

Disentangling Criminal Profiling: Accuracy, Homology, and the Myth of Trait-Based Profiling

International Journal of
Offender Therapy and
Comparative Criminology
2015, Vol. 59(3) 313–332
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sagepub.com/journalsPermissions.nav
DOI: 10.1177/0306624X13513429
ijo.sagepub.com



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Abstract

The scholarly literature over the past decade has chronicled a growing problem in the forensic technique colloquially called criminal profiling. The basis of this conundrum appears to originate from a concept referred to as “*offender homology*,” which presumes an inherent uniformity among offenders that is believed to underpin the analytic process incumbent to criminal profiling. Studies thus far conducted have apparently struggled to find evidence of offender homology, and based upon these findings arguments have been promulgated that various approaches to criminal profiling imputably labeled as “*trait-based*” are therefore not viable. Indirectly contradicting these arguments, however, have been studies testing profiler accuracy that have found evidence of individuals who appear to use trait-based methods but can nonetheless proficiently predict the characteristics of unknown offenders. Against this backdrop, the present article examines a number of tenets and disjunctions that appear to have arisen from research into offender homology and imputed to the practices of so-called trait-based profiling. The notion of whether trait-based profiling is, in fact, representative of profiling methods is examined and an integrative hypothesis proposed that attempts to resolve the quandary between offender homology and profiler accuracy.

Keywords

criminal profiling, criminal investigative analysis, investigative psychology, profiler accuracy, offender homology

From modest beginnings, the technique colloquially known as criminal profiling has grown over time in both its use by law enforcement agencies and in terms of the

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research activity it attracts (e.g., Kocsis, 2007a, 2009; Palermo & Kocsis, 2005). In this latter context, the literature over the past decade has chronicled a growing problem concerning the premise underpinning the practice and whether criminal profiling, as it is traditionally conceived, is in fact possible.

This conundrum appears to originate from a concept that has come to be known as the "*homology assumption*." It should be noted that the broad proposition concerning the homology assumption is, in and of itself, not entirely unreasonable in that there is some basis to the suggestion that the technique of criminal profiling involves to some extent an underlying reliance, and thus assumption, on there existing to some degree a commonality in the characteristics of some offenders and the behaviors they may commonly exhibit when perpetrating certain modes of behavior constituting a crime. It is this presumed dimension of commonality among some offenders which, to some degree, functionally underpins the retro-classification process that is described as "criminal profiling" (e.g., Kocsis, 2006a).

Following a somewhat rigid interpretation of these concepts, a number of studies have attempted to analyze various samples of offenders but have apparently struggled to find evidence of the anticipated commonality among them and their behaviors that would be congruent with the proposition of the homology assumption thought to underpin the technique of criminal profiling. Such findings have thereafter led to arguments that profiling methodologies that have been labeled as "*trait-based*"¹ are unlikely to be functionally valid. While such arguments seem initially compelling, separate research investigating accuracy among profilers has rendered findings that appear to be incompatible with these propositions. Specifically, various studies have demonstrated the abilities of profilers to proficiently identify the characteristics of unknown offenders (e.g., Kocsis, 2006a, 2009, 2010, 2013; Kocsis, Middeldorp, & Karpin, 2008; Pinizzotto & Finkel, 1990). Accordingly, the contradiction that emerges is that following the arguments promulgated from homology research, this proficiency observed among the profilers who use trait-based paradigms should not be evident as these methods are invalid as they are believed to be dependent on the unsupported concept of offender homology.

Disentangling the Tenets

It is this apparent contradiction between the implications argued from offender homology research and the findings of the profiler accuracy research that, in the authors' opinion, forms the nub of the conundrum and thus disjuncture informing the premise of criminal profiling. Consequently, this manuscript attempts an integration of these seemingly opposing positions. In so embarking, it is perhaps worth reflecting upon the wisdom of Aristotle who observed,

... the investigation of truth is in one way hard, in another easy. An indication of this is found in the fact that no one is able to attain the truth adequately; while on the other hand, no one fails entirely, but everyone says something true about the nature of things and while individually they contribute little or nothing to the truth, by the union of all a considerable amount of information is amassed. (Freeman, 2003, p. 7)

As a consequence, it is important to bear in mind that this manuscript is not intended to generate criticism but rather to attempt a more holistic appraisal and thus integration of what appears to be disparate bodies of research in the field of criminal profiling. Accordingly, some portions of this manuscript are not presented to expound argument but rather to simply highlight issues, aspects of research, or entire publications that do not appear to have been sufficiently contemplated. Equipped with this broader exposition, it is hoped that readers can thereafter make their own assessment as to what is at the source of these seemingly divergent positions. With these parameters noted, the merits of four tenets that appear to emerge from the research into offender homology concerning criminal profiling require examination.

Tenet 1: Profilers Are Not Accurate

The first tenet that sporadically appears to emerge from the literature considering offender homology has been the proposition that profilers have failed to demonstrate accuracy in their predictions. A perplexing aspect has been its exposition which, at times, appears quite truncated in its coverage concerning the full scope of available material produced over the decades suggestive of the contrary (see Kocsis, 2006a, 2006b, 2010, 2013, Kocsis et al., 2008).

In considering the gamut of evidence connotative of accuracy among profilers, the vast number of semibiographical case studies describing accurate predictions by profilers should be noted. Examples include writings of Douglas and Olshaker (1995) and Hazelwood and Michaud (2002). Likewise, some consideration should be made of the various feedback surveys examining police personnel's satisfaction with criminal profiles and thus the anecdotally perceived accuracy of supplied profiles (e.g., Copson, 1995; Jackson, Van Koppen, & Herbrink, 1993). While reliance upon such sources has been cautioned against in the context of their acting as stand-alones or substitutes for more scientifically grounded evidence (see Kocsis, 2006a, 2009), in the present framework of offering a broad appraisal of all available sources of evidence suggestive of accuracy, these accounts and feedback studies provide an important starting point.

In a similar context, reference to the very early study examining accuracy among profilers conducted by the FBI Behavioral Sciences Unit (Institutional Research and Development Unit, FBI Academy, 1981) should also be acknowledged. While this internal document does not appear to have been publicly released, citation of its findings concerning a reported accuracy ratio of approximately 80% has featured in the scholarly literature (e.g., Pinizzotto, 1984). Finally, some note should also be made of more recent research such as that of Safarik, Jarvis, and Nussbaum (2000) that provides some qualitatively formulated evaluations regarding the proficient application of criminal profiling.

The first scientifically grounded and published research to directly and empirically examine accuracy among profilers occurred via three small studies reported in Pinizzotto and Finkel (1990). All of these studies involved quasi-experimental case simulations whereby groups of participants (such as profilers, psychologists, detectives, and students) were required to undertake various profiling tasks concerning the

likely offender in both a murder and sexual assault case. As the utilized case materials were from previously resolved crimes, the correct answers, in terms of the actual characteristics of the responsible perpetrators, were known. Thus, a mechanism for measurement was developed wherein the responses by the various participants could be cross checked with the characteristics of the actual perpetrator and thus scored by their degree of correspondence and hence accuracy.

The first study reported in Pinizzotto and Finkel (1990) examined the content of profiles written by the various participants. This analysis found that the profiles written by the profilers contained far more accurate predictions of the likely offender in both the sexual assault and murder case in comparison with all other groups. This degree of accuracy by the profilers surpassed all the other groups at statistically significant levels.

Another component featured in Pinizzotto and Finkel (1990) was a line-up exercise in which the various groups of participants were tasked with attempting to identify the correct offender in the sexual assault case from a presented pool of possible offenders. In this task, all of the senior profilers (referred to as "expert/teachers") achieved a 100% accuracy ratio in correctly selecting the responsible offender while less experienced profilers (referred to as "trained profilers") achieved an 83% accuracy ratio. In comparison, other groups who undertook the identical task only achieved accuracy ratios starting from 67% (detectives), down to 50% for psychologists and 16% for students.

Arguably, the most cited component of Pinizzotto and Finkel's (1990) research involved the profiling exercise wherein participants made predictions concerning the characteristics of the probable offender via a multiple-choice questionnaire instrument that was thereafter quantitatively scored. That is, via a set of model answers to the questionnaire derived from the actual offenders to the crimes, the accuracy of all predictions could be objectively scored and tabulated. The outcome of this analysis found that the mean accuracy scores of the profilers did not surpass those of the compared groups in the homicide case. However, the accuracy scores of the profilers were found to be superior, and at statistically significant levels, to those of the compared groups when predicting the characteristics of the offender in the sexual assault case.

Adopting a similar quasi-experimental case simulation design and multiple-choice questionnaire, the research of Kocsis, Irwin, Hayes, and Nunn (2000) thereafter examined profiler performance in a murder case and found that on a descriptive level the mean accuracy scores of the sampled profilers surpassed all other participant groups. Moreover, when the various groups were combined into dichotomous categories of profilers versus non-profilers and then compared, the level of accuracy of the profilers was found to be superior at a statistically significant level. Subsequently, the study by Kocsis (2004) again examined the accuracy of profilers but in the context of an arson case. The results of this study found not only a descriptive pattern evidencing superior accuracy among the profilers but also results at statistically significant levels. Although primarily focused upon examining cognitive mechanisms in profile construction, the pilot study reported in Kocsis, Middledorp, and Try (2005) also featured a small

subcomponent that again provided some evidence of accuracy among the sampled profilers.

Two large-scale, omnibus-type studies have also been done using differing pools of data taken from various aforementioned studies examining profiling accuracy. The first was reported in Kocsis (2003) that analyzed some previously unused data in conjunction with the samples collected from the studies reported in Kocsis et al. (2000), Kocsis, Hayes, and Irwin (2002) and Kocsis (2004). The results of this analysis found that the accuracy levels among the profilers clearly surpassed that of all the variously compared groups of participants. Thereafter, Kocsis et al. (2008) reported on two further analyses that involved differing participant pools derived from the studies by Pinizzotto and Finkel (1990) as well as those previously described by Kocsis and colleagues. Unlike the study reported in Kocsis (2003), these analyses merged the data-pools into dichotomous categorizations with participants being classified as either “profiler” or “non-profiler” and then contrasted their performance differences in terms of accuracy. Both of these analyses found that the profilers demonstrated superior accuracy and at statistically significant levels however, some limitations were noted with these findings (see Kocsis, 2010, 2013, for a discussion of this).

In summary, while there is unquestionably scope for further research examining the merits of criminal profiling (see Kocsis, 2006a, 2006b, 2010, 2013; Kocsis et al., 2008), the aforementioned material collectively provides compelling evidence indicating that suitably skilled individuals who operate under the colloquial mantle of “*profiler*” can demonstrate accuracy in their predictions.

Tenet 2: No Links Between Offender Characteristics and Crime Behaviors

A second tenet that intermittently appears to be conveyed in the literature associated with homology research is the proposition that studies have failed to demonstrate patterns and/or relationships between behavioral features typically exhibited in crimes and offender characteristics.

As previously indicated, part of the intended purpose of this article is to appraise more broadly the extant literature. Accordingly, when reflecting upon this tenet, readers may consider examining research relating to patterns in rapists such as Davies, Wittebrood, and Jackson (1997); Groth, Burgess, and Holmstrom (1977); Hazelwood and Warren (1989a, 1989b, 1990); Hazelwood, Dietz, and Warren (1992); House (1997); Knight, Warren, Reboussin, and Soley (1998); Prentky, Cohen, and Seghorn (1985); and Warren et al. (1999) as to whether such literature provides any indications of relationships between behavioral features and offender characteristics. Beyond studies examining rape, there are also those involving other crime modalities such as, but not limited to, Canter and Fritzon (1998); Chan and Heide (2008); Gerard, Mormont, and Kocsis (2007); Godwin (2000); Gratzer and Bradford (1995); Hakkanen (2007, 2008); Hakkanen, Lindlof, and Santtila (2004); Hakkanen, Puolakka, and Santtila (2004); Hakkanen, Tjihonen, Lindberg, Salenius, and Weizmann (2009);

Myers, Burgess, and Nelson (1998); Safarik, Jarvis, and Nussbaum (2002); Santtila, Hakkanen, Alison, and Whyre (2003); and Santtila, Hakkanen, Canter, and Elfgrén (2003). In addition, the studies by Kocsis and Cooksey (2002), Kocsis, Cooksey, and Irwin (2002), and Kocsis, Irwin, and Cooksey (2002) also sought to develop conceptual models to assist with profiling offences in crime modalities such as sexual murder as well as serial rape and arson (further elaborated upon in Kocsis, 2006a). Once again, these studies also appear to be suggestive of identified relationships between offender characteristics and crime behaviors.

Tenet 3: Criminal Profiling Relies Upon Trait-Based Connections

As noted in Dern, Dern, Horn, and Horn (2009), there appear to be disparities between the conceptions imputed by some commentators on the topic of criminal profiling with the activities of actual practitioners who produce criminal profiles to assist police investigations.² In this regard, the scientifically conservative language originally conveyed in early literature considering the concept of offender homology as a “*hypothesis*” that “*may*” explain part or some aspect of the technique commonly and colloquially known as “*criminal profiling*” seems to have dissipated over time with apparently increasing juxtapositions in terminology and analogies between the formulations of criminal profiles with the topic of personality theory. Naturally, errant labeling is not a significant issue of concern. However, what presents as problematic are inferences that also seem to arise from this circumstance. That is, the imputed rationale stemming from the designs of studies investigating offender homology seem to have increasingly leaned toward an underlying premise that the process of constructing criminal profiles (apparently conceived within the “*trait-based*” framework) reflects some form of causative relationship between offender attributes with exhibited criminality that in turn unilaterally forms the mechanism by which criminal profiles are constructed.³

Consequently, there appears to be some disjunction between the perceived relevance and use of, for example, offender/crime typologies with the operational practice of constructing criminal profiles. While various studies have developed dichotomies and typologies suggesting common patterns between offender characteristics and crime behaviors, few in the authors’ view feature depth in articulating these findings as framed in etiology or causality. However, it seems that within the various studies investigating offender homology and in some of the arguments stemming therefrom there is an implicit *ipso facto* connection that offender characteristics are the sole causal basis for exhibited crime behaviors, and that such connections exclusively underpin the formulation of criminal profiles in practice. The apparent failure to clearly find such connections in homology studies is apparently interpreted thereafter to imply that the so-called “*trait-based*” profiling methods cannot be viable.

It is widely accepted that correlative relationships, even when found to be statistically significant, are not necessarily a determinative basis for causation. Accordingly, while statistically significant correlations may validly be found between, for example, the perpetration of rape and the male gender, this does not imply that when such

variables are in some capacity studied in reverse, the male gene will be found to be a stable causal predictor for the perpetration of rape. Unfortunately, it seems that reasoning of this amorphous nature seems to permeate the general rationale and developed arguments stemming from some studies on offender homology. Consequently, in line with the comments noted in Dern et al. (2009), there is scope to contemplate some disparity between the imputations arising from studies into offender homology and how they meaningfully externalize to offender/crime typologies as well as the processes involved in the imputed “*trait-based*” methods in the actual construction of criminal profiles.

Tenet Four: Profilers Do Not Evaluate Situational Factors

Another point of marked differentiation noted in Dern et al. (2009) are the descriptions suggested by some commentators concerning the procedures for formulating criminal profiles and those actually employed by law enforcement personnel when constructing criminal profiles.⁴ In this context, another tenet that seems to have emanated from homology research is a view that the “*trait-based*” approaches to criminal profiling do not consider the potential influence of situational factors on behaviors during the commission of a crime. In this regard, arguments appear to have been postulated to the effect that “*trait-based*” approaches to criminal profiling are reflective of out-dated models and understanding of personality theories and that, once again, the construction of profiles conceived under this label is apparently a rudimentary and perfunctory process.

Dern et al. (2009) refute such propositions and as an example discuss the operational practices of the German Federal Criminal Police Office in constructing criminal profiles. Although they offer some procedural information, what is also worth noting is the extant literature concerning this apparent omission of situational factors in the presumed processes of constructing criminal profiles under this “*trait-based*” label. It must be acknowledged that the issue of situational factors has certainly been highlighted by research activities associated with homology and indeed appears to have become something of a cornerstone of some doctrines. However, simply because the relevance of situational factors are not at the forefront of other literature encapsulated under the imputed rubric of “*trait-based*,” profiling methods should not equate with there being some basis to infer that these concepts are totally alien and not considered in some capacity (Palermo, 2002).

While not adopting the same nomenclature, it seems that oblique references to situational variables are arguably apparent in early material on criminal profiling and indeed often predates the promulgated literature on offender homology. For example, Hazelwood and Burgess (1995) discuss the elicitation of information from rape victims via interview for the purpose of constructing criminal profiles. One key aspect of these interviews is the identification of information concerning the victim’s reactions during the assault and how, in turn, these reactions affect the offender’s behavior and thus offer some insight into profiling the offender. This particular examination of the victim’s reaction and its impact upon the offender’s behavior suggests consideration of

a situational variable during the perpetration of a sexual assault that is relied upon in developing a criminal profile.

In addition, a number of authors have canvassed the issue commonly referred to as “*staging*,” whereby offenders deliberately alter facets of a crime scene so as to distort its appearance and thus deliberately attempt to misdirect investigation of the crime (e.g., Douglas & Munn, 1992). While not a purely incidental phenomenon, consideration of this staging behavior indicates that the interpretation of exhibited crime scenes for the purpose of constructing a criminal profile involves consideration of intermediary factors beyond the initial apparent presentation and thus whether the offender engages in such behavior. This is arguably another situational factor that serves to illustrate that the process of constructing a criminal profile does not appear to be confined to simplistic and somewhat static cause and effect connections between behaviors vis-a-vis characteristics, as the proposition stemming from homology appears to suggest.

Finally, in recognition of the overlap that can be observed in crimes, Ressler, Burgess, and Douglas’ (1988) original organized/disorganized dichotomy was expanded via the creation of the “mixed” category (Douglas, Burgess, Burgess, & Ressler, 2006). A variety of reasons are noted for the development of the mixed classification including:

“The attack may begin as a well-ordered, planned assault, but it deteriorates as unanticipated events occur” (Douglas et al., 2006, p. 223).

The creation of an entire category partly due to the contingency of taking into account unanticipated events that can arise during the perpetration of a crime seems connotative of an awareness and consideration of situational factors (and thus context in which offences occur) that can potentially arise and impact upon exhibited behaviors in what is, apparently imputed to be a “*trait-based*” profiling method.

Disentangling Homology

The review of the aforementioned four tenets associated with homology research calls for a number of considerations. What might explain the conflicting findings between the studies demonstrating accuracy in profilers and those unable to find evidence of offender homology? It is postulated herein that this circumstance may arise as a result of disjunction in the construct validity of data analyzed in many homology studies and in the generalizations from such studies to the real world practices of profiling offenders who perpetrate aberrant violent crimes. A more detailed explanation of this hypothesis is provided below.

The Limitations of Law and the Diversity of Human Beings

The classification of crime in criminal justice systems throughout the world is typically conceived of as acts regarded to be breaches of the law. While the laws of a society can prescribe with comparative ease a generic constellation of behaviors that constitute a violation, and thus a crime, the underlying mechanisms that may variously

explain the human beings who are actually adjudged and assigned these corresponding legally conceived labels is a different matter altogether. In the applied clinical practice of forensic psychiatry/psychology, the explanation of any number of offenders to the same mode of crime can potentially involve a myriad of psychological, criminological, developmental, environmental, biological, and/or cultural factors (e.g., Arrigo & Shipley, 2004; Drogin, Dattilio, Sadoff, & Gutheil, 2011; Palermo, 2004; van Marle, 2009). While legal classifications can, for example, prescribe certain behaviors as “rape” and perpetrators as “rapists,” there is considerable diversity in the forensic psychological/psychiatric assessment literature to explain why, and in what manner, a multitude of different human beings may perpetrate such behavior collectively labeled by law and the community as “rape.” However, it appears that underpinning studies into offender homology is what could also be viewed as a homogeneity assumption in operation with respect to all sampled human beings. This assumption appears to feature two key dimensions. The first appears to be a perspective that all people assigned the same legal label for a crime are equivalent and comparable. Second, all human beings who are labeled as a “*criminal*” or an “*offender*” (due to the perpetration of a crime), irrespective of the mode of offence, can also in some capacity be equated and considered comparable with each other.

To be fair, it should be clearly noted that these propositions *per se* have never been explicitly articulated in research associated with offender homology. However, analogous suppositions arguably appear to permeate the study designs and thereafter generalizations from research into offender homology when compared with the profiling of aberrant violent crimes. Consequently, it needs to be considered whether the various homology studies may suffer from overgeneralizations in failing to appreciate the diversity of human beings in the crimes perpetrated and the coherent uniformity and robustness of the constructs supposedly being tested. It also needs to be considered to what extent such findings can be convincingly generalized. Simply put, many homology studies may feature analyses of quite diverse, heterogeneous samples of people (when considered from an applied clinical psychiatric/psychological perspective), which are unlikely to find evidence of offender homology from the outset. Moreover, regard should be had to what extent, if any, the results from a study of robbers, for example, can be validly compared and generalized with the practical context of profiling aberrant violent crimes such as serial sexual murderers.

The Diversity of Offenders and Criminal Acts

As a means of exploring these propositions, a sample pool in a hypothetical offender homology study will be considered. In this context, what will be examined is whether the analyzed pool of data was more likely reflective of a homogenous group of people that may have feasibly demonstrated attributes of offender homology or, rather, more likely a diverse heterogeneous group of individuals where homology, beyond a legally contrived title such as “sex offender,” was unlikely to be found from the outset. As a starting point, the sample pool for this hypothetical homology study will be conceived as consisting of 100 male stranger sex offenders from which 62 have only perpetrated

a single sexual assault upon a single victim while the remaining 38 have committed multiple sexual offences and are colloquially referred to as “serial” sex offenders.

From the outset, three issues arise in respect of this hypothetical sample. The first is consideration of the potential diversity that can readily exist among human beings who may be labeled as sex offenders as a result of having sexually assaulted a single victim. The second issue is to consider the potential diversity that can readily exist among individuals who may be labeled as “serial” sex offenders. The third is to consider the possible diversity that can exist between people who perpetrate single versus serial sex offences.

The spectrum of individuals and circumstances that can conceivably be described as a single assault sex offender is substantial. Moreover, the elements surrounding the concept of acquaintance so as to constitute a “*stranger*” seem equally nebulous. As a hypothetical example to illustrate some of these issues consider the case where, in a befuddled state of intoxication, a man sexually assaults a woman whom he happens to encounter late in the evening while staggering home through a park. A second example could for instance involve a man who encounters a previously unknown woman in a bar. The pair initially decide to spend an evening together; however, at some juncture the woman wishes to discontinue the plan but the man forcibly continues to have intercourse. As a third example, while travelling on an ocean cruise ship a man participates in a gang rape by having intercourse with a heavily intoxicated and thus effectively unconscious woman who has been brought back to a cabin he shares with two other companions who have previously had intercourse with the woman in the cabin.

As a fourth example, during a cultural festival a young man encounters a previously unknown girl. The pair later have intercourse but in the following days the mother, upon discovering this event from her daughter, has the man charged as her daughter is under the legal age of consent. A fifth example could involve a drug dealer who storms the home of a rival and during this invasion sexually assaults the wife of his rival who simply happens to be present. A sixth example could be a sexual predator who, driven by pedophilic fantasies, breaks into a house where he suspects a young girl is alone. He finds and rapes the young girl but is thereafter apprehended and imprisoned for 25 years. A seventh example could be a homeless man who during a psychotic episode featuring command hallucinations sexually assaults an unknown homeless woman he encounters in another section of the same shelter. Arguably, all of the aforementioned examples feasibly constitute single sexual assaults by a stranger within a legal conceptualization of “rape,” “sexual assault,” or “sexual intercourse without consent.” However, the clinical psychiatric/psychological assessment and forensic explanation of the human beings, their circumstances, and their behaviors as to how and why these differing sexual assaults were perpetrated are patently different and statistical analysis of such an eclectic group would perhaps unsurprisingly struggle to find evidence of homology among them.

The Diversity in Aberrant Violent Serial Offenders

Two other dimensions to consider from the aforementioned hypothetical sample pool are what constitutes a serial sexual offender and thereafter whether single and serial

sexual offenders are validly comparable. Focusing on the first issue, the scholarly literature chronicles substantial discourse and debate concerning the conceptualization and classification of what constitute serial offenders. Some examples of this literature include Dietz, Hazelwood, and Warren (1990); Dobbert (2009); Egger (1984); Hickey (2012); Keeney and Heide (1995); Kocsis (2006a); Kocsis (2008); Purcell and Arrigo (2006); Proulx, Beauregard, Cusson, and Nicole (2007); and Schlesinger (2004). By way of simple illustration of this concept, consider a hired killer (colloquially referred to as a “hit-man”) who may kill two, three, or more people separated by an interceding period of time but has no previous relationship with any of the victims. Despite featuring these attributes often identified as criteria for a serial murderer (e.g., Douglas et al., 2006; Ressler et al., 1988), the hit-man is often recognized as not constituting a serial sadistic sexual murderer unlike an offender who may, for example, abduct, torture, sexually assault, and murder hitchhikers (Kocsis, 2006a).

Accordingly, one hypothetical example that could feasibly be viewed as a stranger serial sex offender might be a member of a motorcycle gang who was convicted of sexually assaulting a prostitute while frequenting a brothel. Two years later, this same individual is involved in the sexual assault of an unknown woman from a rival gang. It seems reasonable to assume that the forensic clinical psychiatric/psychological assessment of such an individual is likely to be quite different from that of an individual who harbors sexually sadistic gerontophilic fantasies and targets areas where, for example, he considers he may rape elderly women residing alone in a retirement village. Despite the apparent differences between these two vignettes, both arguably could be assigned the label of stranger serial sex offender and once again it would seem unsurprising that an analysis of these different individuals and their crimes would struggle to find evidence of homology between them.

The final dimension worthy of consideration is the likely diversity and differences between single and serial offenders. Put simply, are the forensic psychiatric/psychological components of a sexually sadistic serial rapist, for example, who may exhibit *Diagnostic and Statistical Manual of Mental Disorders* (4th ed., text rev.; *DSM-IV-TR*; American Psychiatric Association [APA], 2000, behaviors consistent with diagnostic attributes of an Antisocial Personality Disorder and Sexual Sadism equivalent to those of the aforementioned intoxicated rapist who impetuously sexually assaults a woman in a befuddled state? While such incompatibility seems apparent in the context of a forensic psychiatric/psychological assessment of people and their crimes (Park, Schlesinger, Pinizzotto, & Davis, 2008), it is such comparisons that can feasibly underpin the hypothetical sample of 100 stranger sex offenders wherein 62 have committed a single sexual assault but are merged together with 38 serial sex offenders.

Serial Sexually Sadistic Murder and Robbery: Comparing Apples and Oranges?

Having explored the potential diversity within the supposedly same mode of crime (i.e., sexual assault), some consideration should also be afforded to generalizations that may be made across totally different modes of crime. Put simply, how valid are findings likely to be that are derived from a study examining homology among

individuals who perpetrate robberies, for example, but thereafter are generalized and proposed to be relevant to the mechanisms and features said to characterize individuals who perpetrate serial sadistic sexual murders?

The efficacy of such generalizations can first be considered by reference to the aforementioned cited literature concerning aberrant violent serial offenders such as that of, but not limited to, Hazelwood and Warren (1995); Schlesinger (2004, 2008); or Hickey (2012). In the authors' opinion, a review of the subject literature suggests that limited similarities are likely to be found in the mental processes and mechanisms motivating the exhibited behaviors found in commercial robbers and, for example, serial sexually sadistic rapists or murderers. Indeed, the disparity between the mechanisms characteristic of offenders who perpetrate these differing modes of crime can also be seen in their criminological statistics. The phenomenon of serial murder constitutes approximately 1% of all recorded homicides in the United States (Federal Bureau of Investigation, 2008). However, the prevalence of robberies and burglaries in the United States vastly exceeds that of all recorded homicides let alone serial murders.⁵ Although the criminal histories of some serial sexual murderers may feature, for example, the perpetration of crimes technically classified as burglary but typically motivated by fetish and/or voyeuristic goals (e.g., Hickey, 2012; Schlesinger & Revitch, 1999), the overwhelming majority of burglars and robbers do not engage in serial sexually sadistic murders. This suggests that while some sexual murderers may feature some behaviors and mechanisms roughly akin to those observed in burglars, the vast majority of offenders who perpetrate burglaries are not driven by the same mechanisms found among serial sexual murderers.

Moreover, research is available documenting the impact crime modality has upon the validity of theorems designed for criminal profiling. For example, in Kocsis and Irwin (1997), the efficacy of geographic profiling principles was concurrently examined across samples of serial rapists, serial arsonists, and burglars. This study indicated that while the tested profiling principles were effective when applied to samples of rapists and arsonists, they were far less precise when applied to burglars. The contrasting variable in this study was crime modality⁶ and thus a comparison between the quite different inherent mechanisms associated with crimes of interpersonal violence such as rape and arson and those of criminal enterprise such as burglaries (see Kocsis, 2006a).

In summary, consideration of these factors suggests that research derived from offenders in quite disparate crime modalities such as, for example, robbery, will be of limited relevance with respect to their generalization to offenders who, for example, perpetrate serial sexually sadistic rapes or murders and, consequently, the profiling of such crimes.

Conclusion: Disentangling Accuracy and Homology

This article should not be viewed as uncritically advocating the merits of criminal profiling or as a vehicle for devaluing research into offender homology. As outlined at the outset, its objective is to attempt a broader examination of the extant literature that

may lead to some integration and explanation of the apparent disjunction between two seemingly contradictory bodies of research and their implications concerning the premises underpinning criminal profiling. This article endeavors to show that the functional realities of constructing criminal profiles are not as simplistic in conceptualization and process, as seems to be conveyed in some literature typically associated with studies investigating offender homology. In this context, it should be recognized that the label and notion of “*trait-based*” profiling appears to be an imprecise and thus unrepresentative characterization of profiling methodologies that has been conceived by some proponents of one school of thought to criminal profiling and imputed to describe the activities of others (Kocsis, 2006a, 2007b, 2010, 2013; Palermo & Kocsis, 2005).

It has been suggested that the apparent incompatibility between research into profiler accuracy and offender homology may be accounted for by an inapplicability of the homology research findings to the real world practice of profiling offenders of aberrant violent crimes. Presented with the issues canvassed in this manuscript, readers will need to make their own determination surrounding the diversity of human beings and generalizations that can validly be made from studies derived from potentially heterogeneous populations when treated collectively under a legal/criminological label and in turn analyzed as a test of their homology.

It should be borne in mind, however, that the basic premise of offender homology and its relevance to criminal profiling is, to some extent, not unreasonable. Consequently, if the contentions of this manuscript are accepted, then it is equally relevant to consider what meaningful implications arise from the homology studies that contribute to our understanding of criminal profiling when considered alongside the research into profiler accuracy. The difficulties in finding evidence of offender homology in the studies undertaken thus far appear to have been interpreted as a basis to argue that some approaches to criminal profiling are not viable. The confounding obstacle of this rationale, as previously explained, has been research into profiler accuracy (Kocsis, 2013; Kocsis et al., 2008).

An alternative interpretation is hypothesized in this manuscript to the effect that the failure to find evidence of offender homology in the studies undertaken thus far may be an indication that the concept of offender homology may not be distinctly manifest in the diverse spectrum of crimes commonly perpetrated. This, in turn, may also suggest that the optimal application and utility of criminal profiling (as traditionally conceived) may, in fact, be quite limited and not as broad in application as perhaps popularly considered in more contemporary research literature and investigative practices. This manuscript has endeavored to highlight that the difficulties in previous studies to find evidence of offender homology may be due to the inherent heterogeneity of sampled human beings who are commonly classified under the same conceptualized but in reality differing label. Profiler accuracy research suggests that the technique of criminal profiling is, to some extent, viable. The pertinent issue therefore is to contemplate in what context or circumstance human beings may exhibit some common degree of homology in their perpetration of crimes that might also account for the results concerning profiler accuracy. Although speculative, a tentative clue in

answering this mystery may emanate from the original, albeit comparatively modest, applications of criminal profiling from the early publications of the FBI's Behavioral Sciences Unit that described the intended parameters of the technique in the following terms:

It is most important that this investigative technique be confined chiefly to crimes against the person where the motive is lacking and where there is sufficient data to recognize the presence of psychopathology at the crime scene . . . This technique is usually confined to homicides, rapes etc., in which available evidence indicates possible mental deficiency or aberration on the part of the perpetrator. (Ault & Reese, 1980, p. 25)

This early description signposts the original scope of criminal profiling as applicable and focused upon crimes related to the presence of psychopathology within an offender which, in some capacity, motivates the exhibited behaviors. In this regard, perhaps serial sadistic sexual murderers, for example, who may exhibit some common constellation of sadism, fantasy mechanisms, compulsions, paraphilias, and/or other psychopathologies (e.g., Arrigo & Purcell, 2001; Bennett, 1993; Briken, Habermann, Berner, & Hill, 2005; Brittain, 1970; Gee & Belofastov, 2007; Hazelwood et al., 1992; Hickey, 2012; Hill, Habermann, Berner, & Briken, 2007; Langevin & Curnoe, 2013; MacCulloch, Snowden, Wood, & Mills, 1983; Martens & Palermo, 2005; McClellan, 2008; Myers, Recoppa, Burton, & McElroy, 1993; Palermo, 2002, 2004, 2008; Prentky et al., 1989; Schlesinger, 2004; Shipley & Arrigo, 2008; Warren, Hazelwood, & Dietz, 1996) may, in turn, demonstrate some degree of homogeneity. This is in contrast to the bulk of crimes typically observed in societies and criminological data that are not driven, and thus characterized, by some type of aberrant psychological/psychiatric mechanism (Kocsis, 2009). When extrapolated into a broader context, perhaps tentative suggestions of homology in human beings are already available via the creation of the diagnostic nosologies found in the *DSM-IV-TR* (APA, 2000) or the ICD-10 Classification of Mental and Behavioral Disorders (World Health Organization, 1992). In addition, socio-psychological factors and/or psychometric instruments (e.g., Hare, 1991; Scott & Resnick, 2009) variously conceived to serve as mechanisms for evaluating recidivism, and in particular, sexual interpersonal violence may arguably also relate to presumed underlying conceptions of homology observable in the offenders of certain modes of crime.

The answers to these propositions will require further intensive research into the issue of offender homology involving highly focused clinically oriented psychological/psychiatric assessments of each sampled individual and their criminal activities before being grouped together and, in turn, collectively studied under a less sophisticated legal/criminological label. Returning to the wisdom of Aristotle, the answer to the underlying premises and applications of criminal profiling, as traditionally conceived, is unlikely to be sourced exclusively in the findings of the offender homology or profiler accuracy studies. However, from each of these bodies of research it is hoped that some combined greater understanding can be achieved toward disentangling criminal profiling.

Dedication

This manuscript is dedicated to the memory of Leonard I. Morganbesser, PhD, a rare scholar who held a genuine care for the community, the principles of justice, integrity, and compassion for all. The world is diminished by his absence but nonetheless strengthened by the contributions he has left behind for us to remember.

Acknowledgment

The authors wish to thank Professor Bruce Arrigo and Professor Louis Schlesinger for having read and commented on an earlier version of this article.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) received no financial support for the research, authorship, and/or publication of this article.

Notes

1. It should be noted that the authors are unaware of any approach or school of thought to the technique of criminal profiling supposedly encompassed under this “trait-based” rubric that accepts this characterization as a valid representation of their methods (Kocsis, 2007b).
2. Indeed, beyond the concerns noted in Dern, Dern, Horn, and Horn (2009), apparent inaccuracies and/or mischaracterizations of profiling methods and/or concepts by various commentators appear to be a recurring problem (e.g., Douglas, 2007; Kocsis, 2006b, 2010, 2013; Kocsis, Middeldorp, & Karpin, 2008).
3. In this context, the operationalization of these studies arguably does not even seem congruent with any personality theory from the discipline of psychology but seem more reminiscent of criminological phrenology.
4. Indeed, complicating this issue further is some scope to fundamentally question what are the methods for constructing criminal profiles. There are numerous process models canvassing proposed descriptions for the construction of criminal profiles (e.g., Douglas & Burgess, 1986; Schlesinger, 2009). However, what appears lacking is empirically based testing of how criminal profiles are, in fact, constructed in actual practice (e.g., Kocsis, 2006a; Pinizzotto & Finkel, 1990). Complicating this point even further is the existence of differing schools of thought to criminal profiling (see Palermo, 2002; Palermo & Kocsis, 2005) and thus the question is not merely one of how profiles are constructed but also by whom.
5. In 2012, an estimated 14,827 persons were murdered in the United States. During the same year, there were an estimated 354,520 robberies and an estimated 2,103,787 burglaries (U.S. Department of Justice-Federal Bureau of Investigation, 2013).
6. It should be noted that other variables have been noted to potentially impact upon the efficacy of profiling (e.g., Van der Kemp & Van Koppen, 2007).

References

- American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental disorder* (4th ed., text rev.). Washington, DC: Author.
- Arrigo, B. A., & Purcell, C. E. (2001). Explaining paraphilias and lust murder: Toward an integrated model. *International Journal of Offender Therapy and Comparative Criminology*, 45, 6-31.
- Arrigo, B. A., & Shipley, S. (2004). *Introduction to forensic psychology* (2nd ed.). New York, NY: Elsevier.
- Ault, R., & Reese, J. T. (1980). A psychological assessment of crime-profiling. *FBI Law Enforcement Bulletin*, 49(3), 22-25.
- Bennett, K. A. (1993). Victim selection in the Jeffrey Dahmer slayings: An example of repetition in the paraphilias? *Journal of Forensic Sciences*, 38, 1227-1232.
- Briken, P., Habermann, N., Berner, W., & Hill, A. (2005). The influence of brain abnormalities on psychological development, criminal history and paraphilias in sexual murders. *Journal of Forensic Sciences*, 50, 1204-1208.
- Brittain, R. P. (1970). The sadistic murderer. *Medicine, Science and the Law*, 10, 198-207.
- Canter, D., & Fritzon, K. (1998). Differentiating arsonists: A model of firesetting actions and characteristics. *Legal and Criminological Psychology*, 3, 73-96.
- Chan, O., & Heide, K. M. (2008). Weapons used by juveniles and adult offenders in sexual homicides: An empirical analysis of 29 years of US data. *Journal of Investigative Psychology and Offender Profiling*, 5, 189-208.
- Copson, G. (1995). *Coals to Newcastle? Part 1: A study of offender profiling*. London, England: Home Office, Police Research Group.
- Davies, A., Wittebrood, K., & Jackson, J. L. (1997). Predicting the criminal antecedents of a stranger rapist from his offence behaviour. *Science & Justice*, 37, 161-170.
- Dern, H., Dern, C., Horn, A., & Horn, U. (2009). The fire behind the smoke: A reply to Snook and colleagues. *Criminal Justice and Behavior*, 36, 1085-1090.
- Dietz, P. E., Hazelwood, R. R., & Warren, J. (1990). The sexually sadistic criminal and his offenses. *Bulletin of the American Academy of Psychiatry and Law*, 18, 163-178.
- Dobbert, D. L. (2009). *Psychopathy, perversion, and lust homicide: Recognizing the mental disorders of power serial killers*. Santa Barbara, CA: Praeger.
- Douglas, J. E. (2007, November). John Douglas responds to Malcom Gladwell article "Dangerous Minds." *The New Yorker*. Retrieved from http://crimsonshadows.net/index.php?option=com_content&view=article&id=155:jd-response-to-the-new-yorker&catid=27:profiling&Itemid=140
- Douglas, J. E., & Burgess, A. W. (1986). Criminal profiling: A viable investigative tool against violent crime. *FBI Law Enforcement Bulletin*, 55(12), 9-13.
- Douglas, J. E., Burgess, A. W., Burgess, A. G., & Ressler, R. K. (2006). *Crime classification manual* (2nd ed.). London, England: Simon & Schuster.
- Douglas, J. E., & Munn, C. (1992). Violent crime analysis: Modus operandi, signature and staging. *FBI Law Enforcement Bulletin*, 61(2), 1-10.
- Douglas, J. E., & Olshaker, M. (1995). *Mindhunter*. New York, NY: Scribner.
- Drogin, E. Y., Dattilio, F. M., Sadoff, R. L., & Gutheil, T. G. (2011). *Handbook of forensic assessment: Psychological and psychiatric perspectives*. Hoboken, NJ: John Wiley & Sons.
- Egger, S. A. (1984). A working definition of serial murder and the reduction of linkage blindness. *Journal of Police Science and Administration*, 12, 348-357.
- Federal Bureau of Investigation. (2008). *Serial murder: Multi-disciplinary perspectives for investigators* (Behavioral Analysis Unit, National Center for the Analysis of Violent Crime). Washington, DC: U.S. Department of Justice.

- Freeman, C. (2003). *The closing of the western mind: The rise of faith and the fall of reason*. New York, NY: Alfred A. Knopf.
- Gee, D., & Belofastov, A. (2007). Profiling sexual fantasy: Fantasy in sexual offending and the implications for criminal profiling. In R. N. Kocsis (Ed.), *Criminal profiling: International theory, research and practice* (pp. 49-72). Totowa, NJ: Humana Press.
- Gerard, F. A., Mormont, C., & Kocsis, R. N. (2007). Offender profiles and crime scene behaviors in Belgian sexual murders. In R. N. Kocsis (Ed.), *Criminal profiling: International theory, research and practice* (pp. 27-48). Totowa, NJ: Humana Press.
- Godwin, G. M. (2000). *Hunting serial predators: A multivariate classification approach to profiling violent behavior*. Boca Raton, FL: CRC Press.
- Gratzer, T., & Bradford, J. (1995). Offender and offense characteristics of sexual sadists: A comparative study. *Journal of Forensic Sciences*, 40, 450-455.
- Groth, N. A., Burgess, A. W., & Holmstrom, L. L. (1977). Rape: Power, anger and sexuality. *American Journal of Psychiatry*, 134, 1239-1243.
- Hakkanen, H. (2007). Murder by manual and ligature strangulation: Profiling crime scene behaviors and offender characteristics. In R. N. Kocsis (Ed.), *Criminal profiling: International theory, research and practice* (pp. 73-88). Totowa, NJ: Humana Press.
- Hakkanen, H. (2008). A study of offense patterns and psychopathological characteristics among recidivistic Finnish homicide offenders. In R. N. Kocsis (Ed.), *Serial murder and the psychology of violent crimes* (pp. 51-63). Totowa, NJ: Humana Press.
- Hakkanen, H., Lindlof, P., & Santtila, P. (2004). Crime scene actions and offender characteristics in a sample of Finnish stranger rapes. *Journal of Investigative Psychology and Offender Profiling*, 1, 17-32.
- Hakkanen, H., Puolakka, P., & Santtila, P. (2004). Crime scene actions and offender characteristics in arsons. *Legal and Criminological Psychology*, 9, 197-214.
- Hakkanen, H. N., Tjihonen, E., Lindberg, N., Salenius, S., & Weizmann, H. G. (2009). Finnish sexual homicides: Offence and offender characteristics. *Forensic Science International*, 188, 125-130.
- Hare, R. (1991). *The Hare Psychopathy Checklist-Revised*. Toronto, Ontario, Canada: Multi-Health Systems.
- Hazelwood, R. R., & Burgess, A. W. (1995). The behavior-oriented interview of rape victims: The key to profiling. In R. R. Hazelwood & A. W. Burgess (Eds.), *Practical aspects of rape investigation: A multidisciplinary approach* (2nd ed., pp.139-154). Boca Raton, FL: CRC Press.
- Hazelwood, R. R., Dietz, P. E., & Warren, J. (1992). The criminal sexual sadist. *FBI Law Enforcement Bulletin*, 61(2), 12-20.
- Hazelwood, R. R., & Michaud, S. G. (2002). *Dark dreams: A legendary FBI profiler examines homicide and the criminal mind*. New York, NY: St. Martins Press.
- Hazelwood, R. R., & Warren, J. (1989a). The serial rapist: His characteristics and victims. *FBI Law Enforcement Bulletin*, 58(1), 10-17.
- Hazelwood, R. R., & Warren, J. (1989b). The serial rapist: His characteristics and victims (Conclusion). *FBI Law Enforcement Bulletin*, 58(2), 18-25.
- Hazelwood, R. R., & Warren, J. (1990). Rape: The criminal behavior of the serial rapist. *FBI Law Enforcement Bulletin*, 59(2), 11-16.
- Hazelwood, R. R., & Warren, J. L. (1995). The relevance of fantasy in serial sexual crime investigation. In R. R. Hazelwood & A. W. Burgess (Eds.), *Practical aspects of rape investigation: A multidisciplinary approach* (2nd ed., pp. 127-137). Boca Raton, FL: CRC Press.

- Hickey, E. (2012). *Serial murderers and their victims* (6th ed.). Belmont, CA: Wadsworth.
- Hill, A., Habermann, N., Berner, W., & Briken, P. (2007). Psychiatric disorders in single and multiple sexual murderers. *Psychopathology*, 40, 22-28.
- House, J. C. (1997). Towards a practical application of offender profiling: The RNC's criminal suspect prioritization system. In J. L. Jackson & D. A. Beherian (Eds.), *Offender profiling: Theory, research and practice* (pp. 177-190). Chichester, UK: John Wiley & Sons.
- Institutional Research and Development Unit, FBI Academy. (1981). *Evaluation of the psychological profiling program*. Unpublished manuscript.
- Jackson, J. L., Van Koppen, P. L., & 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]* (Report NSCR 93-05). Leiden: Netherlands Institute for the Study of Criminality and Law Enforcement.
- Keeney, B., & Heide, K. M. (1995). Serial murder: A more accurate and inclusive definition. *International Journal of Offender Therapy and Comparative Criminology*, 39, 299-306.
- Knight, R. A., Warren, J. I., Reboussin, R., & Soley, B. J. (1998). Predicting rapist type from crime scene characteristics. *Criminal Justice and Behavior*, 25, 46-80.
- Kocsis, R. N. (2003). Criminal psychological profiling: Validities and abilities. *International Journal of Offender Therapy and Comparative Criminology*, 47, 126-144.
- Kocsis, R. N. (2004). Psychological profiling in serial arson offenses: A comparative assessment of skills and accuracy. *Criminal Justice and Behavior*, 31, 341-361.
- Kocsis, R. N. (2006a). *Criminal profiling: Principles and practice*. Totowa, NJ: Humana Press.
- Kocsis, R. N. (2006b). Validities and abilities in criminal profiling: The dilemma for David Canter's investigative psychology. *International Journal of Offender Therapy and Comparative Criminology*, 50, 458-477.
- Kocsis, R. N. (2007a). *Criminal profiling: International theory, research and practice*. Totowa, NJ: Humana Press.
- Kocsis, R. N. (2007b). Schools of thought related to criminal profiling. In R. N. Kocsis (Ed.), *Criminal profiling: International theory, research and practice* (pp. 393-404). Totowa, NJ: Humana Press.
- Kocsis, R. N. (Ed.). (2008). *Serial murder and the psychology of violent crimes*. Totowa, NJ: Humana Press.
- Kocsis, R. N. (2009). *Applied criminal psychology: An introduction to forensic behavioral sciences*. Springfield, IL: Charles C. Thomas Publisher.
- Kocsis, R. N. (2010). Criminal profiling works and everyone agrees. *Journal of Forensic Psychology Practice*, 10, 224-237.
- Kocsis, R. N. (2013). The criminal profiling reality: What is actually behind the smoke and mirrors? *Journal of Forensic Psychology Practice*, 13, 79-91.
- Kocsis, R. N., & Cooksey, R. W. (2002). Criminal psychological profiling of serial arson crimes. *International Journal of Offender Therapy and Comparative Criminology*, 46, 631-656.
- Kocsis, R. N., Cooksey, R. W., & Irwin, H. J. (2002). Psychological profiling of sexual murderers: An empirical model. *International Journal of Offender Therapy and Comparative Criminology*, 46, 532-553.
- Kocsis, R. N., Hayes, A. F., & Irwin, H. J. (2002). Investigative experience and accuracy in psychological profiling of a violent crime. *Journal of Interpersonal Violence*, 17, 811-823.
- Kocsis, R. N., & Irwin, H. J. (1997). An analysis of spatial patterns in serial rape, arson, and burglary: The utility of the circle theory of environmental range for psychological profiling. *Psychiatry, Psychology and Law*, 4, 195-206.

- Kocsis, R. N., Irwin, H. J., & Cooksey, R. W. (2002). Psychological profiling of offender characteristics from crime behaviors in serial rapists. *International Journal of Offender Therapy and Comparative Criminology*, 46, 144-169.
- Kocsis, R. N., Irwin, H. J., Hayes, A. F., & Nunn, R. (2000). Expertise in psychological profiling: A comparative assessment. *Journal of Interpersonal Violence*, 15, 311-331.
- Kocsis, R. N., Middledorp, J., & Karpin, A. (2008). Taking stock of accuracy in criminal profiling: The theoretical quandary for investigative psychology. *Journal of Forensic Psychology Practice*, 8, 244-261.
- Kocsis, R. N., Middledorp, J. T., & Try, A. C. (2005). Cognitive processes in criminal profile construction: A preliminary study. *International Journal of Offender Therapy and Comparative Criminology*, 49, 662-681.
- Langevin, R., & Curnoe, S. (2013). Are dangerous offenders different from other offenders? A clinical profile. *International Journal of Offender Therapy and Comparative Criminology*. Advance online publication. doi:10.1177/0306624X13481206
- MacCulloch, M. J., Snowden, P. R., Wood, P. J., & Mills, H. E. (1983). Sadistic fantasy, sadistic behavior and offending. *British Journal of Psychiatry*, 143, 20-29.
- Martens, W. H. J., & Palermo, G. B. (2005). Loneliness and associated violent antisocial behavior: Analysis of the case reports of Jeffrey Dahmer and Dennis Nilsen. *International Journal of Offender Therapy and Comparative Criminology*, 49, 298-307.
- McClellan, J. (2008). Sexual (lust) homicide: Definitional constructs, dynamics, and investigative considerations. In R. N. Kocsis (Ed.), *Serial murder and the psychology of violent crimes* (pp. 229-244). Totowa, NJ: Humana Press.
- Myers, W. C., Burgess, A. W., & Nelson, J. A. (1998). Criminal and behavioral aspects of juvenile sexual homicide. *Journal of Forensic Science*, 43, 340-347.
- Myers, W. C., Recoppa, L., Burton, K., & McElroy, R. (1993). Malignant sex and aggression: An overview of serial sexual homicide. *Bulletin of the American Academy of Psychiatry and Law*, 21, 435-451.
- Palermo, G. B. (2002). Criminal profiling: The uniqueness of the killer. *International Journal of Offender Therapy and Comparative Criminology*, 46, 383-385.
- Palermo, G. B. (2004). *The faces of violence* (2nd ed.). Springfield, IL: Charles C. Thomas Publisher.
- Palermo, G. B. (2008). Narcissism, sadism and loneliness: The case of serial killer Jeffrey Dahmer. In R. N. Kocsis (Ed.), *Serial murder and the psychology of violent crimes* (pp. 85-102). Totowa, NJ: Humana Press.
- Palermo, G. B., & Kocsis, R. N. (2005). *Offender profiling: An introduction to the sociopsychological analysis of violent crime*. Springfield, IL: Charles C. Thomas Publisher.
- Park, J., Schlesinger, L. B., Pinizzotto, A. J., & Davis, E. F. (2008). Serial and single-victim rapists: Differentiation in crime-scene violence, interpersonal involvement and criminal sophistication. *Behavioral Sciences & the Law*, 26, 227-237.
- Pinizzotto, A. J. (1984). Forensic psychology: Criminal personality profiling. *Journal of Police Science and Administration*, 12(1), 32-40.
- Pinizzotto, A. J., & Finkel, N. J. (1990). Criminal personality profiling: An outcome process study. *Law and Human Behavior*, 14, 215-233.
- Prentky, R. A., Burgess, A. W., Rokous, F., Lee, A., Hartman, C., Ressler, R. K., & Douglas, J. C. (1989). The presumptive role of fantasy in serial sexual homicide. *American Journal of Psychiatry*, 146, 887-891.
- Prentky, R. A., Cohen, M., & Seghorn, T. (1985). Development of a national taxonomy for the classification of rapists: The Massachusetts Treatment Center System. *Bulletin of American Academy of Psychiatry and Law*, 13, 39-70.

- Proulx, J., Beauregard, E., Cusson, M., & Nicole, A. (Eds.). (2007). *Sexual murderers: A comparative analysis and new perspectives*. Chichester, UK: John Wiley & Sons.
- Purcell, C. E., & Arrigo, B. A. (2006). *The psychology of lust murder: Paraphilia, sexual killing, and serial homicide*. New York, NY: Academic Press.
- Ressler, R. K., Burgess, A. W., & Douglas, J. E. (1988). *Sexual homicide: Patterns and motives*. New York, NY: Lexington Books.
- Safarik, M. E., Jarvis, J., & Nussbaum, K. (2000). Elderly female serial sexual homicide: A limited empirical test of criminal investigative analysis. *Homicide Studies*, 4, 294-307.
- Safarik, M. E., Jarvis, J., & Nussbaum, K. (2002). Sexual homicide of elderly females: Linking offender characteristics to victim and crime scene attributes. *Journal of Interpersonal Violence*, 17, 500-525.
- Santtila, P., Hakkanen, H., Alison, L., & Whyre, C. (2003). Juvenile firesetters: Crime scene actions and offender characteristics. *Legal and Criminological Psychology*, 8, 1-20.
- Santtila, P., Hakkanen, H., Canter, D., & Elfgrén, T. (2003). Classifying homicide offenders and predicting their characteristics from crime scene behavior. *Scandinavian Journal of Psychology*, 44, 107-118.
- Schlesinger, L. B. (2004). *Sexual murder: Catathymic and compulsive homicides*. Boca Raton, FL: CRC Press.
- Schlesinger, L. B. (2008). Compulsive-repetitive offenders: Behavioral patterns, motivational dynamics. In R. N. Kocsis (Ed.), *Serial murder and the psychology of violent crimes* (pp. 15-34). Totowa, NJ: Humana Press.
- Schlesinger, L. B. (2009). Psychological profiling: Investigative implications from crime scene analysis. *The Journal of Psychiatry & Law*, 37, 73-84.
- Schlesinger, L. B., & Revitch, E. (1999). Sexual burglaries and sexual homicide: Clinical, forensic and investigative considerations. *Journal of the American Academy of Psychiatry and the Law Online*, 27, 227-238.
- Scott, C. L., & Resnick, P. J. (2009). Risk assessment. In R. N. Kocsis (Ed.), *Applied criminal psychology: A guide to forensic behavioral sciences* (pp. 69-94). Springfield, IL: Charles C. Thomas Publisher.
- Shipley, S. L., & Arrigo, B. A. (2008). Serial killers and serial rapists: Preliminary comparison of violence typologies. In R. N. Kocsis (Ed.), *Serial murder and the psychology of violent crimes* (pp. 119-141). Totowa, NJ: Humana Press.
- U.S. Department of Justice-Federal Bureau of Investigation. (2013, Fall). *Crime in the United States, 2012*. Washington, DC: Author.
- Van der Kemp, J. J., & Van Koppen, P. J. (2007). Fine-tuning geographic profiling. In R. N. Kocsis (Ed.), *Criminal profiling: International theory, research and practice* (pp. 347-364). Totowa, NJ: Humana Press.
- van Marle, H. J. (2009). Mental disorders and criminal behavior. In R. N. Kocsis (Ed.), *Applied criminal psychology: A guide to forensic behavioral sciences* (pp. 5-20). Springfield, IL: Charles C. Thomas Publisher.
- Warren, J., Hazelwood, R. R., & Dietz, P. E. (1996). The sexually sadistic serial killer. *Journal of Forensic Sciences*, 41, 970-974.
- Warren, J., Reboussin, R., Hazelwood, R. R., Gibbs, N. A., Trumbetta, S. L., & Cummings, A. (1999). Crime scene analysis and the escalation of violence in serial rape. *Forensic Science International*, 100, 37-56.
- World Health Organization. (1992). *The ICD-10 classification of mental and behavioural disorders*. Geneva, Switzerland: Author.