THEORETICAL ARTICLE

Introduction to Special Issue: A Creative Collaboration

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This special issue of *The Psychological Record* marks a concerted and consistent effort on the part of all involved to tackle an important and interesting area of study that is often not directly addressed in the science of behavior: creativity. Creativity is one of those performances often characterized as beyond the reach of mere behaviorists, who toil away at our lower forms of learning according to a seemingly endless supply of introductory psychology texts. In general, creativity is thought to be part of the grand unknowable, a force that erupts from the ether, a product of the grand and elusive mind, and therefore designed to resist any attempts to understand the phenomenon with any degree of precision. Further, we often think of creativity only when we think of highly original, rare, and profound behavior, such as Picasso's *Guernica*, Da Vinci's *Mona Lisa*, Einstein's Theory of Relativity, and the Apollo 13 mission controllers' success in generating a new source of power to make a successful landing. However, when we deconstruct the processes related to these extraordinary events, we can see that many people engage in creative behavior every day. The articles in this special issue also demonstrate that understanding creative behavior is part of the behaviorists' remit, for all forms of behavior are intended to be part of our self-assigned jurisdiction, whether they be respondent or operant, inherited or learned, overt or covert, simple or complex.

As readers may be aware, creativity was a topic tackled by B. F. Skinner, starting with *Science and Human Behavior* (1953) and continuing in other publications and lectures. Just as Darwin studied the role of outcomes to understand the development of new species, behavior analysts study the role of outcomes to understand the development of new behavior. In the present case, we're interested in a particular

type of new behavior—those patterns of behavior that are unusual to the casual observer and yet valued by society. The particular case of creativity does not break the mold of determinism or behaviorism, as evidenced by several of the publications in this special issue. The topic of creativity in behavior analysis has not always garnered the attention it deserves. Although there were certainly publications over the years as our scientific understanding of human behavior evolved, creativity has often been eclipsed by other pressing topics in the field. However, all behavior important to society is also important to us.

We are thankful that the recent emphasis on themes across program committees at the Association for Behavior Analysis International (ABAI) provided us with opportunity, space, and connections to organize a special track theme on the topic of “Creativity” at the 45th Annual Convention in Chicago, Illinois (2019). At that convention, 10 events were scheduled on the topic, including 3 special sessions, 1 symposium, 3 additional papers, and 2 panel sessions. It was during this convention that we approached Mitch Fryling with the idea to create a call for papers, which were initially due in early 2020.

And then the COVID-19 pandemic unfolded. As this worldwide event affected every sector, we found ourselves in the same boat as authors and reviewers. We were all “pivoting, shifting, and adapting” to a significant change in our environments. It was as if there was no better example of a creative shift unfolding before us as we all increased our use of current technology and learned completely novel ways of meeting, connecting, and otherwise completing our work. With that shift came increased time spent in online meetings, answering larger amounts of email, and for some additional responsibilities at home. So today, we are feeling most fortunate to have finally completed this work. We provide readers with what we think is an interesting and impactful tapestry of articles related to behavior analytic accounts of creativity.

Many of the articles in this issue sprouted out of the earlier convention but blossomed during a most difficult and challenging time in history. But this is the creative process, isn't it? After all, “creativity” is behavior emitted under a

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given set of circumstances and involves novel behavior that is viewed by the community as “creative.” In general, this means that the behavior must demonstrate or produce some new creative product or output, or at least improve upon previous creative work in some substantial manner. To do so, we must identify, create, or stumble upon a problem to be solved or a solution to be provided. The pandemic certainly provided opportunities for many, and the authors who have contributed to this issue provide us with reading that often transcends one specific instance or series of instances to larger explanations of behavior.

Sumner raises the question that sparks the creativity in all of us: Can we even talk about it? Her exploration of Wittgenstein’s argument related the use of such words as being a product of the verbal community in which we find ourselves. It makes a nice connection to Butcher’s work on metaphorical extensions in the artistic and scientific communities. Readers will be interested to consider both metaphorical tacts and mands, and that perhaps the consideration, extension, and investigation of creativity in our field is both an art and a science. If so, then the verbal communities from various sectors are needed to provide a complete account of creative behavior.

Marr takes us through his latest thinking on the complexities involved in defining “creativity” and its importance for the field. His insightful analysis suggests that talent and expertise must be developed, and of course solving the issue of motivation is paramount. Behavior analysts will know that shaping is a complex procedure involving successive use of both extinction and reinforcement. The extinction burst is necessary, but not sufficient, to produce novel behavior: the process of extinction involves varying behavior along some dimension(s), but reinforcement is what makes continuing with the process likely. This theory is evidenced by the work by Rodrigues and Garcie-Majires, who arranged for problem-solving behavior in conditions involving either extinction or no extinction. Their results demonstrated that participants were more likely to emit the type of novel, flexible behaviors required for problem solving when they had experienced the extinction condition.

Williams discusses how contingency adduction is involved in the creative process, which provides the reader with an excellent analysis of how we might arrange for verbal and nonverbal behavioral patterns to emerge under different contexts. In contingency adduction, one or more behaviors are reinforced under one set of contingencies. Later a different set of current contingencies recruits one or more behaviors from that person’s history. A novel stimulus control relation is thus formed that serves a new and different function or purpose than the function served when the behaviors were first reinforced and learned. Experimental studies by Bradley and

Johnson (with humans), and by Filho et al. (with pigeons) provide further examples of contingency adduction.

The Amezquita article proposes behaviors that occur during a creative process that reinforces an artist’s ongoing behavior. As such it rejects the notion that artistic behavior is an internal process and trait in favor of behavior–environment contingencies. The author illustrates the behavior–environment process we call creativity with an analysis of complex chains of generative responses in the interactions of improvisational comedians. His analysis is rooted in three pillars of behavior principles: multiple control, extended tacts, and recent research in generative learning governed by the descriptive principle of contingency adduction and more generally from generativity theory.

The Nishimuta and Layng article provides provocative concept analyses for both art and craft, with many examples to support the analyses, and distinguishes the two types of creative performance from each other. The critical and variable features of the concept analyses were revealed by analysis of the consequential contingencies governing the creative performance of each, and the effects of the creations on an audience. Thus, not only do the concept analyses offer much needed clarity in the boundaries for and between art and craft, but they also show how consequential contingencies define them.

Taken as a whole, this special issue takes the concept of creativity and investigates it under many different lenses, yet all still tied together by the same philosophical core of behaviorism. It is a testament to our science of behavior that the basic conceptual system can adapt and extend in such productive, interesting, and far-reaching ways, well beyond the shallow brush of simple learning that our field is sometimes stereotypically painted with. We invite you to explore the range of applications suggested by these articles, and then consider your own unique ways to extrapolate these basic components to new needs, topics, and settings.

Declarations

Conflicts of Interest The authors have no known conflicts of interest to declare.

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