

Chapter 18

*Skills and Accuracy in Criminal Profiling**

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Summary

This chapter discusses the empirically derived conclusions of studies that sought to examine the accuracy and skills of various groups performing a profiling task. The conclusions provide some support for the contention that professional profilers can produce a more accurate prediction of an unknown offender in comparison with other studied groups. The results also give an indication of the type of skills required for proficient profiling.

INTRODUCTION

Criminal psychological profiling, or more simply “profiling,” is the technique of analyzing behavior patterns of a crime or series of crimes in order to primarily construct a descriptive template of the probable offender. Although the concept of profiling has expanded into new spheres such as predicting an offender’s area of residence, the bulk of profiling literature remains concerned with the identification of an offender’s biographical characteristics such as their age, sex, marital status, and employment status (1). The oft-cited role of profiling is as an investigative aid (2,3) with a constructed profile typically serving to guide an investigation either by matching the profile with a pool

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of suspects or by offering a compilation of descriptors from which potential suspects may be identified for investigation.

Unlike other mainstream forensic techniques such as fingerprinting or facial identity-kits, the origins of profiling stem from the investigation of atypical crimes that usually feature a psychologically aberrant offender whose motives appear outside typical criminological patterns and police investigative procedures (4,5). Indeed, the genesis of profiling as a technique seems to be inextricably linked with the concept of the serial killer. The investigation of possibly one of history's first serial killers, the Whitechapel murderer (aka "Jack the Ripper"), involved the consultation of psychiatrist Dr. Thomas Bond to provide the police investigation with some description of the potential offender based on the behaviors exhibited in the crimes (6). Other historical subjects of criminal profiles include the Mad Bomber of New York and the Boston Strangler (7,8). Although now advanced by progress in various disciplines, the fundamental concept of interpreting behaviors to determine the characteristics of the probable offender(s) remains essentially the same to this day.

Despite the long history of psychological analysis in assisting some form of criminal investigation (now contemporaneously termed profiling) and its popular renown over other forensic techniques, surprisingly little empirical scrutiny has been undertaken to examine the validity of profiling *vis-à-vis* correspondence between a profile and the actual perpetrator (9,10). Indeed, the bulk of material cited in support of the accuracy and thereby the validity of profiling consists of largely anecdotal accounts found in true crime memoirs (11–13) or in non-academically, peer-reviewed journals (3,14). A number of studies have shown that police are often happy with or request profiling services in their investigations (15,16), and at times, these consumer satisfaction studies appear to be offered as evidence to support the accuracy of profiling (17–19).

The purpose of this chapter is to contribute to the empirical knowledge of the effectiveness of criminal profiling. The conclusions offered in this chapter draw on the combined research of Kocsis et al. (20,21) and Kocsis (22) with some additional original data included in the analysis. The combined data considered currently represent the largest, empirically based sample of professional profilers and other groups performing a criminal psychological profiling exercise. The findings outlined in this chapter are intended to contribute to some comparative and empirically based understanding of the level of accuracy and types of information profilers appear more proficient in and seeks to identify the constituent skills and information that contribute to effective profiling.

WHY HAS PROFILING DEVELOPED DESPITE LITTLE EMPIRICAL EVIDENCE FOR ITS VALIDITY AND WHY IS THERE A NEED FOR SUCH RESEARCH?

It is worthwhile to momentarily consider what has transpired to explain the growth in profiling despite the apparent lack of empirical evidence to support its validity. There are possibly three broad factors that have generally contributed to this situation. The first is the fictional media glamorization surrounding the technique (23). These depictions are seldom precise and often present a favorable, albeit fanciful, representation of the technique. The second factor is that unlike most other psychological techniques, profiling has predominately been developed and utilized by policing agencies. Unfortunately, police agencies often feature insular organizational cultures that are frequently reticent about the independent scrutiny of their practices (24–28). Consequently, within such organizational environments, the requirement for police profilers to substantiate their methods to the standard normally encountered in the broader scientific community has generally not occurred (29). Indeed, given the common position of profiling as an investigative tool (2,3) and not as a regular form of legal evidence *per se*, the technique often escapes the sort of judicial scrutiny other forms of forensic evidence are frequently subjected to as part of the criminal justice process.

The third factor is a circumstantial and somewhat circular rationale that is sometimes expounded when profilers are occasionally required to provide some justification for their practices. At the core of this circumstantial argument is the contention that the accuracy and therefore the validity of profiles are indirectly demonstrated via their continued use and demand by policing agencies (1, 30). It is suggested that were profiles not perceived to be accurate, police investigators certainly would not continue to request further profiles for future investigations.

Three recent studies, however, suggested that the accuracy may be in the eye of the beholder. Kocsis and Hayes (31) investigated the perceptions of police officers with regard to the accuracy of a profile and found that perceptions concerning the accuracy of a profile were related to the perceived (but not real) credibility of the author. Police officers, in their study, read a profile labeled as being written by a professional profiler, psychic, or “someone the investigator consulted” in response to a case file of a closed homicide case. Unknown to the participating police officers, the author of the profile, as labeled in the instructions, was determined randomly. The participants were shown a particular profile and asked to indicate their expectations as to how accurate they regarded the profile to be. Not surprisingly, profiles that were labeled as

being written by professional profilers were perceived by police to be more accurate. After these judgments were provided, the participants were given a description of the actual perpetrator of the crime and were asked to make a side-by-side comparison of the profile and the actual perpetrator and then judge the accuracy of the profile in comparison with the actual perpetrator using a 1 (not at all accurate) to 7 (very accurate) scale. The results were surprising. In a side-by-side comparison between the profiler and the actual perpetrator, police officers rated the profile ostensibly written by a professional profiler as more accurate than the one ostensibly written by a psychic, although they contained the same information and the author label was merely randomly assigned to the profile. This study suggested that the perception of the accuracy of a profile is quite likely to be associated with the reader's biases regarding the credibility of its author. In two subsequent studies (32,33), another factor that was also found to influence and potentially bias a reader's perception of a profile's accuracy was the degree of belief in profiling the reader possessed. Thus, exposure to material that endorsed the use of profiling elevates the perceptions of a criminal profile's accuracy. These findings have serious ramifications when considered within the context of the predominantly favorable media treatment profiling routinely receives in our society.

PAST EMPIRICAL EXAMINATIONS OF PROFILING

Possibly, the first academically published research to empirically investigate the accuracy of profiling was undertaken by Pinizzotto and Finkel (34). This research involved the details of a closed rape and murder case being given to small groups (consisting of six subjects in each). The respective groups were trained profilers, police detectives, clinical psychologists, and students. Each group was assigned the same profiling exercises and asked to identify the likely offender. The details of the perpetrators of both offenses were known, thus providing the "correct" profile as a criterion for quantitative analysis. This research was composed of six small studies that included exercises that involved the linguistic measurement of the produced profiles, a prioritization exercise of potential suspects, and an exercise to measure the recollection of case information. However, of most relevance in the study conducted by Pinizzotto and Finkel was an exercise that involved administering two 15-item multiple-choice questionnaires to each participant in each of the groups. These questionnaires were designed to objectively elicit from each of the participants predictions concerning the characteristics of the probable offender for both the rape and murder cases. This study, as a consequence, served as the first true quantitatively based demonstration of profiling accuracy. Unfortunately, however,

the results of Pinizzotto and Finkel's (34) study were far from unequivocal in demonstrating the accuracy of profilers. No significant differences were found among any of the groups involving the number of correct predictions in the murder case. The sampled profilers were unable to predict the characteristics of the murderer any better than any of the compared groups, and indeed, their mean score was found to be the lowest among the four groups.

Slightly better results, however, emerged with respect to the sexual assault case. First, the profilers were found to significantly outperform a categorization of non-profilers that combined the scores of the detectives, psychologists, and students. Additionally, a law enforcement categorization of profilers and detectives surpassed the non-law enforcement categorization of psychologists and students. Finally, a categorization of all professional groups, that is, the combination of profilers, detectives, and psychologists surpassed the non-professional students. When examining the specific items of information in which profilers excelled, it was found that they consistently identified items concerning age, education, and the vehicle condition of the offender, as well as the nature of the relationship between the victim and the offender.

Despite profiling being routinely available to law enforcement bodies for approximately three decades, the only empirical, academically published demonstration of profiling accuracy (with the exception of the work to be shortly discussed) occurred in a component of Pinizzotto and Finkel's (34) research. The findings of their investigation, however, are not altogether encouraging, with no quantitative evidence to support the accuracy of professional profilers in respect of the murder case and only limited evidence in support of the rape case exercise. Given the increased utilization of profiling techniques by law enforcement agencies throughout the world (35), a more thorough examination of the efficacy of profiling is clearly warranted.

NEW EMPIRICAL RESEARCH

The most recent approach to empirically testing the accuracy and therefore the validity of profiling was akin to that adopted by Pinizzotto and Finkel in their 1990 study by presenting information to participants about a crime where the offender's characteristics were already known. The individual findings from each of these studies are reported in Kocsis et al. (20,21) and Kocsis (22). The design of each study was similar to that of Pinizzotto and Finkel (34) in that it involved a solved arson or murder case. Next, all the case materials for each of the crimes that had been available to investigators prior to the respective perpetrator's apprehension were assembled and summarized. Accompanying each of these case packages was a 33-item multiple-choice questionnaire that

was designed to elicit an objective description of the probable offender.[†] As both of the cases had been solved, the responses to the questionnaires could be objectively scored for accuracy against the known details of the convicted offender. These studies sought to examine the correlates of accuracy *vis-à-vis* the characteristics of the person writing the profile.

WHAT SKILLS OR SPECIAL APTITUDES MIGHT BE USEFUL IN CONSTRUCTING AN ACCURATE PROFILE?

With the exception of Hazelwood et al. (36), the literature is largely silent on this matter. Generally four principal attributes emerge as being essential to effective profiling. The first skill identified by Hazelwood et al. (36) is an appreciation of the criminal mind and entails an ability to understand the type of person who committed any given crime. The second prescribed skill is that of investigative experience, and in the opinion of Hazelwood et al. (36, p. 119), "No amount of education can replace the experience of having investigated crimes". The third skill is a capacity for objective and logical analysis, that is, the profiler must possess an ability to think logically without being diverted by personal feelings about the crime. The fourth nominated skill is the psychic-like faculty of intuition.[‡] The studies by Kocsis et al. sought to empirically examine the relevance of each of these skills to effective profiling.

To emulate the skills of objective reasoning, investigative experience, behavioral knowledge, and intuition for the purpose of the study, participants were recruited who predominantly demonstrated each of these skills. Consequently, a sample of 20 self-declared psychics was selected to demonstrate the capacity for intuition. To garner a group of individuals who possessed skills in logical and objective reasoning, a combined sample of 85 university science sophomores was obtained over all three studies. For some representation of an understanding of the human psyche and appreciation of behavior, a combined sample of 36 psychologists was assembled from the first two studies.

Clearly, the most obvious group of individuals who are inherently representative of investigative experience are police personnel. However, because of Hazelwood et al.'s (36) description of investigative experience as the quintessential skill for effective profiling, particular focus was placed on the

[†] Full details of these case booklets and questionnaires can be found in Kocsis et al. (20) and Kocsis (22).

[‡] A thorough discussion of the rationale underpinning each of these skills and the identification of participants for these skills can be found in Kocsis et al. (20).

empirical documentation of this skill. For this reason, numerous samples were obtained to account for a range of both quantitative and qualitative possibilities concerning the inherent attributes likely to stem from such experience. The fundamental notion of investigative experience involves quantitative notions of exposure. Presumably, Hazelwood et al. (36) considered that the more criminal investigative experience an individual has had, the more likely they are to be proficient profilers. Consequently, to account for such quantitative differences, three samples of police personnel were recruited to optimally examine any role of quantitative differences in investigative experience. To represent the novice capabilities derived from only minimal experience, a combined sample of 50 police recruits was obtained who had just commenced their training as police officers. As a contrast to the recruits, two samples of experienced police personnel were obtained. One combined sample consisted of 88 general police personnel who possessed a substantial amount of experience but not necessarily with respect to the investigation of crimes in any specialized area relevant to the case information. The second combined sample consisted of 26 specialist detectives who also possessed a significant amount of experience, but this experience was sourced specifically in the investigation of crimes akin to the presented cases (i.e., murder and arson).

Another important aspect of investigative experience involves a qualitative dimension. Thus, it is not merely experience in the investigation of crime alone that is relevant, but specific experience in the investigation of crimes presented for profiling. To take account of this factor, the previously mentioned samples of general police versus specialist detectives were relied upon. However, to further explore this issue, an additional group of 12 non-police specialists was also introduced. This group comprised arson investigators from fire brigades. This group of 12 personnel possessed a substantial amount of specialized experience in the investigation of arson offenses akin to the specialist detectives and thus possessed a qualitative investigative experience different from that enjoyed by a police officer.

As the pivotal issue of this research is the empirical assessment of accuracy in profiling, a combined sample of 11 expert criminal psychological profilers was assembled during the course of all three studies. Thus, the profiler group was expected to provide a demonstration of their capabilities that would serve as a criterion against which to compare the performance of the other groups.

Finally, to act as a control condition for all of the previously mentioned groups, a combined sample of 120 unskilled participants was obtained during the course of all three studies. These individuals did not possess skills akin to any of the previously described groups. Furthermore, these control participants

were not given any case information for the crimes and were instructed to complete the multiple-choice questionnaire simply by speculating about what they believed were the characteristics of the “typical” murderer or serial arsonist. This control condition, therefore, afforded an empirical demonstration of what could be achieved on the questionnaire simply by guesswork and reliance on stereotypical notions of a murderer or serial arsonist.

As the purpose of this analysis is to present a holistic impression of the data from all three of the previous studies, as well as to incorporate additional data not previously utilized, a procedure was undertaken to make the scores comparable across all studies prior to combining the data. Kocsis et al. (20,21) used a homicide case, whereas Kocsis (22) used an arson case. Given that these are different crimes, and the questions on the profiling task were different, it is not necessarily the case that getting, say, 15 questions correct on the homicide profiling task equates to the same accuracy as getting 15 correct on the arson profiling task. To make the scores comparable before pooling the studies, the accuracy scores were first standardized within crime type by converting the scores to z scores (i.e., deviations from the study mean in standard deviation units). After this transformation, an accuracy score of one, for example, corresponds to performance one standard deviation above the mean, where the mean is in reference to the performance of all participants completing the profiling task for that particular crime ($n = 335$ for homicide and $n = 95$ for arson). Converting the scores to this common metric makes them comparable across studies. Table 1 summarizes the combined analysis of the data sets from all studies as well as the additional data.

THE PERFORMANCE OF PROFESSIONAL PROFILERS

The fundamental aim of this study was to undertake an empirical examination of the capabilities of professional profilers with specific regard to whether they could produce a quantitatively more accurate profile of an unknown offender by way of holistic comparison with the other sampled groups from the combined previous studies. From the admittedly limited sample of 11 professional profilers, some affirmative indication emerged to the effect that the sampled profilers were capable of outperforming the other tested groups. In particular, the profilers surpassed all the compared groups in the total number of correct predictions as summarized in Table 1. Although in no way claiming to be statistically representative, the current sample of 11 individual professional profilers does represent the largest empirical sample currently available to inform the scientific and law enforcement communities on the issue of

Table 1
Mean Profile Accuracy Standardized within Crime Type (Standard Deviations in Parentheses)

Group	Accuracy measure				
	Total correct	Physical characteristics	Cognitive responses	Offense behaviors	Social habits/history
Psychologists (<i>n</i> = 36)	0.16(1.13)	0.50(0.74)	-0.30(1.09)	0.33(0.95)	-0.10(1.10)
Profilers (<i>n</i> = 11)	0.82(1.32)	0.56(0.69)	0.34(1.14)	0.34(1.07)	0.49(1.08)
Science students (<i>n</i> = 85)	0.31(0.87)	0.40(0.84)	-0.18(0.98)	0.10(0.98)	0.37(0.94)
Specialist detectives (<i>n</i> = 25)	-0.43(1.09)	0.17(0.85)	-0.37(1.05)	-0.22(0.95)	-0.47(0.91)
Psychics (<i>n</i> = 20)	-0.14(0.87)	-0.38(1.07)	0.19(0.96)	0.05(0.77)	-0.18(1.15)
Non-police specialist (<i>n</i> = 12)	0.12(0.90)	0.48(0.90)	-0.40(1.01)	-0.23(1.11)	0.35(0.67)
General police (<i>n</i> = 85)	0.07(0.90)	0.19(0.81)	0.07(0.88)	-0.08(1.01)	0.00(0.93)
Police recruits (<i>n</i> = 50)	0.17(1.03)	0.22(0.97)	0.15(1.04)	-0.26(1.00)	0.24(1.05)
Stereotype controls (<i>n</i> = 120)	-0.36(0.92)	-0.73(0.95)	0.15(0.98)	0.02(1.01)	-0.28(0.92)

proficiency. Indeed, the prior research of Pinizzotto and Finkel (34) was based on a sample of six profilers and compared only three rival groups within similarly small samples.

This positive result, however, does show some incongruity, as individual profilers were not uniformly superior in their performance. Indeed, the profiler group demonstrated the second highest degree of statistical variation among any of the sampled groups. This finding suggests that there is a clear potential for variation in abilities among profilers. Simply because an individual is professionally engaged in profiling does not necessarily mean they are accurate in their predictions or that their accuracy is uniform from one case to another. Indeed, this observation concurs with Wilson and Soothill's (10) anecdotal examination of various professional profilers and their pronounced successes and failures in accurately predicting the offender's characteristics in any given criminal investigation.

One issue that may possibly explain this variation among profilers is possible differences in their approach to profiling violent crimes. The practice of criminal profiling seems to be broadly encompassed by a number of differing approaches (37). The sampled profilers contained representatives from a number of approaches and thus could be representative of differences between approaches. Unfortunately, the sample size is inadequate to undertake any quantitatively meaningful analysis to gauge the profiler's performance relative to the approach adopted. Nonetheless, this represents an issue worthy of further investigation.

Finally, an incidental but nonetheless notable observation to arise from this research was the low participation rate of professional profilers. Despite all assurances of complete confidentiality and anonymity, many professional profilers were reluctant to participate in these studies. Indeed, over 60% of the profilers approached declined to participate in the research. This may have been due to a perceived shortage in the provided case materials, or the time involved in completing the questionnaire, or more poignantly, a reluctance by self-titled profilers to have their skills subjected to empirical evaluation. On this final point, Britton (11, pp. 443,444) has noted that profilers tend to exhibit an exceptionally strong sense of professional rivalry and thus can be extremely hesitant to admit any limitation or shortcomings in their expertise. Kocsis and Coleman (38) observed that the practice of profiling in most countries is not regulated by any legal authority that promotes a code of best conduct to assist in safeguarding against unethical practices by practitioners. In the past, the American Psychological Association has also criticized the lack of reliability and scientific rigor inherent in the practices of some profilers (29). Such behaviors are clearly an impediment to the conduct of scientific study into profiling.

THE QUINTESSENTIAL SKILL OF INVESTIGATIVE EXPERIENCE

Quite possibly, the most prominent claim concerning the requisite skills for profiling involves investigative experience. This skill is presumably only acquired by police personnel and is viewed as a quintessential pre-requisite (36). The importance of this skill is visible in the recruitment, training, and consultancy policies of policing agencies that often prefer to select police personnel with such experience over other potential individuals who lack investigative experience but may possess other useful skills (30,39). Given the stated importance of investigative experience, it would therefore be a logical assumption to expect individuals with such experience to demonstrate superior performance over the other sampled groups lacking in such experience, with the possible exception of the profilers.

Unfortunately, the combined data fail to support the asserted importance of investigative experience as the key skill necessary for proficient profiling. Indeed, police personnel and the non-police specialist investigators demonstrate poor performance across all of the measures in comparison with most of the other groups. More remarkable is that when our examination focused on the three police groups, the virtual reverse of Hazelwood et al.'s (36) observation was observed. Senior police officers with the most investigative experience performed the worst, generalist police with a moderate amount of experience demonstrated a modest position in performance, while police recruits with no investigative experience performed the best (21). The exact origin or rationale on which Hazelwood et al.'s (36) observation is premised has never been clearly articulated. Nonetheless, the empirically derived depiction of the present data indicates that thorough investigation of the validity of this hypothesis is clearly warranted.

What could possibly explain the poor performance observed in the police groups and furthermore the negative relationship between profiling accuracy and investigative experience? At the outset, it must be recognized that criminal profiling is a discrete task that police personnel are not routinely trained or engaged in (5,18). That is, police personnel are generally not trained to be profilers and thus may not necessarily possess any pertinent skills or experience specific to the task of profiling. However, given the police personnel's exposure to crime and the criminal justice system, it would perhaps be natural to expect that these activities would have some influence on their reasoning when attempting to construct a criminal profile.

One possible explanation may lie with the prevailing educational standards of each of the police groups. That is, each of the sampled police groups may not only represent the degree of experience but also the recruitment and education

criteria of their time. The observed trend may therefore be a reflection of historical changes in criteria for recruitment that may select individuals better suited to the presented profiling task. Another possible explanation may lie in considering the effects of experience on the cognitive processes of police personnel. Social psychology has long studied the authoritarian personality and its manifestations in police culture and behaviors. Although speculative, perhaps experience in the investigation of crime may actually generate various erroneous heuristic assumptions about crime and criminal behavior that are manifested in the observed results (40).

Perhaps a more pertinent question to emerge from the overall results of the police groups is not why senior detectives performed so poorly, but rather, why the police recruits performed so well in comparison? Although the above-mentioned issues of generation difference and/or heuristics may assist in answering this conundrum, another explanation resides not in the differences of the recruits, but rather, in their similarities to other groups. This point will be explored further in the examination of the science sophomores.

SCIENCE SOPHOMORES AND THE CAPACITY FOR LOGICAL AND OBJECTIVE REASONING

Quite possibly, the most surprising finding to emerge from the combined data in Table 1 comes from the performance of the sampled psychologists and especially the science sophomores. Following the profilers, the science sophomores and psychologists appear to be the next most proficient groups. This result was also observed in the initial study by Kocsis et al. (20) and has generally remained consistent throughout each of the subsequent studies (21,22). Given the long-standing association between the profiler concept and the behavioral sciences, the superior performance of the psychologist was not entirely unanticipated (41–43). The truly remarkable result, however, lies in the high performance of the science sophomores who possessed no particular knowledge or skills in behavioral science, psychology, psychiatry, or criminal investigation. Indeed, across most of the scales, the science sophomores actually surpassed the sampled psychologists, making them, arguably, the most proficient group after the profilers. Furthermore, the science sophomores demonstrated the least amount of group variance, indicating that their performance is consistent with some form of element or factor common to their group. There are a number of significant implications to arise from this trend that critically serve to inform our understanding of criminal profiling.

At the outset, the findings give further impetus to considering the actual importance of investigative experience to profiling. What, however, does appear

to be the crucial skill necessary for proficient profiling? The initial findings of Kocsis et al. (20) indicated that psychologists had a slight numerical lead on the sampled science sophomores. The data taken over all three previous studies and now combined within this study reverse this trend. To best understand this phenomenon, the author believes that the answers lie in the similarities between these two groups rather than their differences. That is, although psychologist participants possessed a degree of training and understanding of human behavior, they are also orientated with a capacity for logical and objective thinking akin to the science sophomores. Were the insights garnered from psychological training of significant importance, it would be expected that the psychologists demonstrated some degree of superiority over the science sophomores. Indeed, aspects of this hypothesis, to some degree, are demonstrated by the performance of the police recruits. Unlike their predecessors, the specialist detectives, general police, or even the non-police specialists, the current sample of police recruits was selected and trained under a university diploma qualification. Previous generations of police personnel were primarily educated under a paramilitary system, whereas the sampled recruits were primarily educated via a university program designed to foster critical thinking, analysis, and expression. Thus, the common element among the profilers, psychologists, science sophomores, and police recruits may be sourced in the respective participants having engaged in some form of higher education that encourages skills such as critical thinking. Identifying the exact source of this skill, however, will prove a worthy research endeavor for the future.

PSYCHIC DETECTIVES: ARE THEY BETTER THAN BARTENDERS?

Finally, some review must also be made of the performance of the psychics, the intuitive skill they represent, and the proficiencies of the various groups in their predictions beyond what could be merely achieved through guesswork. The final factor is particularly pertinent to the control groups who answered the questionnaires without the benefit of case information, for their performance is an indication of what could be predicted simply by speculation and/or the cognitive social stereotype of the typical murderer or arsonist. Again, an interesting pattern emerges that is congruent with the higher education/critical thought hypothesis. All participants who possess some higher educational background demonstrated a degree of superiority over the stereotype controls. The groups without such an educational background, however, tended to demonstrate poor performance that appears to be relative to that of the stereotype controls. The most pronounced of these groups were the psychics and the specialist detectives.

There are a number of issues that arise from this first factor that further serve to inform our understanding of profiling. One of the earliest criticisms of profiling was its description as “hit and miss and no better than what the average bartender could predict” (44, p. 213). Although colloquial in expression, Campbell had identified a key issue in not only questioning the accuracy of profilers but also questioning whether this degree of accuracy represents anything beyond common knowledge or what the local bartender might be expected to surmise. The present findings go some way toward demonstrating that profilers can produce quantitatively more accurate predictions than what might reasonably be achieved through guesswork or common knowledge that a lay person or bartender may be expected to possess.

Although not directly related to the topic of profiling, the concept of psychics assisting in police investigations in a similar fashion to a profiler is not unusual (45,46). Indeed, some texts describe the use of psychics in a similar context to profiling (5). The combined data suggest little support for the use of psychics in accurately generating the characteristics of an unknown offender. Additionally, given the apparently poor performance of the psychic group in comparison with the control group, the importance of intuitive thinking in the construction of criminal profiles appears limited. Indeed, this aspect of intuition may be observable in the specialist detectives who predominantly came from more senior generations of police officers and who may have relied on the colloquial “*gut instinct*” to inform their views regarding the likely offender.

LIMITATIONS AND DIRECTIONS FOR THE FUTURE

Further empirical investigation into the validity and underlying skills of criminal profiling is undoubtedly still warranted. It is quite alarming to consider that despite the growing popularity of profiling with law enforcement agencies, virtually nothing in the way of empirically based research has been published in academically reviewed mediums beyond the individual studies conducted by Kocsis et al. (20,21), Kocsis (22), and Pinizzotto and Finkel (34). However, replication and development of similar studies may not be the most viable option for further exploring the subject of profiling because of the apparent difficulties in obtaining the co-operation of participants. Indeed, the combined data covered by this chapter were collected from three consecutive studies that spanned a period of approximately 6 years and yet was only able to achieve a culminative total of 11 profilers. Regrettably, it seems that alternative avenues may be needed to explore the efficacy of profiling to overcome such logistical impediments. Perhaps one of the most feasible ways of facilitating such empirical research may be via the utilization of participants who have demonstrated similar proficiency to the sampled profilers. From the present findings,

the most likely groups could be science sophomores or psychologists. Both of these groups have consistently demonstrated strong performance in comparison with the sampled profilers and are likely to be a readily available source of data. Indeed, it is quite possible that the utilization of such proxy samples may help to remedy the tardy scientific development that seems to plague this topic (35).

In making research into profiling more logistically viable, a range of new topics concerning the practice of profiling should be explored. The actual cognitive processes involved in the evaluation and construction of profiles is a topic that has received modest attention. Clearly, having some thorough understanding of how to optimize the evaluation of case information will improve any individual's capacity to compose an accurate profile. Similarly, an empirically based model of the decision processes involved in composing a description of an unknown offender is another topic worthy of exploration. Some modest endeavors have already been undertaken in these directions (47–49); however, these areas are fertile ground for further empirical exploration.

CONCLUSIONS

Although nowhere near enough, a small amount of empirically based data have emerged to support the validity of a criminal profiler's capacity to accurately describe the characteristics of an unknown offender. Accompanying this new evidence, however, are a number of unexpected findings that challenge some of the existing preconceptions concerning the constituent skills required for effective profiling. Possibly, the most notable is the apparent importance of logical and objective reasoning and the seeming unimportance of investigative experience. The implications of these findings should hopefully serve to guide future recruitment and training methods of personnel selected to work as profilers in support of criminal investigations. With more empirically based evidence, the reputation of profiling may move beyond a stylized art and toward a more replicable science akin to other forms of forensic tools that are presently subjected to judicial scrutiny. It is hoped that these conclusions will offer fertile ground for future researchers to overcome the logistical impediments of research into this area and explore the range of issues worthy of investigation.

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