

THE PERSONALITY PARADOX IN OFFENDER PROFILING

A Theoretical Review of the Processes Involved in Deriving Background Characteristics From Crime Scene Actions

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Most approaches to offender profiling depend on a naïve trait perspective, in which the task of predicting personality characteristics from crime scene actions relies on a model that is nomothetic, deterministic, and nonsituationist. These approaches rest on two basic premises: behavioral consistency across offenses and stable relationships between configurations of offense behaviors and background characteristics. Research supports the former premise but not the latter. Contemporary trait psychology reveals that this is probably due to the fact that Person \times Situation interactions have an effect on offense behavior. When profiling reports rely on a naïve trait approach, such reports should be used with caution in criminal investigations and not at all as evidence in court until research demonstrates its predictive validity.

Many of the individuals who have been involved directly in providing offender profiles for investigations highlight the notion that profiling involves the derivation of personality characteristics from crime scene actions. They claim that the aim of offender profiling is to derive an offender's likely characteristics from the way in which he or she committed a particular crime, thus helping the police to identify the perpetrator (Blau, 1994). For example, Douglas, Ressler, Burgess, and Hartman (1986) described this as "a technique for identifying the major personality and behavioral characteristics of an individual based upon an analysis of the crimes he or she has committed" (p. 405). According to Pinizzotto and Finkel (1990), an offender profile "focuses attention on individuals with personality traits that parallel traits of others who have committed similar offences" (p. 216). Turvey (1999) referred to offender profiling as the "process of inferring distinctive personality characteristics of individuals responsible for committing criminal acts" (p. 1). Finally, Rossmo (2000) claimed that the profiling process is based on the premise that the "interpretation of crime scene evidence can indicate the personality type of the individual(s) who committed the offence" (p. 68).

Previous evaluations of offender profiling have focused on post hoc assessments of accuracy based on the degree to which police officers claimed they were

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satisfied with the advice that they received. For example, a number of reviews of profiling have been carried out primarily on the basis of opinions of detectives about its utility (Britton, 1992; Copson, 1995; Douglas, 1981; Goldblatt, 1992; Jackson, Van Koppen, & Herbrink, 1993). Broadly speaking, all of these reviews concluded that investigators approved of the advice given and found it useful in various ways. However, none of these reviews are definitive and all were somewhat limited in the extent to which they were able to obtain a representative sample of profiles. They were also limited by the fact that they relied almost entirely on the subjective opinions of the investigators subsequent to the conclusion of the case.

In contrast to these evaluations of offender profiling that have focused primarily on product-related issues, few studies or theoretical reviews have considered the profiling process itself or the premises on which profiling methods are founded. Therefore, the goal in this article is to review the validity of the assumptions integral to the process of profiling. In particular, we demonstrate that much of what is considered standard practice in offender profiling falls short of current understanding in psychology about various psychological processes and principles, and therefore profiling practices do not meet basic expert witness standards under Federal Rule of Evidence 702, as recently interpreted.

The following points highlight the general argument advanced in this article as to why the derivation of background characteristics from crime scene actions is unlikely to be a valid and reliable process: (a) Most current profiling methods rely on a naïve and outdated understanding of personality and the trait approach; (b) global traits, or broad personality types, are unlikely to be useful in predicting criminal behavior; (c) it is unlikely that the classification of offenders into broad personality types would enable the profiler to relate clusters of sociodemographic characteristics to different types; (d) a theoretical framework that emphasizes the importance of Person \times Situation interactions in generating behavior may lead to a more productive research endeavor; and (e) profiling should be used with extreme caution in criminal investigations, and not at all as evidence in court, until research demonstrates its predictive validity.

Points (a) through (c) demonstrate how common profiling standards and practices would preclude such material being used in court in cases in which the profile is adduced to infer that, because the defendant is a particular type of individual, it is more probable that this defendant committed the crime. Points (a) through (c) reflect the contemporary personality theorist's perspective that such inferences are not possible. Moreover, other reliability factors, some of which correspond to criteria set out in *Daubert v. Merrell Dow Pharmaceuticals, Inc.* (1993), all militate against profiling advice being used in court. These factors include the extent to which the principle has been tested, the extent to which (a) the principle has been published and subjected to peer review and (b) the witness's specialized field of knowledge has gained acceptance with the general scientific, technical, or specialized community. It is appropriate for psychologists trained in areas such as personality psychology and social psychology to form part of a relevant scientific community to evaluate such reports because many statements in offender profiles purportedly rely on various psychological principles and processes.

The Profiling Process Relies on a Naïve Trait Approach

Many statements contained within offender profiles tend to attribute behaviors to underlying, relatively context-free dispositional constructs within the offender. This practice bears a strong resemblance to traditional trait theories of personality that were common in psychology before the 1970s (Mischel, 1968). As is the case with traditional trait theories, the theory underpinning most forms of offender profiling is nomothetic in its attempt to make general predictions about offenders. It is also deterministic in its assumption that all offenders' behaviors are affected in predictable ways. Finally, it is largely nonsituationist in its belief that behavior is thought to remain stable in the face of different environmental influences.

The Profiling Process Explained

The assumption regarding primary traits is that they are stable and general in that they determine a person's inclination to act consistently in a particular way (stable) across a variety of situations (general). As the notion of behavioral dispositions implies, traits are not directly observable. Rather, they are inferred from behavior (Mischel, 1999). In the case of profiling, these latent phenomena are inferred from crime scene actions. An example illustrates how tautological this argument can be. If a crime is particularly violent, this leads to the conclusion that the offender is particularly aggressive. Similarly, aggressive offenders commit any given crime in a particularly violent way. Thus, traits are both inferred from and explained by behavior.

A more sophisticated but similar example comes from the work that Turvey (1999) referred to in his discussion of motivational typologies, in which he outlined a variety of rape types (power reassurance, power assertive, anger retaliatory, anger excitation, and profit) on the basis of previous research by Groth (1979) and Burgess and Hazelwood (1995). He stated, for example, that "power assertive" offender actions "suggest an underlying lack of confidence and a sense of personal inadequacy, that are expressed through control, mastery and humiliation of the victim, while demonstrating the offender's sense of authority" (Turvey, 1999, p. 173). These offenders, according to Turvey, "may begin to do things that might lead to their identification" (p. 174). Although Turvey added the appropriate caveat that, "all too often, investigators and criminal profilers use . . . offender classifications to label a rapist's behavior with a single investigative 'diagnosis'" (p. 181), such classification systems have been used and remain in use for that very purpose.

For example, in a report prepared in the case of the Scarborough rapist (Paul Bernardo), a Federal Bureau of Investigation (FBI) profiler claimed that in observing the first eight offenses of the unknown offender, the offender could be classified as a "sexual sadist" (http://www.corpus-delicti.com/court_bernardo_warrant.html). This led the profiler to conclude that the following characteristics (and many others) could be predicted on the basis of such a classification system: male, White, parental infidelity or divorce, married at the time of the offense, known for cross-dressing, military experience, and a fascination with police work. Similar examples are abundant in some of the advice given to police forces in the United Kingdom, although the most significant case in the last

decade was the advice provided by a psychologist in the Rachel Nickell murder enquiry.

In the Rachel Nickell enquiry, a clinical psychologist provided the police with an offender profile claiming that he was able to deduce from the crime scene both the murderer's sexual fantasies and a range of background characteristics. Examples of statements from the profile include the notion that the offender would be a lonely individual who was socially and sexually inept, would live nearby and probably alone, and that the offender would be interested in unusual and isolated hobbies (Britton, 1997). When the police eventually focused on a suspect whom they believed fit the profile, a man who had also been identified by a number of witnesses as being near the scene of the crime at the time of the murder, a covert operation known as Operation Edzell was set up.

This operation involved a female undercover officer befriending the suspect through a lonely hearts club the suspect was known to have joined prior to the murder. The operation was purportedly designed to establish whether the suspect would divulge sexual fantasies to his newly found partner that corresponded with those predicted in the psychologist's profile of the murderer. After an exchange of numerous letters between the undercover officer and the suspect, which slowly became more sexually explicit on both parts, the enquiry team were convinced that the sexual fantasies expressed in the suspect's letters fit the profile allegedly constructed at the beginning of the enquiry (the profiler in this case wrote his original profile on a white board, the details of which were erased, and therefore it is impossible to ascertain whether the original profile matched the profile that was subsequently written down). When the suspect was prosecuted for the murder, however, the judge ruled the evidence of the undercover operation inadmissible. Subsequent to this decision, no further evidence was offered against the suspect. Although there was no attempt to use the profile as the basis for evidence, it is difficult to ignore the possibility that it may have shaped the sequence of events in the enquiry and the way in which the undercover operation was conducted. (See Ormerod, 1996a, 1996b, for further details of this case.)

The methods and propositions described in these last two examples, that clusters of specific characteristics about the offender can be derived from examining crime scene actions, are not unique. Indeed, many of the most widely recognized and often-used experts in the United States, United Kingdom, and several other European countries have made similar claims (Åsgard, 1998; Boon, 1997; Douglas, Burgess, Burgess, & Ressler, 1992; Douglas et al., 1986). They reflect the belief that the same behavioral dispositions that determine the style of crime scene behavior are reflected in more general, non-offense patterns in the individual's life. In fact, some profiling advice claims that these dispositions are linked directly with certain demographic features. Figure 1 exemplifies the supposed relationship between offense behavior, latent traits, and demographic features.

The most frequently cited theory of offense behavior in terms of this simple model is exemplified in the FBI's proposition of differences between "organized" and "disorganized" offenders (Douglas et al., 1986). The implication for adherence to such a simple model is that, for example, offenders will vary according to the degree of "organizational control" over a victim, and this will also reflect a stable trait emergent in other features of the offender's life. Therefore, factors

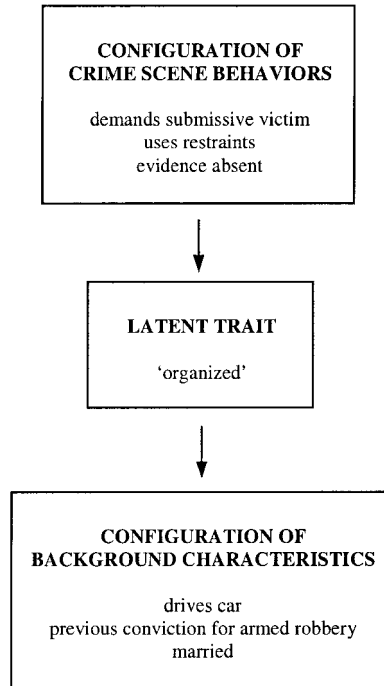


Figure 1. Implicit model of offender profiling.

such as social maturity, intelligence, and previous convictions can all be “profiled” on the basis of the level of organization observed at the crime scene.

This process is illustrated in a quotation from Douglas et al. (1992) in which they stated that “[t]he crime scene is presumed to reflect the murderer’s behavior and personality in much the same way as furnishings reveal the homeowner’s character” (p. 21). However, for the over 200 classification categories of murder, rape, and arson that they presented in their *Crime Classification Manual*, it was also conceded by the authors that “at present, there have been no systematic efforts to validate these profile derived classifications” (Douglas et al., 1992, p. 22). Despite their acknowledgment, this theory and its derivations enjoy a consistent presence in the literature on serial killing and sexual assault (e.g., Badcock, 1997; Britton, 1997; Hickey, 1997; Holmes & DeBurger, 1988). Furthermore, they have been referred to in the advice given by profilers in police investigations (Alison, Smith, & Eastman, 2001) and, although fairly consistently rejected on appeal in the United States (Ormerod, 1996a), attempts have been made to use the process in criminal proceedings.

Research on the Profiling Process

In a comparative study of profilers, groups of homicide detectives, psychologists, and students, Pinizzotto and Finkel (1990) described the steps that lead to profiling inferences. They stated that professional profilers: (a) assess the type of criminal act with reference to individuals who have committed similar acts previously, (b) thoroughly analyze the crime scene, (c) scrutinize the background

of the victim as well as any possible suspects, and (d) establish the likely motivations of all parties involved. Finally, a description of the perpetrator is generated, as the fifth step, from the characteristics supposedly connected with such an individual's "psychological make-up" (p. 216).

It is argued that the inferential process accomplished in the five steps described above can be represented in the question series, "What?" to "Why?" to "Who?" (Pinizzotto & Finkel, 1990). On the basis of crime scene material (What), a particular motivation for the offense behavior is attributed to the perpetrator (Why). This, in turn, leads to the description of the perpetrator's likely characteristics (Who). This simple "What" to "Why" to "Who" inference assumes that the supposed specific motivations that drive the initiation of the offense are consistently associated with specific types of background characteristics of the offender (e.g., "If Motivation X, then Characteristics A, B, C, and D"). This practice is problematic because it is not clear how a profiler moves from one point to the next (i.e., what rules of thumb connect each inferential leap; Pinizzotto & Finkel, 1990). Moreover, profilers commonly do not specify which (if any) behavioral, correlational, or psychological principles they rely on. Therefore, labels such as "organized" and "disorganized" (Ressler, Burgess, Douglas, Hartman, & D'Agostino, 1986) may simply be the result of a readiness to attribute a latent trait to a set of crime scene behaviors despite the lack of clear evidence for the existence of such factors.

Furthermore, Prentky and Burgess (2000) criticized the practice of developing offender profiles by identifying two potential problems: (a) the difficulty involved in the correct classification of the offender based on extremely limited material and (b) the inability to draw reliable conclusions based on "nothing more than what one knows about a particular subtype" (p. 194). As yet, there have been very few attempts to evaluate the evidence for the feasibility of such inferences in relation to offender profiling. One recent study that has attempted to do this demonstrated that there was no evidence to support the hypothesis that subsets or clusters of behaviors were associated with subsets or clusters of offender background characteristics (Mokros & Alison, in press).

The Personality Paradox

The readiness to invoke dispositions rather than explain behavior in terms of situational influences has been described by some as a disparity between intuition and empiricism (i.e., an intuitive belief within most people that behavior is cross-situationally consistent vs. much empirical evidence that suggests it is not; Bem & Allen, 1974). Bem and Allen (1974) have called this disparity "the personality paradox" and, according to their observations, individuals are prone to infer stable dispositions from behavior even though evidence has consistently demonstrated that global trait constructs fail to accurately predict behavior over time and across specific situations. It is possible, therefore, that this inappropriate heuristic has perpetuated the use of such inappropriate methods in offender profiling because many of the individuals who currently provide profiling advice have little academic understanding of personality and of the difficulties associated with inferring behavior from global traits. In some cases, profilers openly admit

that opinions about offenders are based on intuition and experience rather than scientific evidence.

This personality paradox is exemplified in the definitions of profiling outlined at the outset of this article and in statements such as the following:

[P]rofilng rests on the assumption that at least certain offenders have consistent behavioral traits. This consistency is thought to persist from crime to crime and also to affect various non-criminal aspects of their personality and lifestyle, thus making them, to some extent, identifiable. (Homant & Kennedy, 1998, p. 328)

Similarly, the traditional view of personality dispositions leads to the assumption that "individuals are characterized by stable and broadly generalized dispositions that endure over long periods of time and that generate consistencies in their social behavior across a wide range of situations" (Mischel, 1990, p. 112).

Empirical tests, however, generally yield little supportive evidence for this traditional trait view (Mischel, 1968). In a number of classic studies carried out in the 1920s and 1930s (Dudycha, 1936; Hartshorne & May, 1928; Newcomb, 1929), behavioral consistency was tested by observing people's social behavior as it occurred across a variety of natural settings. The intercorrelations among behaviors composing a particular trait concept rarely exceeded .30, leading many theorists to question not only popular trait theories (e.g., Mischel, 1968; Peterson, 1968; Vernon, 1964) but also the very concept of personality (Epstein, 1979). More recent studies, such as the often-cited Carleton College study, also support these earlier findings insofar as the two global trait concepts of friendliness and conscientiousness mostly failed to allow predictions of behavior across specific situations (Mischel & Peake, 1982). As in the earlier studies, the mean intercorrelations of items were positive but very low (.13 and .08, respectively).

Beyond the lack of empirical support for high levels of behavioral consistency, the traditional trait perspective has been criticized on other grounds. Briefly, these include the following: (a) analysis of variance studies (summarized in Bowers, 1973) demonstrating that much of the variation in behavior across situations can be attributed to situational influences or Person \times Situation interactions (however, see Golding, 1975, and Olweus, 1977, for criticisms of these studies); (b) the circularity in reasoning that emerges when one tries to explain behavior from a traditional trait perspective (Bandura, 1969; Cervone & Shoda, 1999a, 1999b); and finally, (c) recent findings suggesting that there exist important forms of personality coherence that traditional trait models fail to capture, in particular, forms of personality coherence that are manifest at the individual (idiographic) level but not at a general (nomothetic) level (Cervone & Shoda, 1999a, 1999b; Zelli & Dodge, 1999).

On the basis of evidence concerning the traditional trait approach, one would not expect a task such as offender profiling, in which global traits are derived from specific actions (or vice versa) to be possible. Moreover, the profilers' task is even more ambitious than this: Many profilers make inferences about characteristics that are not appropriate for a psychological definition of traits. Rather, profilers include features such as the offender's age, gender, ethnicity, marital status, degree of sexual maturity, and likely reaction to police questioning (Annon, 1995; Ault & Reese, 1980; Grubin, 1995; Homant & Kennedy, 1998).

Assumptions Underlying Offender Profiling

Two basic assumptions underpin the profiling methods discussed so far. First, the actions of any given offender are consistent across offenses, or, in statistical terms, intraindividual behavioral variation across offenses is smaller than inter-individual behavioral variation (the consistency assumption). Clearly, if the behavior of the same offender varied more than between offenders, it would not be logical to look for a common denominator that summarized the behavioral tendencies of one offender. The second assumption is that similar offense styles have to be associated with similar background characteristics. For example, aggressive individuals are aggressive both in their offense behavior and in the way they act in other (non-offense) situations (the homology assumption). These two assumptions relate to the necessary (consistency) and sufficient (homology) conditions for offender profiling to be valid and useful.

The Consistency of Offense Behavior

Offenders' behavioral consistency has been examined in a variety of ways. Traditionally, criminological research has adopted a molar approach, defining behavioral consistency as the probability that an individual will repeatedly commit similar types of offenses (Farrington, 1997). Being less occupied with legal nomenclature, psychological research, in contrast, has emphasized a molecular analysis of criminal behavior. In this context, behavioral consistency has been defined as the repetition of particular aspects of behavior if the same offender engages in the same type of offense again (Canter, 1995).

Numerous studies have provided some support for the notion of offender consistency. For example, one study examined the consistency of behaviors displayed by different burglars of residential properties (Green, Booth, & Biderman, 1976). On the basis of 14 aspects of the crimes, such as "location of entry," "method of entry," and "value of property taken," Green and his colleagues were able to use cluster analysis to accurately assign 14 out of 15 cases of burglary to the three actual perpetrators. Similarly, studies have suggested that behavioral consistency exists in the crime scene behaviors of serial rapists, though only to a limited degree (Canter, 1995; Craik & Patrick, 1994; Grubin, Kelly, & Brunson, 2001; Wilson, Jack, & Butterworth, 1996). Thus, there does appear to be some, albeit limited, evidence supporting the consistency assumption in offender behavior.

The Homology of Offense Behavior and Offender Characteristics

The second premise is that the manner in which an offense is committed corresponds with a particular configuration of background characteristics. This differs from the more humble findings that relate to bivariate measures of association, examples of which include Davies, Wittebrood, and Jackson's (1998) and House's (1997) observations on the relationship between previous convictions and certain crime scene actions of rapists. Davies et al. used odds ratios and base rates (i.e., probabilities derived from percentages), and House reported percentages, to describe the relationship between pairs of crime scene actions and previous convictions. For example, Davies et al. noted that offenders who display

awareness of forensic procedures by destroying or removing semen have a likelihood of a previous conviction for a sexual offense that is almost four times higher (exact odds ratio = 3.96) than those offenders who do not take such precautions.

However, these simple relationships between a given action and a given characteristic are very different from the far more ambitious accounts that are often referred to by practitioners and researchers in the profiling field (e.g., see Blau, 1994; Douglas et al., 1986; Pinizzotto & Finkel, 1990). In these cases, attempts were made to profile clusters of background features from crime scene actions to develop a psychological portrait of the offender. They were concerned with multivariate forms of prediction in which particular configurations or sets of actions were linked to particular sets of characteristics. When tested, however, the results were not very promising.

In the study by Davies et al. (1998), the integration of a range of crime scene actions as predictors within logistic regression models failed to show a substantial improvement over the information obtained through simple base rates in the majority of instances. Similarly, in the study by House (1997), the 50 rapists in his sample appeared relatively homogeneous with respect to their criminal histories, regardless of whether they acted in a primarily aggressive, pseudo-intimate, instrumental/criminal, or sadistic manner during the sexual assault. More recent studies have also failed to discover any relationships between specific behavioral themes of rape behavior and subsets of offender background characteristics (Mokros & Alison, in press).

Toward a Contemporary Model of Offender Profiling

Most varieties of offense behavior for which profiling may be of relevance involve intense, relatively short-lived, and potentially traumatic interactions that are generally characterized by the diametrically opposed interests of the offender and victim. Therefore, the influence of situational factors and the role of the victim should not be neglected. A theoretical framework that emphasizes the importance of Person \times Situation interactions in generating behavior may provide a more productive model for offender profiling.

Unlike traditional trait approaches that conceptualize traits as stable attributes within each person that determine how we behave, contemporary trait approaches view traits as probable “if . . . , then . . . ” relations between clusters of behaviors and clusters of situations (Mischel, 1990; Wright & Mischel, 1987a). The contemporary view on traits, therefore, is not a challenge “to the *existence* of dispositions, but to the assumptions about their nature” (Mischel, 1990, p. 131). The central problem with traditional trait approaches, as perceived by contemporary trait psychologists, is the “limited utility of inferring broad, context-free dispositions from behavioral signs as *the* basis for trying to explain the phenomenon of personality, and for predicting an individual’s specific behavior in specific situations” (Mischel, 1990, p. 131).

Thus, the analysis of behavior from a contemporary trait perspective extends beyond the idea of drawing on underlying context-free dispositional constructs in an attempt to explain and predict behavior. Instead, the approach takes account of contextual details. The primary unit of observation is “not the unconditional

probability of trait-relevant behavior, $p(B)$, . . . rather, it is the conditional probability of a certain behavior or category of behaviors given a certain condition or set of conditions has occurred, $p(B|C)$ " (Wright & Mischel, 1987a, p. 1161).

Conditional trait theorists also recognize that behavior categories and situation categories will often vary in the degree to which they are "well defined or fuzzy" (Wright & Mischel, 1987a, p. 1161). In the criminal domain, for example, behavior categories (e.g., hostility) will often consist of a range of specific offense behaviors, with some being highly typical of the category (e.g., the use of physical violence) and some being more peripheral (e.g., the use of verbal violence; Bennell, Alison, Stein, Alison, & Canter, 2001). Likewise, situation categories (e.g., a high-risk event) in the criminal domain will consist of various contexts that are highly typical (e.g., a victim screaming for help when the attack is taking place in public) as well as contexts that are more peripheral (e.g., a victim screaming for help when the attack is taking place indoors). Even the links between behavior categories and situation categories will vary "in the degree to which they are necessary and sufficient [e.g., if encountered by serious resistance, physical violence *will* result] versus probabilistic [e.g., if encountered by serious resistance, physical violence *might* result, with probability p]" (Wright & Mischel, 1987a, p. 1161). The probabilistic nature of these links will, in part, determine what affects the behavioral consistency of offenders across their crime series and how consistent offenders are between their criminal and noncriminal life.

Challenges for a Contemporary Model of Offender Profiling

One of the primary challenges for contemporary trait psychologists is to understand very clearly the relationship between people's behavior, on the one hand, and the situations they typically encounter, on the other. In the words of Wright and Mischel (1987a), contemporary trait psychologists must "identify the categories of conditions in which predictable behaviors relevant to some dispositional domain are most likely to be observed" (p. 1162). This has proven to be an extremely difficult task in the noncriminal domain, but it would be even more difficult to accomplish in the investigative domain. In the investigative domain, very little is ever known about the context within which any given crime takes place beyond the time of occurrence, the location where the offense was committed, and some information about the victim—contextual features that profilers are often encouraged to examine (Douglas et al., 1992).

However, possible ways of accomplishing this task in the noncriminal domain are slowly beginning to emerge and may prove useful in the profiling context. For example, it is possible to conduct interviews with people to determine directly from them the situational features they consider relevant to particular behaviors they exhibit. In one study, adults and children were asked to generate "if . . . , then . . ." contingencies to describe why they think people behave the way they do (e.g., "If Sally is teased, then she becomes withdrawn"; Wright & Mischel, 1987b). Cluster analyzing these "if . . . , then . . ." contingencies proved to be a useful way of identifying important situational features and relevant situation-behavior links in a noncriminal context (Wright & Mischel, 1987b). This approach has the potential to reduce the number of "if . . . , then . . ." statements needed to predict behavior by showing how it is possible to generalize from one

“if . . . , then . . . ” contingency to another one located within the same taxonomic group. This is extremely important, considering the potentially large number of “if’s” that would be needed to represent every situation an individual may encounter (Shoda, 1999).

A similar approach could also be applied in the profiling context by interviewing offenders about the circumstances they consider relevant to behaviors they exhibit (e.g., “If I encounter a victim who physically resists me, then I become very hostile,” or “If I find myself in a situation where there is a high risk of getting caught, then I become very controlling”). The problem is that previous research in the noncriminal domain suggests that these classification systems may not account for every individual, nor may they be “sensitive enough to the important nuances of each situation that may critically affect their psychological meaning” (Shoda, 1999, p. 162). The same sorts of problems would be likely to arise in the profiling context as well.

In addition to identifying relevant “if’s” and “then’s,” recent studies have begun to indicate that the nature of the “if’s” in these situation–behavior contingencies is extremely important to consider. For example, studies that have examined how surface level categorizations of situations affect behavior have yielded poor results (Lord, 1982; Shoda, Mischel, & Wright, 1994). Situational similarity, defined purely by the physical features of situations (e.g., during dinner, in the office, at the park, etc.), does not appear to influence noncriminal behavioral consistency (Shoda, 1999). Instead, the psychological meaning of specific situations to particular individuals must be established to generate any valid inferences (Shoda, 1999). In one study, focusing on the types of interpersonal interactions taking place across situations has proved productive (Shoda et al., 1994), whereas, in another, focusing on the competency demands characteristic of particular situations proved a valid and useful way of defining situations (Wright & Mischel, 1987a). Thus, an important development would be to assess the psychological relevance of situational properties that might emerge in criminal activity. When doing this, it might not be sufficient to simply know that a crime was committed against a young woman, outdoors, during the night. Instead, the psychologically active ingredients (Shoda et al., 1994) making up these criminal situations may need to be identified and taken into account.

Some Cautionary Notes

Although contemporary trait approaches may be more suitable for making inferences about personality features on the basis of crime scene actions, we should add some cautionary notes about the extent to which this approach may or may not be useful in the course of a criminal investigation or in court.

One would have to consider what is commonly termed the *bandwidth–fidelity* or *abstraction* issue (Hampson, 1995). This originated with Cronbach and Gleser’s (1957) discussion of the bandwidth–fidelity trade-off, which refers to “the differences in precision of [personality] measurement at different levels of abstraction” (Hampson, 1995, p. 95). As Hampson (1995) stated:

Where an abstract personality trait is involved [e.g., conscientiousness], then measurement will be imprecise in the sense that the prediction of specific behaviors [e.g., punctuality] will be relatively poor. Nevertheless, predictions can be

made for a wide range of behavior. . . . In contrast, where a less abstract trait is involved, such as punctuality, then prediction of specific punctual behaviors will be good. However, this fidelity is gained at the expense of bandwidth: knowing a person's punctuality is only predictive of a small range of behaviors. (p. 95)

The bandwidth–fidelity trade-off connects directly with current concerns regarding levels of differentiation in offending behavior (Canter, 2000). Examining offense behaviors at a very general level (e.g., in terms of broad psychological themes underlying offender–victim interactions) may be productive in the sense that one might be able to predict very general information about an offender's background. For example, there has been some success in demonstrating how, in cases of arson, particular configurations of actions (or behavioral themes) are associated with different underlying themes within an offender's background (e.g., whether the arsonist has a general history of psychiatric problems, or whether the offender has a long history of previous offenses; Canter & Fritzon, 1998). However, evaluating offense behavior at this aggregate level probably means that profilers will not be able to predict very specific background characteristics. For example, Douglas et al.'s (1992) accounts of the offender having an “uncharacteristically detailed, precise, airtight alibi” (p. 25) or that the offender will be “considered odd by those who know him” (p. 130) are probably a little ambitious. Thus bandwidth is gained at the expense of fidelity.

There are many studies of sexual offenders that support the aggregate level of research. For example, it has been demonstrated in one study that rapists display significantly diverse facets of personality disorder depending on their level of physical violence as demonstrated in their crime scene behavior (Proulx, Aubut, Perron, & McKibben, 1994). Among the findings reported in this study was the observation that more violent offenders score significantly higher on the histrionic, narcissistic, antisocial, and paranoid subscales than do the less violent offenders. Similar results have been reported for another sample of rapists (Langevin, Paitich, & Russon, 1985). In addition, when Knight, Warren, Rebousin, and Soley (1998) derived a set of crime-scene behavior variables from a sample of rapists and then applied these items to predict motivational characteristics for a second sample of rapists, they were somewhat successful in predicting the individuals who could be classified as *expressive*, *aggressive*, *antisocial*, and *sadistic* types (Knight & Prentky, 1990).

In a more recent study, rapists were assigned to one of three groups (*sadistic*, *opportunistic*, and *anger* rapists) according to their respective modus operandi (Proulx, St.-Yves, Guay, & Ouimet, 1999). In this study, they found that substantial differences existed between the sadistic and the opportunistic types with respect to personality disorders. The sadistic offenders were more likely to have avoidant, schizoid, and dependent tendencies, whereas the opportunistic offenders were characterized as narcissistic, paranoid, and antisocial. This study indicates that it may be possible to discriminate between rapists on the basis of their crime scene actions and that such differentiation may be reflected in personality. Such a procedure could properly be referred to as a psychological profile because it refers exclusively to particular psychological constructs. In contrast, the current use of the term *psychological profiling* to refer to demographic characteristics is

a misnomer. Whether the former types of profiling could prove valuable to law enforcement agencies remains to be seen.

Therefore, three main objectives for future research emerge. The first objective is to explore the relationship between personality, as defined through dispositional concepts, and crime scene actions. These dispositional concepts need to take the form of measurable psychological constructs, such as aggressiveness or hostility, rather than demographic features. Only then is the second step possible: assessing whether these dispositions function as moderators of offender background characteristics. Finally, an alternative theoretical framework for exploring the relationship between crime scene actions and characteristics of offenders can be explored that avoids the previous major flaws of the traditional, global trait perspective, such as its neglect of situational influences. In this regard, contemporary trait approaches may provide a more useful model for offender profiling.

Investigative and Legal Implications

In this article, we illustrate why the evidence for relying on a nomothetic, deterministic, and nonsituationist model of offender profiling is not compelling. Thus, any claim involving the derivation of specific clusters of characteristics of the offender on the basis of an evaluation of the crime scene must be treated with a degree of skepticism. Despite this, and despite the admission by many profilers that their work is little more than educated guesswork, the utility of profiling seems to be generally accepted as valid. Relatively recent reports suggest that the FBI currently has 12 full-time profilers who collectively are involved in about 1,000 cases per year (Witkin, 1996). Few studies have considered whether such profiling advice may actually be an impediment to an enquiry, and there are some commentaries on *Regina v. Stagg* (1994) as to how that may have been the case (Alison & Canter, 1999; Ormerod, 1996a). In contrast, most of the evaluation studies have suggested that police officers were relatively happy with the advice received and found it useful despite the fact that it very rarely led to the identification of the offender (Copson, 1995).

The arguments that investigators commonly present for the utility of profiling include statements such as, "It helps narrow the suspect search," "It gives another point of view," and "It helps us understand the offender" (Alison et al., 2001). These comments highlight the possibility that profiling can be of some help and, clearly, with the attendant caveats about profiling standards and appropriate knowledge of how to use such advice, investigations may well benefit from external input of this sort. However, investigators should be wary of (a) reports that rely on broad generalizations about behavior, (b) very specific statements about the likely characteristics of the offender, and (c) claims about the motivations behind the offense. This may lead to an inappropriate focus on a subpopulation of possible suspects, the mismanagement of resources, and a delay in the successful resolution of the case. The argument is not that all profiling advice is poor but, rather, that many of the most influential claims about offenders in the last few decades have been based on intuition, outdated and ill-informed concepts about personality, or on very small-scale studies that are methodologically controversial. Thus, commonly used terms such as *organized/disorganized* (Ressler et al., 1986), *visionary type murderers* (Holmes & DeBurger, 1988), and *power*

reassurance rapists (Burgess & Hazelwood, 1995) should be treated with extreme caution, particularly in cases in which the profiler claims that these typologies are associated with specific sets of background characteristics.

In terms of using offender profiles in court, there are more persuasive reasons to exclude testimony that relies on such simple classification systems. Although there have been no cases to date in the United Kingdom that have incorporated such advice, there have been several attempts to do so in the United States (Ormerod, 1996a, 1999). The majority of these attempts have involved expert witnesses providing evidence in relation to the consistency assumption discussed earlier rather than the homology assumption, which is also integral to the process of profiling. Recent examples include a number of cases in which attempts were made by former FBI agents to link offenses to a particular offender on the basis of so-called signature aspects of offense behavior (Douglas & Munn, 1992).

One such case involved 3 counts of murder in which substantial physical and circumstantial evidence was available that linked the defendant to two of the murders. In addition to this evidence, the trial court accepted testimony provided by an FBI agent that each of the 3 murders in question had characteristic behavioral similarities that suggested they were the work of the same offender (*Delaware v. Pennell*, 1991). On appeal before the Delaware Supreme Court, the defendant's counsel argued that the testimony provided by the FBI agent did not meet the standards of the test then imposed as a standard for all scientific evidence to be adduced before the court—the *Frye* test—and therefore it should not be admissible in court. The court affirmed the original ruling, however, stating that the *Frye* test did not apply in this case because the FBI agent's linkage analysis was based solely on his own knowledge and experience and not on scientific tests for which the *Frye* test would typically be applied.

In a similar case involving 4 counts of murder, evidence provided by an FBI agent was admitted at the pretrial hearing to support the State's position that another set of crimes (consisting of 4 additional murders that the defendant was also charged with) were, in fact, connected to the crimes the defendant was being tried for. The FBI agent testified that, based on various ritual aspects of the murders that were (in the agent's opinion) particularly rare, the 8 murders were the work of one person. The agent did not testify before the jury, but his testimony was accepted by the trial judge as evidence on the issue of suspect identity. On appeal before the Louisiana Supreme Court, the court found no error in the trial court's ruling to accept the FBI agent's linkage analysis (*Louisiana v. Code*, 1993).

Unlike these two previous cases, in a more recent case (*New Jersey v. Fortin*, 2000), the Superior Court of New Jersey reversed an earlier ruling that permitted a former FBI agent's linkage analysis to be used as evidence. The case involved 1 murder and 1 attempted murder; the FBI agent provided testimony that due to distinct similarities across the crimes in question, the two crimes were the work of the same offender. Despite the fact that such evidence had been used in the previously cited cases, the court was not persuaded that these techniques were sufficiently reliable for use in this particular case because of the many differences that existed between the crimes in question.

Finally, in a case that involved evidence being admitted that was related more directly to the homology assumption, a former FBI agent provided testimony as

to the classification of offenses according to the organized/disorganized dichotomy. The former agent contended that the 9 crimes for which the defendant was being charged fit a mixed category, displaying elements of both themes. The defendant's counsel highlighted the disorganized characteristics in an effort to prove the defendant's diminished responsibility. However, in cross-examination, the State elicited testimony from the expert that some of the crimes displayed signs of organization, thereby indicating a lack of mental illness. Under appeal to the Supreme Court of North Carolina, the defendant's counsel contended that the cross-examination was improper as it was prejudicial and had no probative value (*North Carolina v. Wallace*, 2000). However, the court concluded that the cross-examination was permissible, as the jury had been given proper instructions to limit their consideration of the expert's testimony.

Thus, in some cases, advice regarding the consistency of offense behavior has been considered sufficiently reliable and relevant to be helpful to the jury, and in others it has been rejected. However, as far as we are aware, in no case has profiling evidence been successfully used to provide evidence probative of guilt or innocence. Ormerod (1996a, 1999) has comprehensively outlined the number of hurdles that the expert testimony would have to overcome to be able to introduce such evidence, at least in U.K. courts. Much of Ormerod's discussion is in relation to *Regina v. Stagg* (1994), but the points made are applicable to any case in which attempts are made to introduce profiling evidence in court. There are questions over relevance, whether the advice is expert evidence, whether it can be used as similar fact evidence, and whether its potential for prejudicial influence outweighs its probative value.

Ormerod (1999) noted that for a profile about the guilt of a specific defendant to be legally relevant, it must render the facts at issue (the commission of the crime by *this* defendant) more probable. Thus, in Ormerod's view, it is not sufficient to state that the defendant possesses the qualities of the *type* of individual who could have committed the offense because the jury must evaluate whether the defendant matching the description is *the* offender. Even if the profiling advice were based on very specific details, such as those in the Paul Bernardo case outlined earlier, using these details to prove the guilt or innocence of the offender would not be possible because there is no reliable evidence to suggest that such forms of profiling are possible. Indeed, the arguments against the homology assumption suggest that it is very *unlikely* that such details could be inferred from crime scene characteristics.

With hard scientific or technical evidence, one must consider the reliability of the evidence. A ballistics expert is allowed to testify about the likelihood of the match between the offense bullet and the defendant's gun only because he or she can demonstrate by reliable means that the tests are accurate. This is quite different from the evidence of a fortune-teller, for example. If the police sought to rely on the fortune-teller's evidence to demonstrate that it was more probable that the defendant committed the crime, the court would reject the evidence as irrelevant. There is no reliability in the evidence, therefore, it has no foundation on which to make its claim. Where does that leave a profiler who relies not on the hard science of ballistics but on spurious and outdated psychological principles? Given the arguments outlined in this article regarding the inappropriateness of the homology assumption, it is improbable that a profiler would be able to demon-

strate with sufficient strength any claim that he or she can reliably and consistently identify character traits from crime scenes. The evidence would lack a reliable foundation.

In *Regina v. Stagg* (1994), the judge also questioned whether profile evidence was sufficiently well accepted as a scientific method according to strict definitions in *Daubert v. Merrell Dow Pharmaceuticals, Inc.* (1993). Although the English courts have not been overly concerned with this issue, the concern has been more prevalent in U.S. courts, particularly in light of recent developments. In broad terms, federal standards on the admissibility of expert testimony require that to be considered expert evidence, the proffered witness (a) must qualify as an expert by knowledge, skill, experience, or training; (b) must testify to scientific, technical, or other specialized knowledge; and (c) his or her testimony must assist the trier of fact. In cases following the *Daubert* criteria for admitting scientific evidence, the following facts must be considered: whether the method consists of a testable hypothesis, whether the method has been subject to peer review, the known potential rate of error, the existence and maintenance of standards controlling the technique's operation, whether the method is generally accepted, the relationship of the technique to methods that have been established to be reliable, the qualifications of the expert witness testifying on the basis of the methodology, and the nonjudicial uses of the method.

If the foregoing criteria were applied to the many opinions about likely offender characteristics on the basis of types of classification systems endemic in some profiling methods, the "reliability" of profile evidence would be extremely controversial. As outlined earlier, the few studies that have assessed success rates have been limited and have relied heavily on subjective opinions of the investigating officers. Moreover, rates of "success" are difficult to evaluate because it is extremely difficult to assess the extent to which the profile aided in the identification of the offender. Where efforts have been made to extract such information, results are not encouraging. For example, in Copson's (1995) study, profiles assisted in less than 25% of cases in solving the case, and in only 5 cases out of 184 (2.7%) did the profile lead to the identification of the offender. Studies have also indicated that profilers do not process crime scene information differently from any other group (e.g., students, police officers) in which they are untrained in profiling methods (Pinizzotto & Finkel, 1990).

Courts in the United Kingdom, at least, are aware of the potential prejudicial value of statements that appear to come from authoritative sources but are not necessarily any more helpful than jurors' own opinions (Ormerod, 1999). A particular danger may lie in Bem and Allen's (1974) demonstration that individuals readily attribute behavior to global traits and that much profiling advice appears to reinforce this inappropriate heuristic. Therefore, a profiler proffering advice on types of offenders, and how these classifications relate directly to sets of characteristics, may be particularly prone to prejudicial thinking because it exploits inaccurate laypersons' perspectives of behavior.

However, is it possible that arguments could be made to admit expert testimony on offender profiling on the basis of a more flexible application of standards, as outlined in *Kumho Tire Co. v. Carmichael* (1999)? The plaintiffs in this case argued that the court's application of the *Daubert* criteria was too inflexible, resulting in the exclusion of testimony regarding visual observations

made by an expert with extensive experience in tire failure analysis. On the basis of patterns of wear and tear on tires, the plaintiffs sought to use the expert to support the view that the tire that blew out on a minivan driven by Carmichael, thereby leading to a fatal accident, was defective. The issue regarding the admission of the expert testimony centered on whether observations based on extensive visual and tactile practical experience represent a standard of knowledge sufficient to comprise technical or other specialized knowledge beyond the knowledge of the jurors.

Profilers with extensive practical case experience may argue that this standard of knowledge applies to them and thus affords them the privileged position of commenting on offenses that the layperson would have little or no opportunity to experience. This tacit knowledge may indeed lead to a greater appreciation of the multivariate factors that underpin various forms of offending behavior. However, if an offender profiler were to present profiling evidence in court, it would be essential for them to make clear that their testimony was based on personal opinion and experience rather than scientific evidence. As O'Connor and Krauss (2001) made clear, the burden would be on profilers to know what their limits are and to effectively articulate these limits to the court.

It seems improbable that any individual would have experienced a sufficient number of cases to enable him or her to offer the level of detailed advice that exists in many profiling reports. Many profilers comment on crimes that are exceptionally rare, such as sexual homicide. Therefore, by definition, they would not have had the opportunity to work on hundreds of such cases. Moreover, for reliable conclusions, each case used to proffer an opinion would have to be similar in nature to the profiled case. Due to the behavioral complexity involved in such cases, it is unlikely that any individual expert would have encountered enough cases that are sufficiently similar to be considered "extensive practical experience." There is a qualitative and quantitative lack of experience in the field. Given the research reviewed in this article, one could reasonably argue that these limits are so overwhelming as to make any evidence based on offender profiles inappropriate for use in court, under federal approach to expert evidence, even with the flexibility of the approach outlined in *Kumho Tire Co. v. Carmichael* (1999).

Conclusion

In terms of its evidential value, profiling cannot circumvent the problems of legal relevance if it is adduced to seek to show that, on the basis of a profile constructed from the crime scene, it is more probable that a particular defendant committed the crime. Few profilers would or could claim, on the basis of experience (or, indeed, any method), that they could single out the actual perpetrator. As Ormerod (1996b) stated, "[T]his above all other hurdles appears to be the one almost guaranteed to trip up the psychological profile" (p. 350). Ormerod (1996b) concluded with a quote from Smith (1993), which warned that psychological profiling "does not of course provide the identity of the offender, but it can indicate the *type* of person being sought, i.e., the type most likely to have committed a crime possessing certain unique characteristics" (p. 245). However, the arguments outlined in this article assert that, because many contemporary profiling methods rely on a naïve trait approach, even Smith's more humble claim

is overly optimistic. The notion that particular configurations of demographic features can be predicted from an assessment of particular configurations of specific behaviors occurring in short-term, highly traumatic situations seems an overly ambitious and unlikely possibility. Thus, until such inferential processes can be reliably verified, such claims should be treated with great caution in investigations and should be entirely excluded from consideration in court.

References

- Alison, L. J., & Canter, D. V. (1999). Professional, legal and ethical issues in offender profiling. In D. V. Canter & L. J. Alison (Eds.), *Profiling in policy and practice* (pp. 21–54). Aldershot, England: Ashgate.
- Alison, L. J., Smith, M., & Eastman, O. (2001, January). *Toulmin's philosophy of argument and its relevance to offender profiling*. Paper presented at the 6th International Investigative Psychology Conference, University of Liverpool, Liverpool, England.
- Annon, J. S. (1995). Investigative profiling: A behavioral analysis of the crime scene. *American Journal of Forensic Psychology, 13*, 67–75.
- Åsgard, U. (1998). Swedish experiences in offender profiling and evaluation of some aspects of a case of murder and abduction in Germany. In Case Analysis Unit (BKA) (Eds.), *Method of case analysis: An international symposium* (pp. 125–130). Weisbaden, Germany: Bundeskriminalamt Kriminalistisches Institut.
- Ault, R. L., & Reese, J. T. (1980). A psychological assessment of crime profiling. *FBI Law Enforcement Bulletin, 49*, 22–25.
- Badcock, R. (1997). Developmental and clinical issues in relation to offending in the individual. In J. L. Jackson & D. A. Bekarian (Eds.), *Offender profiling: Theory, research and practice* (pp. 9–41). Chichester, England: Wiley.
- Bandura, A. (1969). *Principles of behavior modification*. New York: Holt, Rinehart & Winston.
- Bem, D. J., & Allen, A. (1974). On predicting some of the people some of the time: The search for cross-situational consistencies in behavior. *Psychological Review, 81*, 506–520.
- Bennell, C., Alison, L. J., Stein, K. L., Alison, E. K., & Canter, D. V. (2001). Sexual offences against children as the abusive exploitation of conventional adult-child relationships. *Journal of Social and Personal Relationships, 18*, 149–165.
- Blau, T. H. (1994). Psychological profiling. In T. H. Blau (Ed.), *Psychological services for law enforcement* (pp. 261–274). New York: Wiley.
- Boon, J. (1997). Contribution of personality theories to psychological profiling. In J. L. Jackson & D. A. Bekarian (Eds.), *Offender profiling: Theory, research and practice* (pp. 43–59). Chichester, England: Wiley.
- Bowers, K. (1973). Situationism in psychology: An analysis and a critique. *Psychological Review, 80*, 307–336.
- Britton, P. (1992). *Review of offender profiling*. London: Home Office.
- Britton, P. (1997). *The jigsaw man*. London: Bantam Press.
- Burgess, A., & Hazelwood, R. (Eds.). (1995). *Practical aspects of rape investigation: A multidisciplinary approach* (2nd ed.). New York: CRC Press.
- Canter, D. V. (1995). Psychology of offender profiling. In R. Bull & D. Carson (Eds.), *Handbook of psychology in legal contexts* (pp. 343–355). Chichester, England: Wiley.
- Canter, D. V. (2000). Offender profiling and criminal differentiation. *Legal and Criminological Psychology, 5*, 23–46.
- Canter, D. V., & Fritzon, K. (1998). Differentiating arsonists: A model of firesetting actions and characteristics. *Legal and Criminological Psychology, 3*, 73–96.

- Cervone, D., & Shoda, Y. (1999a). Beyond traits in the study of personality coherence. *Current Directions in Psychological Science*, 8, 27–32.
- Cervone, D., & Shoda, Y. (1999b). *The coherence of personality: Social–cognitive bases of consistency, variability and organization*. New York: Guilford Press.
- Copson, G. (1995). *Coals to Newcastle: Part 1. A study of offender profiling*. London: Home Office, Police Research Group.
- Craik, M., & Patrick, A. (1994). Linking serial offences. *Policing*, 10, 181–187.
- Cronbach, L. J., & Gleser, G. C. (1957). *Psychological tests and personnel decisions*. Urbana: University of Illinois.
- Daubert v. Merrell Dow Pharmaceuticals, Inc., 509 U.S. 579, 113 S. Ct. 2786 (1993).
- Davies, A., Wittebrood, K., & Jackson, J. L. (1998). *Predicting the criminal record of a stranger rapist*. London: Home Office, Policing and Reducing Crime Unit.
- Delaware v. Pennell, 584 A. 2d 513 (Del. Super. Ct. 1989).
- Douglas, J. E. (1981). *Evaluation of the (FBI) psychological profiling program*. Quantico, VA: FBI Academy, Institutional Research and Development Unit.
- Douglas, J. E., Burgess, A. W., Burgess, A. G., & Ressler, R. K. (1992). *Crime classification manual: A standard system for investigating and classifying violent crime*. New York: Simon & Schuster.
- Douglas, J. E., & Munn, C. (1992). Violent crime scene analysis: Modus operandi, signature, and staging. *FBI Law Enforcement Bulletin*, 62, 1–20.
- Douglas, J. E., Ressler, R. K., Burgess, A. W., & Hartman, C. R. (1986). Criminal profiling from crime scene analysis. *Behavioral Sciences and the Law*, 4, 401–421.
- Dudycha, G. J. (1936). An objective study of punctuality in relation to personality and achievement. *Archives of Psychology*, 204, 1–319.
- Epstein, S. (1979). The stability of behavior: I. On predicting most of the people most of the time. *Journal of Personality and Social Psychology*, 37, 1097–1126.
- Farrington, D. P. (1997). Human development and criminal careers. In M. Maguire, R. Morgan, & R. Reiner (Eds.), *The Oxford handbook of criminology* (2nd ed., pp. 361–408). Oxford: Oxford University Press.
- Golding, S. (1975). Flies in the ointment: Methodological problems in the analysis of the percentage variance due to persons and situations. *Psychological Bulletin*, 82, 278–288.
- Goldblatt, P. (1992). *Psychological offender profiles: How psychologists can help the police with their enquiries*. Surrey, England: University of Surrey.
- Green, E. J., Booth, C. E., & Biderman, M. D. (1976). Cluster analysis of burglary M/Os. *Journal of Police Science and Administration*, 4, 382–388.
- Groth, A. N. (1979). *Men who rape: The psychology of the offender*. New York: Plenum.
- Grubin, D. (1995). Offender profiling. *Journal of Forensic Psychiatry*, 6, 259–263.
- Grubin, D., Kelly, P., & Brunson, C. (2001). *Linking serious sexual assaults through behavior*. London: Home Office, Research, Development and Statistics Directorate.
- Hampson, S. E. (1995). *The construction of personality: An introduction* (2nd ed.). London: Routledge.
- Hartshorne, H., & May, M. A. (1928). *Studies in the nature of character: Vol. 1: Studies in deceit*. New York: Macmillan.
- Hickey, E. W. (1997). *Serial murderers and their victims* (2nd ed.). New York: Wadsworth.
- Holmes, R. M., & DeBurger, J. (1988). *Serial murder*. Newbury Park, CA: Sage.
- Homant, R. J., & Kennedy, D. B. (1998). Psychological aspects of crime scene profiling: Validity research. *Criminal Justice and Behavior*, 25, 319–343.
- House, J. C. (1997). Towards a practical application of offender profiling: The RNC's criminal suspect prioritization system. In J. L. Jackson & D. A. Bekerian (Eds.),

- Offender profiling: Theory, research and practice* (pp. 177–190). Chichester, England: Wiley.
- Jackson, J. L., Van Koppen, P. J., & Herbrink, J. C. M. (1993). *Does the service meet the needs? An evaluation of consumer satisfaction with specific profile analysis and investigative advice as offered by the Scientific Research Advisory Unit of the National Criminal Intelligence Division (CRI), The Netherlands*. Leiden: NSCR.
- Knight, R. A., & Prentky, R. A. (1990). Classifying sexual offenders: The development and corroboration of taxonomic models. In W. L. Marshall, D. R. Laws, & H. E. Barbaree (Eds.), *The handbook of sexual assault: Issues, theories, and treatment of the offender* (pp. 27–52). New York: Plenum.
- Knight, R. A., Warren, J. I., Reboussin, R., & Soley, B. J. (1998). Predicting rapist type from crime-scene variables. *Criminal Justice and Behavior*, 25, 46–80.
- Kumho Tire Co. v. Carmichael, 119 S. Ct. 1167 (1999).
- Langevin, R., Paitich, D., & Russon, A. E. (1985). Are rapists sexually anomalous, aggressive, or both? In R. Langevin (Ed.), *Erotic preference, gender identity, and aggression in men: New research studies* (pp. 17–38). Hillsdale, NJ: Erlbaum.
- Lord, C. G. (1982). Predicting behavioral consistency from an individual's perception of situational similarities. *Journal of Personality and Social Psychology*, 42, 1076–1088.
- Louisiana v. Code, 627 So. 2d 1373 (La. 1993).
- Magnusson, D., & Endler, N. S. (1977). Interactional psychology: Present status and future prospects. In D. Magnusson & N. S. Endler (Eds.), *Personality at the crossroads: Current issues in interactional psychology* (pp. 3–35). Hillsdale, NJ: Erlbaum.
- Mischel, W. (1968). *Personality and assessment*. New York: Wiley.
- Mischel, W. (1990). Personality dispositions revisited and revised: A view after three decades. In L. Pervin (Ed.), *Handbook of personality: Theory and research* (2nd ed.; pp. 111–134). New York: Guilford Press.
- Mischel, W. (1999). *Introduction to personality* (6th ed.). Fort Worth, TX: Harcourt Brace.
- Mischel, W., & Peake, P. K. (1982). Beyond déjà vu in the search for cross-situational consistency. *Psychological Review*, 89, 730–755.
- Mokros, A., & Alison, L. J. (in press). Is profiling possible? *Legal and Criminological Psychology*.
- Newcomb, T. M. (1929). *Consistency of certain extrovert-introvert behavior patterns in 51 problem boys*. New York: Columbia University, Teachers College, Bureau of Publications.
- New Jersey v. Fortin, 162 N.J. 517 (2000).
- North Carolina v. Wallace, 351 N.C. 481 (2000).
- O'Connor, M., & Krauss, D. (2001). Legal update: New developments in Rule 702. *American Psychology-Law Society News*, 21, 1–18.
- Olweus, D. (1977). A critical analysis of the modern interactionist position. In D. Magnusson & N. S. Endler (Eds.), *Personality at the crossroads: Current issues in interactional psychology* (pp. 221–233). Hillsdale, NJ: Erlbaum.
- Ormerod, D. (1996a). The evidential implications of psychological profiling. *Criminal Law Review*, 92, 863–877.
- Ormerod, D. (1996b). Psychological profiling. *Journal of Forensic Psychiatry*, 7, 341–352.
- Ormerod, D. (1999). Criminal profiling: Trial by judge and jury, not criminal psychologist. In D. V. Canter & L. J. Alison (Eds.), *Profiling in policy and practice* (pp. 207–261). Aldershot, England: Ashgate.
- Peterson, D. R. (1968). *The clinical study of social behavior*. New York: Appleton-Century-Crofts.

- Pinizzotto, A. J., & Finkel, N. J. (1990). Criminal personality profiling: An outcome and process study. *Law and Human Behavior, 14*, 215–233.
- Prentky, R. A., & Burgess, A. W. (2000). *Forensic management of sexual offenders*. New York: Kluwer Academic/Plenum.
- Proulx, J., Aubut, J., Perron, L., & McKibben, A. (1994). Troubles de la personnalité et viol: Implications théoriques et cliniques [Personality disorders and violence: Theoretical and clinical implications]. *Criminologie, 27*, 33–53.
- Proulx, J., St-Yves, M., Guay, J. P., & Ouimet, M. (1999). Les agresseurs sexuels de femmes: Scénarios délictuels et troubles de la personnalité [Sexual aggressors of women: Offence scenarios and personality disorders]. In J. Proulx, M. Cusson, & M. Ouimet (Eds.), *Les violences criminelles* (pp. 157–185). Sainte-Foy, Quebec, Canada: Les Presses de l'Université Laval.
- Regina v. Stagg. (1994). CCC 14th September.
- Ressler, R. K., Burgess, A. W., Douglas, J. E., Hartman, C. R., & D'Agostino, R. B. (1986). Sexual killers and their victims: Identifying patterns through crime scene analysis. *Journal of Interpersonal Violence, 1*, 288–308.
- Rossmo, D. K. (2000). *Geographic profiling*. Boca Raton, FL: CRC Press.
- Shoda, Y. (1999). Behavioral expressions of a personality system: Generation and perception of behavioral signatures. In D. Cervone & Y. Shoda (Eds.), *The coherence of personality: Social-cognitive bases of consistency, variability, and organization* (pp. 155–181). New York: Guilford Press.
- Shoda, Y., Mischel, W., & Wright, J. C. (1994). Intraindividual stability in the organization and patterning of behavior: Incorporating psychological situations into the idiographic analysis of personality. *Journal of Personality and Social Psychology, 67*, 674–687.
- Smith, C. (1993). Psychological offender profiling. *The Criminologist, 244*, 224–250.
- Turvey, B. (Ed.). (1999). *Criminal profiling: An introduction to behavioral evidence analysis*. New York: Academic Press.
- Vernon, P. E. (1964). *Personality assessment: A critical survey*. New York: Wiley.
- Wilson, M., Jack, K., & Butterworth, D. (1996). *The psychology of rape investigations: A study in police decision making*. Liverpool, United Kingdom: University of Liverpool, Department of Psychology.
- Witkin, G. (1996). How the FBI paints portraits of the nation's most wanted. *U. S. News & World Report, 32*.
- Wright, J., & Mischel, W. (1987a). A conditional analysis of dispositional constructs: The local predictability of social behavior. *Journal of Personality and Social Psychology, 53*, 1159–1171.
- Wright, J., & Mischel, W. (1987b). Conditional hedges and the intuitive psychology of traits. *Journal of Personality and Social Psychology, 55*, 454–469.
- Zelli, A., & Dodge, K. A. (1999). Personality development from the bottom up. In D. Cervone & Y. Shoda (Eds.), *The coherence of personality: Social-cognitive bases of consistency, variability, and organization* (pp. 94–126). New York: Guilford Press.