But the impact of conscientiousness on creativity is a different matter, where, once again, the answer seems to be that it depends on the task. Conscientiousness has a significant positive impact on creativity in some scientific fields—and a significant *negative* impact in some artistic fields (Feist, 1998, 1999).

For creativity research to flourish, we need to accept that the answer to most questions about creativity will be “It depends”—and then do the hard work of ferreting out the details to determine just what the conditions are for creativity of different kinds, in different fields, with different people, in different activities.

Congratulations to the *JCB* on 50 years of lighting the way!

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