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# ON THE NEED FOR SCIENTIFIC EXPERIMENTATION IN THE CRIMINAL PROFILING FIELD

## A Reply to Dern and Colleagues

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In “The Criminal Profiling Illusion: What’s Behind the Smoke and Mirrors?” (Snook, Cullen, Bennell, Taylor, & Gendreau, 2008), we questioned the evidence base for criminal profiling (CP) and offered an explanation regarding how people have been misled into thinking that it is more effective than what research suggests. In their reply, Dern, Dern, Horn, and Horn (2009 [this issue]) challenged some of our provisional conclusions and outlined a “highly complex and scientifically well-founded practice of criminal profiling” (p. 1086) known as behavioral case analysis. We are pleased to be part of a dialogue that forms the basis for collaborations that promote understanding and enhance scientific contributions to CP. Here we respond to Dern et al. by highlighting some of the areas in which discussion, collaboration, and scientific experimentation are needed.

### ON WHAT CP INVOLVES

Dern et al. (2009) are right to clarify that CP can involve investigative tasks not included in our operational definition (but see Snook et al. [2008, note 1] acknowledging this fact). As reported by Alison, Goodwill, Almond, van den Heuvel, and Winter (in press), CP advice may pertain to interviewing, media strategies, prioritizing resources, statement validity analysis, and so on, the development of which partially draws on social science

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theory and research (e.g., the cognitive interview). As such, be aware that many CP practices around the world continue to lack this richness (see Hicks & Sales, 2006).

Our definition of CP (Snook et al., 2008) intended less to draw the boundary conditions of what CP involves and more to highlight one of its central processes: that of making inferences about an offender, from crime scene evidence (see Alison, Bennell, Mokros, & Ormerod, 2002). This process remains core to at least three activities described by Dern et al. (2009)—namely, characterization of the offender's actions, assessment of motive, and offender profiling. It also is essential to other activities (e.g., setting priorities), activities that presumably depend on inferences about the type of person who the profiler believes committed the crime—for instance, how can one prioritize suspects if they have no idea of what type of suspect is being pursued? For example, an analysis of the “degree of structure” (p. 1086) within an offender's actions requires an inference from observable behavior to a position, whether quantitative or qualitative, on the latent construct of degree of structure, where such a degree presumably results from an offender's characteristic way of behaving during his or her crimes (unless it occurs randomly?).<sup>1</sup> Research has shown that inferences are error prone when drawn from aggregate data and applied to an individual (i.e., the ecological inference fallacy; Molenaar & Campbell, 2009) and that attempting to predict future behavior based on consistent patterns of other behaviors requires a sophisticated understanding of contextual factors (Furr & Funder, 2004); as such, it is critical that the models and assumptions underlying the range of activities composing behavioral case analysis are explicated and empirically tested.

### ON THE CONTRIBUTIONS OF SCIENCE TO CP

Academia may contribute to CP in at least two ways. The first, as recognized by Dern et al. (2009), is that it can provide tested theory and evidence to guide practice. Thus, we commend Dern and colleagues' method in that it contains quality control mechanisms (regular checks on reliability) that represent “a highly successful and highly estimated approach” (p. 1086) and it has a focus on relevant skills through a nationally standardized training program. We applaud any attempts to train profilers on best practices and to evaluate those practices. Thus, Dern et al. are ahead of the curve here in terms of what reportedly occurs in some quarters (Hicks & Sales, 2006).

Now we come to the crux of the matter: We need evidence that CP works; otherwise, the CP field, so prone to fashions of the day, will embrace another panacea that involves sophisticated and complex procedures. We strongly encourage Dern et al. (2009) to publish (a) data that illustrate the effectiveness of their training or (b) results from the “empirically gained data” (p. 1086) from the various tasks performed by German profilers. For example, Dern et al. described continually assessing the reliability of their methods—that is, ostensibly ensuring that two or more people who are examining the same set of evidence using one method will reach the same or at least equivalent set of conclusions. Publishing data on method reliability will ensure, through peer review, the credibility of Dern and colleagues' conclusions. It will also help others understand the nature of their measures, as well as allow independent analysis of the measure in a way that affords constructive development of the CP field, in much the same way that there are independent public reviews of police procedures.

The second contribution of academia is to provide a set of methods that will facilitate the systematic testing and development of techniques. Although Dern et al. (2009) are undoubtedly correct to suggest that “scientifically evaluating the actual application of case-analytical methods in practical police work will always be a difficult task” (p. 1089), this statement sounds an alarm in us. It is redolent of what occurred in clinical psychology where “experts” avoided quantification of their decision making because it devalued the breadth and depth of their observations or made irrelevant the intricacies of their clinical wisdom (Grove & Meehl, 1996; Meehl, 1997). We hope that this will not continue to be the case with CP. Advances in social science mean that complex processes can be assessed. Ethnographic techniques can evaluate the reliability of the process (Morley, Ball, & Ormerod, 2006); statistical techniques can test the accuracy of inferences (Taylor, Bennell, & Snook, 2002); and methods based on content analysis can assess the rigor of reporting (Alison, Smith, Eastman, & Rainbow, 2003). For example, one way to gauge the value of the process is to examine the quality of the evaluation provided in the reports, using a Toulminian philosophy of argument perspective, irrespective of predictive accuracy (or hits; see Alison et al., 2003). We look forward to submissions from Dern et al. demonstrating the value of their methods. Until quality research is published in a peer-reviewed journal demonstrating how these new approaches are effective, the academic community will inevitably remain skeptical of such claims.

### ON THE NAIVETY OF “PURE” ACADEMICS

Dern et al. (2009) argued that we “can be accused of discussing a practical approach [we] have no firsthand experience of” (p. 1085). This is a common criticism raised when psychologists who have no policing experience become involved in applied police research.<sup>2</sup> However, would it be fair to argue the reverse—that is, contributions emanating from the CP field have no value for academic-based theories? Their criticism disregards the contribution that psychological research has made to police activities. Operational policing has benefited greatly from research on eyewitness testimony, interviewing, personnel selection, detecting deception, stress management, and so on (see back issues of this journal). Psychologists with no police experience conducted the majority of this research. It is unclear to us why Dern and his colleagues believe that psychological science cannot lead to similar contributions in the CP field. In fact, this argument is rather curious because it admires academic research when it supports CP (see Dern and colleagues’ reference to general theory of crime and criminal careers); however, it disparages such research when it is skeptical of CP.

### CONCLUDING THOUGHTS

Dern et al. (2009) raised a number of important concerns about the arguments that we (Snook et al., 2008) put forward about the state of CP around the world. We are encouraged by the training and evidence base they described as underpinning behavioral case analysis, and we anticipate that they will take a leading role in facilitating the testing and development of the methods it encompasses. We will, of course, remain skeptical (not cynical) about their

claim that CP is an effective technique until data proving the effectiveness of their approach or a similar one are collected, replicated, and published in peer-reviewed journals. This skepticism and our belief in an inductive, rather than deductive, scientific process come from trials and failures in other areas of professional case analysis (see Meehl, 1997).

## NOTES

1. An interesting empirical question involves the extent to which degree of structure differs from the organized–disorganized dimension that Dern et al. (2009) later suggest plays little role in criminal profiling.
2. We are all very familiar with policing activities. With the exception of Cullen, all of us have had extensive work relationships with police organizations.

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