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Criminal Profiling Belief and Use: A Study of Canadian Police Officer Opinion

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ABSTRACT

Fifty-one Canadian police officers', working in major crime divisions, were interviewed about their experiences with criminal profiling (CP), and their beliefs about its utility and validity. The majority of officers agreed that CP helps solve cases, is a valuable investigative tool, and advances investigator understanding of a case. Few officers agreed that CP should be used as evidence in court, should be used for all types of crimes, and that there is no risk of a profiler misdirecting an investigation. Of those officers that used CP in an investigation, most indicated that it contributed to their investigation, that the profiler made accurate predictions, and that the profile was operationally useful. In sum, most officers appear to have accepted the utility and, to a lesser extent, the validity of CP, but believe that its application should be limited to

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Criminal profiling (CP) is the practice of using crime scene evidence to infer the personality, behavioural, and demographic characteristics of the offender who committed the crime (Hicks & Sales, 2006). The increased usage of CP by police investigators around the world over the past three decades suggests that police officers generally believe that CP works (Copson, 1995; Hicks & Sales, 2006; Egger, 1999; Jackson, van den Eshof, & de Kleuver, 1997; Trager & Brewster, 2001; Witkin, 1996). Given the lack of compelling scientific evidence that CP is a reliable, valid, or useful psychologically-based investigative technique (see Hicks & Sales, 2006; Snook, Eastwood, Gendreau, Goggin, & Cullen, 2007), it seems prudent to ask officers about their perceptions of CP and its application. Obtaining police officer opinions about CP will complement efforts to develop an empirically-based understanding of the acceptance of CP by other professional groups (see Torres, Boccaccini, & Miller's (2006) study of mental health professionals' views on CP). In this article, we present a brief overview of the CP field, review previous consumer satisfaction studies, and present the results of interviews with Canadian police officers about their experience and perceptions of the utility and validity of CP.

OVERVIEW OF CRIMINAL PROFILING

According to published accounts of the CP process, there are three stages to producing a criminal profile (Ault & Reese, 1980; Copson, 1995; Douglas et al. 1986). First, police officers collect crime scene information (e.g., photos and details of the offence) and forward it to a profiler of their choice. Second, the profiler examines this information and makes a range of qualitative judgments, which may be supported by quantitative analyses. Third, the profiler provides a criminal profile to the police, detailing their predictions about the offender's characteristics, possible interview and investigative strategies, and other relevant information (Holmes & Holmes, 2002). The exact approach that profilers take to achieve the second stage may be classified as either clinically or sta-

tistically-oriented (Hicks & Sales, 2006). The majority of accounts focus on a clinically-oriented approach, in which profilers appear to draw on their knowledge and experience with criminal behaviour, and their intuition (Ault & Reese, 1980; Douglas & Munn, 1992; Hazelwood & Douglas, 1980; West, 2000). In contrast, statistically-oriented profilers use the results from statistical analysis of data on offenders (e.g., age, gender, previous convictions) who have committed crimes that are similar to the crime being investigated (e.g., Canter, 2004; Jackson et al., 1997).

There is no consensus about who is qualified to be a profiler, and as such there is no definitive list of profiler credentials. For example, Kocsis (2004) considers a profiler to be anyone who engages in the practice of constructing a profile for the police. At the other extreme, Hazelwood, Ressler, Depue, and Douglas (1995) argue that only experienced investigators should be profilers. Although some attempts have been made to regulate and accredit profilers (e.g., the International Criminal Investigative Analysis Fellowship), there is no widely accepted regulatory body that provides a professional CP designation (see Kocsis, 2004). Thus, individuals with diverse amounts and types of experience and education can present themselves as profilers.

There is also little consensus regarding the situations in which it is appropriate to use CP. The use of profilers has typically been limited to certain relatively rare crimes such as stranger sexual assaults and homicides (Blau, 1994; Copson, 1995; Geberth, 1993; Pinizzotto, 1984). These types of cases are argued to be the most appropriate for the use of profiles because offenders are more likely to exhibit evidence of psychopathology (Geberth, 1993). Similarly, profilers may be consulted at various stages of the investigation. Some profilers claim to be most useful if called upon at the beginning of an investigation because their predictions can presumably help guide the direction of the inquiry (Annon, 1995; Douglas et al., 1986). Other profilers support investigations at later stages when other investigative tools and initial leads have been exhausted. For example, in a survey of CP use in 184 United Kingdom investigations, Copson (1995) found that 46% of the cases employed a profiler at an early stage of the investigation, 34% of the cases used a profiler after the direction of inquiry was established, and 17% of the cases used a profiler after initial leads were exhausted.

In the professional context, the majority of CP appears to occur in the United States through the FBI, with the most recent estimates indicating that CP is being applied in approximately 1000 cases per year (Witkin, 1996). CP is also being used in the UK, with 242 instances of CP advice being provided between 1981 and 1994 (Copson, 1995). According to Jackson, van den Eshof, and de Kleuver (1994), 70 requests were made to the Dutch profiling unit between 1991 and 1994. Over that period, the unit provided a profile in 16 of the 55 cases that it handled. Although exact estimates of CP prevalence in other countries are not available, its use has been documented as occurring in Australia, Canada, Finland, Germany, Ireland, Malaysia, New Zealand, Russia, South Africa, Sweden, and Zimbabwe (see Åsgard, 1998; Boon & Davies, 1993; Case Analysis Unit, 1998; Woodworth & Porter, 1999).

The validity of profiler predictions has been tested by comparing the accuracy of so-called professional profilers with that of non-profiler groups on solved cases (e.g., Kocsis, Irwin, Hayes, & Nunn, 2000; Kocsis, Hayes, & Irwin, 2002; Kocsis, 2004; Pinizzotto & Finkel, 1990). In a typical experiment, profilers and non-profiler groups were asked to review details of a solved crime and then make predictions about the likely offender (via a multiple choice questionnaire). Predictions were divided into four categories: cognitive processes, physical attributes, offence behaviours, and social history/habits. The accuracy of these predictions is then checked against the actual perpetrator's characteristics. Because of a lack of clear agreement on who should be a profiler, Snook et al. (2007) conducted two meta-analyses of these studies. The first analysis compared the predictive accuracy of a group of self-labelled profilers and experienced investigators against non-profilers (e.g., college students and psychologists). In the second analysis, the experienced investigators were included in the non-profiler group.

In the first analysis, the profilers/investigators were more accurate than non-profiler group with respect to the overall profile (r = .24) and on the physical attribute category (r = .10). The predictive accuracy of the profilers/investigators was marginally worse or no better than the non-profilers on cognitive processes (r = -.06), offence behaviours (r = .00), and social history/habits (r = -.09) categories. Because the 95% confidence intervals about the point estimates were very wide (e.g., two to five times the acceptable limit of .10 as designated by the authors) and included 0 in four of the five categories, the estimates of the effect sizes were deemed imprecise.

In the second analysis, the results favoured the "profilers" across all five predictor categories noted previously, but again the *CI*s were wide. The single best result came in predicting overall offenders characteristics, r = .32 with a *CI* of .10 to .54. Snook et al. (2007) argued that even if this most optimistic of results is replicated; the category of *overall offender* contains many variables that are well known in the criminological literature (e.g.,

age, previous convictions, substance abuse). They further argued that any police professional with a good knowledge of this literature should be able to achieve this level of success and that criminal profiler success appears to be based on predicting what is obvious from this literature and not from some special knowledge of the peculiarities and idiosyncrasies that are found at a crime scene.

Snook et al. (2007) also conducted a narrative review of the CP literature. They coded 130 CP articles on their usage of common sense and empirical rationales, as well as other article characteristics (author's qualifications, country of publication, author's opinion on CP, etc.). Snook et al. found that anecdotal arguments were the most frequently endorsed knowledge source (60% of articles), followed by testimonials (45%), and authority (42%). Scientific evidence was used as a source of knowledge in just 42% of the articles. Their study also showed that the use of empirical methodologies were rarely evident in the CP literature, with correlational designs being used the most (15%). Experimental designs were used in approximately 5% of articles. Overall, Snook et al. found that common sense rationales were used more than empirical rationales 58% of the time and concluded that common sense rationales have flourished in the CP literature.

What do Police Officers Think about CP?

As far as we are aware, there are only four published studies on what police officers think about CP (Copson, 1995; Jackson, van Koppen, & Herbrink, 1993; Pinizzotto, 1984; Trager & Brewster, 2001). Three of these studies are over 10 years old, but they nevertheless provide a useful context for considering how police officers may view contemporary CP practices. According to Pinizzotto (1984), the results of a study conducted by FBI-profiler John Douglas indicate that CP advice was credited as solving the case in 46% of 192 instances where a FBI profile was requested. When respondents were asked to indicate the specific type of assistance provided by a criminal profile, 77.2% gave the response that it focused the investigation properly, 20.4% stated that it helped locate possible suspects, 17% stated that profiling identified suspects, and 5.6% stated that it assisted in the prosecution of suspects. Seventeen percent of responding agencies stated that CP was of no assistance.

This picture has only been replicated partially by the research conducted in other countries. Jackson, van Koppen, and Herbrink (1993) asked police officers in The Netherlands about the utility of advice provided by their FBI trained profiler. Of the six officers that received a profile, one officer reported the advice to be not very useful, three reported it to be reasonably useful, and two officers reported that the advice was very useful. However, in contrast to Pinizzotto's (1984) findings, all six officers stated that the profile did not help them capture the perpetrator. Among the reasons given for this lack of success were that the offender was apprehended by chance, that the profile fit the offender on some characteristics but not on others, that the profile did not provide any new investigative information, that the profile was too general, and that the profile was not very practical.

Copson (1995) surveyed police officers in the UK and found that 82.6% of respondents claimed that profiles were operationally useful and 92.4% reported that they would seek CP advice again. Officers indicated that the profiles were operationally useful because they furthered their understanding of the case (60.9%) or reassured their own judgments (52.6%). Copson also found that 16.3% reported that the CP advice helped them open new lines of inquiry, 14.1% said it helped them solve the case, and 2.7% of officers stated that the profile helped them identify the perpetrator.

The most recent study of police officers perceptions of CP, by Trager and Brewster (2001), contained a summary of the responses from 46 police departments in the United States. Twenty-five (63%) of the departments that reported using profiles in criminal investigations comprised their sample of 48 surveys (some departments returned multiple surveys because they used CP in multiple investigations). Their results showed that 62.2% of officers reported that the interrogation strategies contained in the profiles helped their investigation, 58.1% reported that the profile helped direct their investigation, 52.4% reported that the profile helped predict future behaviour of a suspect, and 37.8% reported that the profile helped identify a suspect. In response to questions about the components of the profile that were most helpful, respondents indicated that predictions about the psychological needs of the offender (74.4%), advice on a potential interrogation style (67.6%), the likely level of the offender's education/IQ (63.2%), and the likely mental state of the offender (61.5%), were helpful. Predictions about the offender's future behaviour (57.1%), living situation (56.8%), marital status (51.4%), physical description (45.7%), occupation (44.7%), and family history (42.4%) were also considered to be somewhat helpful to criminal investigations. Trager and Brewster also found that nearly one-quarter of respondents indicated that the profile hindered the identification of a suspect.

While Trager and Brewster (2001) identified some of the components of CP that officers found useful, they did not ascertain officers' general beliefs about the validity and application of CP. The value of CP is a function of whether officers see it as reliable and valid, and

the ways in which officers believe it should be used in investigations and legal proceedings (see Torres et al. 2006 for a similar perspective). An examination of these issues will provide a more detailed picture of officers' perceptions of CP and its underlying process. Finally, in their study, Trager and Brewster's respondents were officers that use CP. This involvement might conceivably have a positive impact on officers' perceptions of CP and therefore distort the value they assign to the technique. A more informative evaluation of perspectives and beliefs will come from eliciting the opinions of both non-users and users of CP.

In light of the growth in CP and the lack of scientific evidence supporting it as a valid psychologically-based investigative technique, it seems important to examine the perspectives and beliefs of police officers. This study will compliment recent efforts to derive a more informed picture of the acceptance of CP amongst professionals (see Torres et al., 2006) and obtain information on how it is used within the investigative context. Specifically, the results of our study will provide insights into the extent to which police officers have accepted the utility and validity of CP.

METHOD

Participants

Participants were 51 police officers working in major crime divisions from across Canada. Participants were restricted to those working in major crime divisions because of the greater likelihood that they had interacted with criminal profilers or had considered using CP during major criminal investigations. To ensure confidentiality, participants were not asked to report the police force with whom they work. However, many participants did report the region in which they work and these results suggest that officers from all across Canada took part in the study. There were 46 men and 5 women, aged between 34 and 57 years (M = 44.1, SD = 5.7), with an average of 22.2 (SD = 6.2) years of police experience. There was 1 Superintendent, 1 Inspector, 9 Staff Sergeants, 16 Sergeants, 4 Corporals, and 20 Constables. Fifty-seven percent (n = 29) of the officers reported having used CP in a criminal investigation, and 16% (n = 8) said they had constructed a criminal profile.

MATERIALS

A structured interview containing three sections was used to assess officers' views and beliefs of CP. Section 1 consisted of 6 questions that elicited demographic information (i.e., age, gender, rank, years of experience, whether or not they had used a profile in an investigation, and whether or not they had ever produced a profile). Section 2 involved asking officers a series of 17 belief-related statements to each of which they were asked to select a response from a 5-point scale (1 = *Strongly Agree*, 2 = *Agree*, 3 = *Neutral*, 4 = *Disagree*, 5 = *Strongly Disagree*). Section 3 consisted of 14 questions, using a range of response formats, about their personal experiences with CP. Specifically, Section 3 contained general questions about CP use (e.g., What type of information is contained a profile?) and specific questions about the officers' perceptions about the contribution of CP to their most recent investigation (e.g., Did the profiler make a significant contribution to the investigation?).

Procedure

Officers were recruited through referral. Two local, senior ranking police officers were asked to provide the names of officers who were working in a major crime division and who were willing to be interviewed. These senior ranking officers also provided the names of other senior ranking officers from different police agencies across Canada who could help with participant recruitment. One of the local officers provided the opportunity to interview 23 (45%) major crime investigators at a homicide conference in Atlantic Canada.[1] The remaining 28 (55%) interviews were conducted by telephone. The variation in interview methods was unrelated to responses.

Officers were first read an informed consent form and asked to agree verbally to their participation. To avoid the ambiguities associated with defining CP, the following definition was provided to the officers: *Profiling is the practice of predicting the major personality, behavioural, and demographic characteristics of an at large criminal, which is based upon an analysis of the information pertaining to the crime that he or she has committed*. Officers who reported not having used a profile before were not asked questions from section three of the interview. On completion of the interview, the officers were given the opportunity to provide additional comments about CP. Each interview took approximately 30 minutes to complete.

In this study, we use 95% confidence intervals (*CI*s) to estimate the range of mean values (μ) that might have been observed if different officers were interviewed in the future (Wilkinson & Task Force on Statistical Inference, 1999). On repeated sampling of police officer views regarding CP, it is likely that the observed statistic (e.g., mean belief in CP) will likely fall within this range 19 out of 20 times. Of particular concern is the width of the *CI*s reported, since this indicates the precision of the estimate of the statistic; wider *CI*s indicate greater imprecision. The judgment of the degree of width leading to a conclusion of uncertainty depends on what researchers

1 *The Annual Atlantic Region Major Crimes Conference in December 2005.*

in the field define as relevant (Smithson, 2003). In the current study, a width greater than 10% of the scale being used is considered imprecise. In the case of proportions, we used the adjusted Wald interval to calculate the 95% confidence interval (Agresti & Coull, 1998).

RESULTS

Criminal Profiling Beliefs

A summary of the responses for the 17 statements about CP that were contained in the interview is provided in Table 1. Those who endorsed either of the agree options (strongly agree or agree) were considered to have agreed with the statement, and the percentages of these agreements were assessed. Approximately 94% of the officers agreed that profilers help solve cases and 92.2% agreed that profilers are valuable to criminal investigations. A total of 88.2% agreed that CP is a valuable investigative tool, and 84.3% endorsed the statement that profilers further investigative understanding of a case. Similarly, 80.4% agreed that officers should use all available investigative techniques, regardless of whether or not they believe it will make a valuable contribution to the investigation, and 80.4% agreed that profilers have skills that go beyond that of the average person. Fewer officers agreed that profilers use sound scientific techniques (58.8%), that profilers should be used regularly in criminal investigations (51.0%), that profilers can predict offender characteristics accurately (47.1%), that CP should be used as evidence in court (33.3%), that profilers should be used for all types of crime (13.7%), and that there is no risk of a profiler misdirecting an investigation (5.9%).

The mean rating, and associated 95% *CI*, of responses for the 17 statements about CP are shown in Figure 1. As illustrated in this Figure, officers strongly believe that CP may be a valuable tool (M = 4.06), is valuable to investigations (4.02), and may further investigators' understanding of a case (4.00). In contrast, the officers disagreed with the statement that profiles should be used as evidence in court (2.80), that it should be used for all types of crime (2.33), and that it poses no risk of misdirecting an investigation (2.04). In between these two extremes, there was support for the proposal that profiles help solves cases (3.95) and that they should be consulted regardless of their likely contribution (3.92), but less of a belief in the accuracy of profiles (3.20) and whether they should be used regularly in criminal investigations (3.27). Lastly, officers were less decided about whether or not the usefulness of CP is underestimated (3.45), and whether or not profilers have special insights into the criminal mind (3.64) and use sound scientific techniques (3.47). In all instances, the width of the *CIs* was smaller than 10% (i.e., .35 margin of error) of the rating scale.

Table 1: ***Summary of Responses to CP Statements(N = 51)***

Statement	Response Percentage				
	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1. Profilers further investigators' understanding of a case	25.5	58.8	11.8	3.9	0.0
2. Profiling is a valuable investigative tool	17.6	70.6	7.8	3.9	0.0
3. Profilers are valuable to criminal investigations	11.8	80.4	3.9	3.9	0.0
4. Profilers help solve cases	2.0	92.2	3.9	2.0	0.0
5. Officers should use all available investigative techniques, regardless of whether they believe it will make a valuable contribution to the investigation	33.3	47.1	2	13.7	3.9
6. Profilers have skills that go beyond that of the average person	13.7	66.7	11.8	5.9	2.0
7. Profilers help the police identify offenders	9.8	68.6	17.6	3.9	0.0
8. Profilers have a positive impact on criminal investigations	2.0	72.5	21.6	3.9	0.0
9. Profilers have special insight into the criminal mind	7.8	62.7	15.7	13.7	0.0
10. Profilers use sound scientific techniques	9.8	49	19.6	21.6	0.0
11. The usefulness of profilers is underestimated	2.0	58.8	21.6	17.6	0.0
12. Profilers provide advice that police do not have access to	2.0	52.9	19.6	25.5	0.0
13. Profilers should be used regularly in criminal investigations	3.9	47.1	23.5	23.5	2.0
14. Profilers can accurately predict offender characteristics	20.	45.1	25.5	25.5	2.0
15. Profiling should be used as evidence in court	3.9	29.4	21.6	33.3	11.8
16. Profilers should be used for all types of crime	0.0	13.7	9.8	72.5	3.9
17. There is no risk of a profiler misdirecting an investigation	0.0	5.9	15.7	54.9	23.5

Figure 1

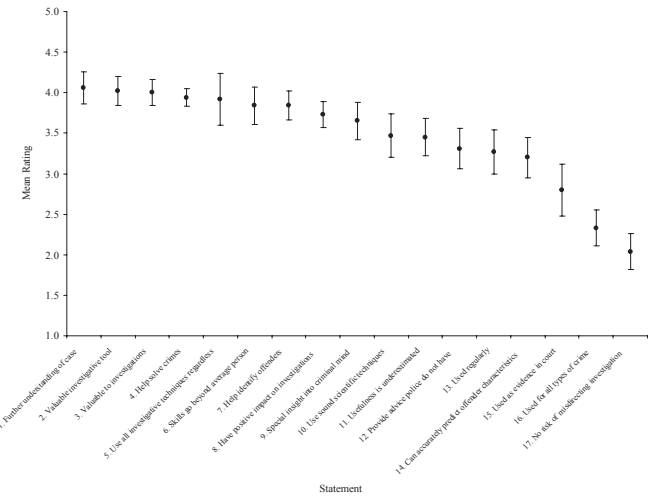

Figure 1. Mean rating and 95% CI for each of the 17 statements about Criminal Profiling

To provide an overall picture of police officers' perspectives, we computed the mean total score across the belief statements. This aggregate measure was considered appropriate given the high level of internal consistency among the statements (Cronbach's alpha was .84 for the 17 statements, Cronbach, 1951). The mean total score across the belief statements was 43.1 (*SD* = 7.4; Range = 31 – 68), which is below the midpoint of 51. This may indicate a degree of overall skepticism when considering the general investigative value of CP. This mean total score was not correlated significantly with officers' reported age (*r* = -.22), gender (*r* = .04), or years of experience (*r* = -.22). Nor was it correlated with officers who had personally produced a profile in the past (*r* = .04), or those officers who used a profile as part of their criminal investigation (*r* = .08).

Criminal Profiling Use

Responses from the 29 officers who had reported using a profile in an investigation indicated that they had done so, on average, 4.5 times (*SD* = 3.5; Range = 1 – 12). To gain a snapshot of how CP is used in Canada, which might be useful for future comparisons, we asked these 29 officers about their most recent experience with CP. A summary of frequency of responses to general questions relating to CP use is contained in Table 2. The number of profiles obtained by Canadian police officers has increased from 1985 to present. As can be seen, one profile was obtained between 1985 and 1989, none were obtained between 1990 and 1994, seven were obtained between 1995 and 1999, 11 were obtained between 2000 and 2004, and 10 were obtained in 2005. The Royal Canadian Mounted Police provided the profile in 45.2% of cases and the Ontario Provincial Police provided the profile in 32.3% of cases. Approximately 55% of the profiles were provided for homicide cases and 37.9% were provided for sexual assault cases. In regards to when profiles were requested, 13.8% indicated that the profile was requested at the outset of the investigation and 31% indicated that the profile was requested at an early stage of the investigation. The profiler's advice usually arrived within two weeks of it being requested (82.8%). Thirty-nine percent of the profilers' predictions were provided through standard mail and 29% were given in person. Approximately 86% of the respondents indicated that the profile contained characteristics of the offender, 75.9% indicated that it contained insight into the behaviour of the offender, and 65.5% indicated that it contained advice on interviewing strategies. When officers were asked why they requested the profile, 38.2% reported that it could help solve the case and 23.5% stated that it might help confirm their opinions about the likely offender.

In responding to questions about the contribution of the most recent profile they had used, 19 of the 29 officers (65.5%) reported that it made a significant contribution to their investigation. A summary of the reasons given by these officers when asked how the profile contributed to their investigation is contained in Table 3. The three main reasons were that the profiler helped confirm their opinion concerning the case (31.6%), the profiler helped focus the investigation (13.8%), and the profiler helped the investigative team form a better understanding of the suspect (10.3%). Other reported contributions centered on more specific case contributions, such as clarifying specific case details (3.4%) and providing interrogation strategies (3.4%).

A summary of the reported perceived utility of profilers to police officers' investigations is contained in Table 4. Officers responded to the questions listed in Table 4 on a 10-point scale (1 = *no agreement*, 10 = *agreement*). Those choosing points 1 to 5 were interpreted as no agreement and those choosing points 6 to 10 were interpreted as agreement. Sixty-nine percent of officers indicated that the profile was operationally useful (*M* = 6.41, *SD* = 2.40) and 74% indicated that the profiler was accurate in predicting the characteristics of the offender (*M* = 6.07, *SD* = 3.16). Fifty-two percent indicated that the profiler's advice was important in opening new lines of inquiry (*M* = 5.24, *SD* = 2.21) and 40% indicated that the profiler's advice was important in solving the case (*M* = 4.07, *SD* = 2.79).

Table 2 *Summary of Responses about CP Use (n =29)*

Question	Frequency	Percentage	95% Confidence Interval
Year the profile was obtained			
1985 to 1989	1	3.4	0 to 19
1990 to 1994	0	0.0	0 to 10
1995 to 1999	7	24.1	12 to 42
2000 to 2004	11	37.9	23 to 56
2005	10	34.5	20 to 53
Type of crime that was profiled			
Homicide	16	55.2	38 to 72
Sexual assault	11	37.9	23 to 56
Breaking and entering	1	3.4	0 to 19
Aggravated assault	1	3.4	0 to 19
Stage of investigation that the profile was requested			
Outset	4	13.8	5 to 31
Early stage	9	31.0	17 to 49
After direction of investigation was established	7	24.1	12 to 42
After the initial leads were exhausted	7	24.1	12 to 42
Just prior to the arrest of the perpetrator	2	6.9	1 to 23
What agency provided the profile?			
Local agency	6	19.4	9 to 39
Ontario Provincial Police	10	32.3	20 to 53
Royal Canadian Mounted Police	14	45.2	31 to 66
Federal Bureau of Investigation	1	3.2	0 to 19
How was the profile delivered? [a]			
Paper – standard mail	16	39.0	26 to 54
In person	12	29.3	18 to 45
Telephone	8	19.5	10 to 34
Email	2	4.9	0 to 17
Facsimile	2	4.9	0 to 17
Unknown	1	2.4	0 to 14
What type of information did the profile contain? [a]			
Characteristics	25	86.2	69 to 95
Geographic predictions	14	48.3	31 to 66
Insight into the behaviour of the offender(s)	22	75.9	58 to 88
Interviewing strategies	19	65.5	47 to 80
Other	3	10.3	3 to 27
How long did it take to receive the profile?			
Within 1 week	18	62.1	44 to 77
Within 2 weeks	6	20.7	9 to 39
Within 3 weeks	1	3.4	0 to 19
Within 1 month	2	6.9	1 to 23
Within 5 months	1	3.4	0 to 19
Unknown	1	3.4	0 to 19
What was reason for requesting the profile?			
Because profiler could help solve the case	13	38.2	24 to 55
Confirmation of personal opinion	8	23.5	12 to 40
Expert opinion wanted	4	11.8	4 to 27
Focused investigation	3	8.8	2 to 24
Interrogation approach	3	8.8	2 to 24
Cover all basis	1	2.9	0 to 16
Investigative strategy	1	2.9	0 to 16
Prioritize suspect	1	2.9	0 to 16

Note. a = percentages can exceed 100% because multiple options were available to participants.

Thirty-three of the officers provided additional comments about CP (see Table 5). Sixteen officers (48.5%) indicated that CP should be used with caution because, like any other investigative tool, it is not an exact science and it is subject to error. Fifteen officers (45.5%) stated criminal profilers provide valuable information to criminal investigations. Seven officers (21.2%) stated that CP can be utilized successfully for only certain types of crimes.

Table 3: ***Summary of Responses for How CP Contributed to Criminal Investigations (n =29)***

Question	Frequency	Percentage	95% Confidence Interval
Confirmation of own opinion	6	31.6	15 to 54
Focused investigation	4	13.8	8 to 44
Better understanding of the suspect	3	10.3	5 to 38
Created a list of suspects	2	6.9	2 to 33
Outside perspective	2	6.9	2 to 33
Accurate predictions	1	3.4	0 to 26
Provided suspect location	1	3.4	0 to 26
Interrogation approach	1	3.4	0 to 26
Opened new lines of inquiry	1	3.4	0 to 26
Clarifying case details	1	3.4	0 to 26

Table 4: ***Summary of Responses to Questions about Profilers' Utility to Criminal Investigations (n =29)***

Question	Mean	Standard Deviation	95% Confidence Interval
How operationally useful was the advice received from the profiler?	6.41	2.40	5.5 to 7.3
How accurate was the profiler in predicting the characteristics of the offender?	6.07	3.16	4.9 to 7.3
How important was the profiler's advice in opening new lines of inquiry?	5.24	2.21	4.4 to 6.0
How important was the profiler's advice in solving the case?	4.07	2.79	3.0 to 5.2

Table 5: ***Additional Comments Concerning CP a (n =33)***

Comment	Frequency	Percentage	95% Confidence Interval
Criminal profiling is just another investigative tool	16	48.5	33 to 65
Criminal profiling is subject to error and must to used with caution	16	48.5	33 to 65
Criminal profilers provide valuable information	15	45.5	30 to 62
Criminal profiling cannot be used for all cases or crimes	7	21.2	10 to 38
Officers should use criminal profiling in the future	6	18.2	8 to 35
Criminal profiling needs more empirical evidence.	4	12.1	4 to 28
Profilers are more accurate than lay people because of their training and experience	4	12.1	4 to 28
Would use criminal profiling more if there were no time or money constraints	4	12.1	4 to 28
Criminal profiling should be used more often in criminal investigations	2	6.1	1 to 21
There should be more proactive action taken to encourage officers' to use criminal profiling	2	6.1	1 to 21
A standard or qualification should be met in order for someone to be considered a professional profiler	2	6.1	1 to 21

Note. a = multiple comments were provided by some participants.

DISCUSSION

The goal of the current study was to provide a detailed, up-to-date picture of police officers' experience and perceptions of CP, in terms of its utility, validity, and scope of application. The interviews therefore sought to provide an estimate of the acceptance of CP among police officers. Regardless of whether the officers had used CP, the majority reported a belief that profilers are valuable to criminal investigations and that profiles are a valuable investigative tool. They attributed this value to a belief that profilers improve an investigator's understanding of a case, and that profilers have skills that go beyond that of the average person. Moreover, according to the officers that had used profiles, CP makes a significant contribution to criminal investigations because profiles confirm their opinion about the case and, to a lesser extent, they help focus the investigation.

However, these opinions are tempered by respondents' views about the scope of CP and the weighting it should be given within an investigation. A large proportion of respondents believe that there is a risk that

CP can misdirect an investigation, thereby recognizing that the provided advice should be scrutinized and may often be wrong. Officers also believe that CP should not be used as evidence in court, and they take this belief further by indicating that CP should not be used in all types of criminal investigations. Thus, while officers seem relatively supportive of CP, they believe that it has a limited place within certain types of investigations.

On the surface, these results seem to indicate that police officers perceive CP to be an effective investigative technique. The police officers in our study were able to articulate why the method was useful (e.g., focused the investigation, provided interrogation strategies). However, it is premature to rule out the possibility that this positive evaluation of utility might be the result of social and cognitive processes, such as the use of anecdotes to convince people that CP is effective (see Snook, Cullen, Bennell, Taylor, & Gendreau, 2007; Cullen & Snook, 2006).

In general, the police officers in this study had a neutral opinion about the scientific merit of CP and whether or not it provides insights that would not otherwise be accessible to an investigation. They did not report a high level of disagreement with the statements concerning validity or a high level of agreement. Their degree of conviction may therefore be understood as being slightly positive but as falling short of fully endorsing CP as a valid technique. As noted by Kocsis and Hayes (2004), the law enforcement community must believe that CP is somewhat useful given its continued use, but they have yet to be persuaded completely that it is a valid investigative technique.

Perhaps this uncertainty regarding the validity of CP emerges from the confusion of evidence in the field. For instance, the belief that CP is a valuable tool is based partially on the idea that there are predictable relationships between crime scene behaviours (e.g., type of victim) and offender background characteristics (e.g., age of the offender). However, recent incisive scrutiny of CP research (e.g., Alison, Bennell, Mokros, & Ormerod, 2002; Hicks & Sales, 2006) indicate that such relationships are rare. Taylor, Goodwill, Beauregard, Bennell, and Snook (2006), for example, failed to find any support for the relationship between behaviours and characteristics in a number of personal and property crimes (for additional examples, see Hicks & Sales, 2006). Moreover, in contrast to the belief that profilers possess skills that go beyond the average person, research that has examined this issue shows that this is not the case. As mentioned, Snook et al. (2007) found that profilers were not shown to possess special skills that allowed them to decisively outperform other groups, including: police officers, psychologists with no CP training, or groups of university students.

One of the most interesting questions to emerge from the current research is why a discrepancy exists between the belief that CP is useful and the lack of compelling empirical research supporting that belief. In our opinion, there appears to be two possible explanations. First, it could be the case that the officers' positive opinions about CP are correct and that the existing empirical research is flawed (see Bennell, Jones, Taylor, & Snook, 2006, for criticisms of CP research). That is, it might be the case that existing research is characterized by low levels of external validity (e.g., in terms of the stimulus used, participants tested, timeframes of the studies) and that, consequently, little weight can be afforded to the conclusions drawn from such research. If researchers improve the quality of the studies that are conducted, it might be the case that the findings from those studies will be more compatible with the beliefs that are reported here. To achieve this, however, it is necessary to test the validity of the CP process. This is likely to prove difficult given that many CP professionals claim that a profile is produced partly on subjective assessment (Copson, Babcock, Boon, & Britton, 1997) and that many are unwilling to participate in controlled experiments (see Kocsis, Irwin, Hayes, & Nunn, 2000).

Alternatively, it might be the case that current research represents the validity CP practice accurately, suggesting that there is little evidence to support the beliefs that are endorsed by Canadian police officers. In this case, the beliefs are likely to be based on something other than the actual validity of CP practice. For example, Snook, Cullen et al. (2007) has argued recently that a number of psychological processes can potentially explain how people are mislead to believe in things that lack empirical support (e.g., repetition of the message "profiling works" from profilers and the media, finding meaning in ambiguous statements, overemphasizing the value of anecdotal evidence). Future research therefore needs to examine if these possible explanations contribute to the illusion that CP works and, if this is the case, effort must be made to correct this distorted view through more effective knowledge transfer.

There are at least three limitations of the current study that need acknowledgement. First, even though the sample size was adequate in our view (given the difficulty in recruiting specialized officers working in major crime divisions), the small size of our sample limits the generalizability of our results. Indeed, the widths of the *CI*s for the 29 officers that had used profiling were, in our estimation, of such a magnitude as to limit definitive conclusions about the practice of CP. One would be more favourable toward results that are more closely bounded by their respective *CI*s. Second, many of the

police officers were working in Atlantic Canada, thereby calling into question the generalizability of our results to all Canadian officers and officers in other countries. Third, it is possible that the opinions of those that agreed to participate in the research may be different from those who did not participate. Given these limitations, we emphasize the need for replication and expansion of our study.

CONCLUSION

This study contributes a policing perspective to our understanding of the perceptions of the utility and validity of CP. For the most part, officers view CP as a tool that can help criminal investigations but only for particular types of crimes. Despite this optimistic view, police officers reported a degree of skepticism about the validity of CP, but not to the degree that has been found in other professional groups. The current findings reiterate the need for more definitive research into the validity of CP, which will allow us to determine whether police officers' perceptions are misaligned with scientific knowledge.

REFERENCES

Agresti, A., & Coull, B. (1998). Approximate is better than 'exact' for interval estimation of binomial proportions. The American Statistician, 52, 119-126.

Ainsworth, P. B. (2001). Offender profiling and crime analysis. Cullompton, Devon: Willan.

Alison, L. J., Bennell, C., Mokros, A., & Ormerod, D. (2002). The personality paradox in offender profiling: A theoretical review of the processes involved in deriving background characteristics from crime scene actions. Psychology, Public Policy, and Law, 8, 115-135.

Annon, J. S. (1995). Investigative profiling: A behavioral analysis of the crime scene. American Journal of Forensic Psychology, 13, 67-75.

Åsgard, U. (1998). Swedish experiences in offender profiling and evaluation of some aspects of a case of murder and abduction in Germany. In Case Analysis Unit (BKA), Method of case analysis: An international symposium (pp. 125-130). Weisbaden, Germany: Bundeskriminalamt Kriminalistisches Institut.

Ault, R. L., & Reese, J. T. (1980). A psychological assessment of crime profiling. FBI Law Enforcement Bulletin, 49, 22-25.

Bennell, C., Jones, N. J., Taylor, P. J., & Snook, B. (2006). Validities and abilities in criminal profiling: A critique of the studies conducted by Richard Kocsis and his colleagues. International Journal of Offender Therapy and Comparative Criminology, 50, 344-360.

Blau, T. H. (1994). Psychological profiling. In T. H. Blau (Ed.), Psychological services for law enforcement (pp. 261-274). New York: Wiley.

Boon, J. C., & Davies, G. (1993). Criminal profiling. Policing, 9, 218-227.

Canter, D. V. (2004). Offender profiling and investigative psychology. Journal of Investigative Psychology and Offender Profiling, 1, 1-15.

Case Analysis Unit. (1998). Methods of Case Analysis: An International Symposium.

Bundeskriminalamt, Wiesbaden: Kriminalistisches Institut.

Copson, G. (1995). Coals to Newcastle? Part 1: A study of offender profiling. London: Home Office, Police Research Group.

Copson, G., Badcock, R. J., Boon, J. C., & Britton, P. (1997). Editorial: Articulating a systematic approach to clinical crime profiling. Criminal Behaviour and Mental Health, 7, 13-17.

Cronbach, L. J. (1951). Coefficient alpha and the internal structure of tests. Psychometrika, 16, 297-334.

Cullen, R. M., & Snook, B. (2006, August/September). The potential to mislead: No compelling evidence to support criminal profiling. Blue Line, 40-42.

Douglas, J. E., & Munn, C. (1992). Violent crime scene analysis: Modus operandi, signature, and staging. FBI Law Enforcement Bulletin, 61, 1-10.

Douglas, J. E., Ressler, R. K., Burgess, A. W., & Hartman, C. R. (1986). Criminal profiling from crime scene analysis. Behavioral Sciences and the Law, 4, 401-421.

Egger, S. A. (1999). Psychological profiling. Journal of Contemporary Criminal Justice, 15, 242-261.

Geberth, V. J. (1993). Practical homicide investigation. Boca Raton, FL: CRC Press.

Hazelwood, R. R., & Douglas, J. E. (1980). The lust murderer. FBI Law Enforcement Bulletin, 49, 18-20

Hazelwood, R. R., Ressler, R. K., Depue, R. L., & Douglas, J. C. (1995). Criminal investigative analysis: An overview. In A. W. Burgess & R. R. Hazelwood (Eds.), Practical aspects of rape investigation: A multidisciplinary approach. Boca Raton, FL: CRC Press.

Hicks, S. J., & Sales, B. D. (2006). Criminal profiling: Developing and effective science and practice. Washington, DC: American Psychological Association.

Holmes, R. M., & Holmes, S. T. (2002). Profiling violent crime: An investigative tool. Thousand Oaks, CA: Sage.

Jackson, J. L., van Koppen, P. J., & Herbrink, J. (1993). An expert/novice approach to offender profiling. Paper presented at the First NISCALE Workshop on Criminality and Law Enforcement, Leiden.

Jackson, J. L., van den Eshof, P., & de Kleuver, E. E. (1994). Offender profiling in the Netherlands (No. NSER WD94-03 JVDK 2001-38). Leiden: NSCR: Netherlands Institute for the Study for Criminality and Law Enforcement.

Jackson, J. L., van den Eshof. P., & de Kleuver, E. E. (1997). A research approach to offender profiling. In J. L. Jackson & D. B. Bekerian (Eds.), Offender profiling: Theory, research, and practice (pp. 107-132). Chichester: Wiley.

Kocsis, R. N. (2004). Psychological profiling of serial arson skills: An assessment of skills and accuracy. Criminal Justice and Behavior, 31, 341-361.

Kocsis, R. N., & Hayes, A. F. (2004). Believing is seeing? Investigating the perceived accuracy of criminal psychological profiles. International Journal of Offender Therapy and Comparative Criminology, 48, 149-160.

Kocsis, R. N., Irwin, H. J., Hayes, A. F., & Nunn, R. (2000). Expertise in psychological profiling. Journal of Interpersonal Violence, 15, 311-331.

Muller, D. A. (2000). Criminal profiling: Real science or just wishful thinking? Homicide Studies, 4, 234-264.

Pinizzotto, A. J. (1984). Forensic psychology: Criminal personality profiling. Journal of Police Science and Administration, 12, 32-40.

Smithson, M. (2003). Confidence intervals. Thousand Oaks, Sage.

Snook, B., Cullen, R. M., Bennell, C., Taylor, P. J., & Gendreau, P. (2007). The criminal profiling illusion: What's behind the smoke and mirrors? Manuscript submitted for publication.

Snook, B., Eastwood, J., Gendreau, P., Goggin, C., & Cullen, R. M. (2007). Taking stock of criminal profiling: A narrative review and meta-analysis. Criminal Justice and Behaviour, 34, 437-453.

Taylor, P. J., Goodwill, A., Beauregard, E., Bennell, C., & Snook, B. (2006, June). Testing the offender profiling paradigm: Can actions predict characteristics? Presentation given at the 16th Conference of the European Association of Psychology and Law, Liverpool, UK.

Torres, A. N., Boccaccini, M. T., & Miller, H. A. (2006). Perceptions of the validity and utility of criminal profiling among forensic psychologists and psychiatrists. Professional Psychology: Research and Practice, 37, 51-58.

Trager, J., & Brewster, J. (2001). The effectiveness of psychological profiles. Journal of Police and Criminal Psychology, 16, 20-28.

West, A. G. (2000). Clinical assessment of homicide offenders: The significance of crime scene in offense and offender analysis. Homicide Studies, 4, 219-233.

Wilkinson, L., & Task Force on Statistical Inference, American Psychological Association. (1999). Statistical methods in psychology journals: Guidelines and explanations. American Psychologist, 54, 594-604.

Witkin, G. (1996). How the FBI paints portraits of the nations most wanted. U.S. News and World Report, 120, 32.

Woodworth, M., & Porter, S. (1999). Historical foundations and current applications of criminal profiling in violent crime investigations. Expert Evidence, 7, 241-264.

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