

In Cold Blood: Characteristics of Criminal Homicides as a Function of Psychopathy

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This study investigated the relationship between psychopathy and the characteristics of criminal homicides committed by a sample of 125 Canadian offenders. It was hypothesized that the homicides committed by psychopathic offenders would be more likely to be primarily instrumental (i.e., associated with premeditation, motivated by an external goal, and not preceded by a potent affective reaction) or “cold-blooded” in nature, whereas homicides committed by nonpsychopaths often would be “crimes of passion” associated with a high level of impulsivity/reactivity and emotionality. The results confirmed these predictions; homicides committed by psychopathic offenders were significantly more instrumental than homicides by nonpsychopaths. Nearly all (93.3%) of the homicides by psychopaths were primarily instrumental in nature compared with 48.4% of the homicides by nonpsychopaths.

In terms of its impact on the victim, the victim’s family and friends, and the financial resources devoted to its investigation, homicide is the most severe form of antisocial behavior. Despite its extreme negative consequences, homicide is also one of the least studied and most poorly understood forms of antisocial conduct. An obvious reason for the lack of research on the psychology of homicide is that it is uncommon compared with other forms of antisocial and violent behavior. However, it remains a significant problem within all cultures and nations (e.g., Daly & Wilson, 1988). Homicide is a heterogeneous phenomenon, associated with different contexts, motivations, and types of perpetrators. For example, some homicides are highly calculated, instrumental acts, whereas others are characterized by an apparent lack of premeditation, occurring in the context of an emotion-laden dispute or in response to a situational provocation. Research leading to a more thorough understanding of the factors associated with different forms of homicidal violence could have both basic and applied implications. As an example of the latter, if specific psychological characteristics in offenders were found to be associated with characteristics of the crime itself, it could allow investigators to

reduce the large field of suspects in many homicide cases (e.g., Woodworth & Porter, 1999).

The present research focuses on one psychological construct that is highly relevant to the criminal justice system (see Hart & Hare, 1997). *Psychopathy* is a personality disorder characterized by a profound affective deficit accompanied by a lack of respect for the rights of others and societal rules (e.g., Cleckley, 1976; Hare, 1996, 1998; Porter, 1996). The current state-of-the-art diagnostic tool (see Fulero, 1995) in the assessment and identification of psychopathy is the Psychopathy Checklist—Revised (PCL–R; Hare, 1991). As operationalized by the PCL–R, psychopaths are manipulative, callous, remorseless, impulsive, irresponsible individuals who often engage in diverse antisocial behaviors. With a prevalence of 15%–25% in the federal offender population, psychopathy is an important risk factor for recidivism and, more specifically, for violence (e.g., Grann, Langstroem, Tengstroem, & Kullgren, 1999; Hemphill, Hare, & Wong, 1998; Kosson, Smith, & Newman, 1990; Lyon, Hart, & Webster, 2001; Salekin, Rogers, & Sewell, 1997). For example, Serin and Amos (1995) found that psychopaths were about five times more likely than nonpsychopaths to engage in violent recidivism within 5 years of release. Porter, Birt, and Boer (2001) investigated the complete criminal career and community release profiles of 317 federal offenders. They found that psychopathic offenders consistently committed more violent and nonviolent crimes than their nonpsychopathic counterparts from late adolescence to their late 40s (also see Harpur & Hare, 1994). Important from a risk management perspective, although the release performance of nonpsychopaths improved with age, it got worse for psychopaths as they got older. Psychopathy also is associated with more severe forms of sexual violence (e.g., Brown & Forth, 1997; Hare, Cooke, & Hart, 1999; Kosson, Kelly, & White, 1997; Serin, Mailloux, & Malcolm, 2001) and targeting multiple victim types (Porter, Campbell, Woodworth, & Birt, in press; Porter et al., 2000).

Overall, therefore, the dominant clinical conception of a psychopath is a dangerous person who preys on others across the life span (e.g., Hare 1998; Simourd & Hodge, 2000). Given this observation, a relationship between psychopathy and some forms

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This research was graciously supported by an operating grant to Stephen Porter from the Social Science and Humanities Research Council of Canada (SSHRC) and a grant to Michael Woodworth from the American Psychology–Law Society (AP-LS). This study was conducted as part of Michael Woodworth’s graduate thesis under the supervision of Stephen Porter.

We express appreciation to the Correctional Service of Canada for allowing and helping us to collect the data for this study. In particular, we thank Doug Boer, Jeff Drugge, and Jeff Earle very much for their invaluable assistance. Thanks to Jeff Hancock, Mary Ann Campbell, and Angela Birt for comments on an earlier draft of this article. Thanks also go to Peyton Harris, Mary Ann Campbell, Naomi Doucette, Kris Peace, and Matt Lafond for their assistance in coding the data.

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of homicide seems likely. For example, based on their pathological personality traits, and in light of previous research on psychopathic aggression in general (e.g., Cornell et al., 1996; Serin, 1991), it is plausible that psychopaths engage in more instrumental, goal-driven (e.g., to obtain money or drugs) homicidal violence relative to nonpsychopathic offenders who may engage in predominantly reactive, spontaneous violence (e.g., in the context of a heated argument). No research to date has examined this issue.

Although there are various conceptions of violent behavior, many authors have noted that violence may be best understood by considering the external goals of the perpetrator. Bandura (1983) viewed aggression primarily as an instrumental and goal-driven behavior contingent on external rewards and reinforcement. He suggested that most aggression is committed with the “pull” of various resources or gains in mind. In general, *instrumental* or “proactive” violence occurs when the injury of an individual is secondary to the acquisition of some other external goal. For example, this form of aggression typifies the activities of organized crime groups who often commit strategic and planned violence as a means to achieve an otherwise nonviolent goal, such as money or drugs (e.g., Amir, 1995). Other researchers have argued that emotional or “internal” factors play an important role in violent behavior. In Berkowitz’s (1983) conception, aggression can be conceived as a hostile and angry reaction to a perceived threat or dangerous situation. Accordingly, the primary goal of aggression is to defend oneself from a perceived threat or to react against a perceived environmental frustration. Such *reactive* aggression encompasses impulsive, immediate, and emotion-driven acts in response to a perceived threat, danger, or insult.

More recently, some have observed that this dichotomy, although theoretically important, may oversimplify a highly complex behavior with multiple motivations and manifestations. That is, it has been argued that violence may contain elements of both instrumentality and emotionality/reactivity (e.g., Bushman & Anderson, 2001; Cornell et al., 1996; Poulin & Boivin, 2000) in both children (e.g., Crick & Dodge, 1996; Dodge, 1991; Poulin & Boivin, 2000; Vitiello & Stoff, 1997) and adults (e.g., Block & Block, 1992). Block and Block (1992) observed that the “expressive–instrumental extremes are ‘ideal types’ that seldom occur in pure form” (p. 65). Further, Kingsbury, Lambert, and Hendrickse (1997) noted that often there is an overlap between the two major types of violence. In fact, Bushman and Anderson (2001) argued that the instrumental/reactive dichotomy is of questionable validity in categorizing all acts of aggression by incorrectly assuming that all acts of reactive and/or hostile aggression are “automatic” whereas all acts of instrumental aggression are “controlled.” Nonetheless, according to a number of researchers (e.g., Eaves, Douglas, Webster, Ogloff, & Hart, 2000), a determination of whether violence is primarily instrumental or reactive may be one of the most relevant criteria in assessing risk for future violence and for treatment prognosis in criminal offenders (also see Heilbrun et al., 1998).

The main purpose of the present study was to examine possible differences between homicidal violence committed by psychopathic and nonpsychopathic offenders and to focus primarily on the instrumental and reactive elements of the crime. According to Cleckley’s (1976) classic conception, the behavior of the psychopathic individual often is motivated by a clear external goal rather than the powerful emotions of rage or despair associated with

crimes of passion and that many psychopaths, in fact, displayed a profound deficit in emotional reactivity. Given their propensity toward violence in general (e.g., Hart & Hare, 1997), the use of instrumental or proactive violence would not be unexpected from the criminal psychopath. The general lack of empathy or remorse and the presence of shallow emotions (e.g. Hare, 1991, 1998) could be manifested in the context of their crimes and, more specifically, their homicides. On the other hand, psychopathy often is associated with *impulsivity* and poor behavioral controls (and problems with temper control), suggesting that violence by psychopaths might be highly reactive and inordinate to a particular situational provocation. A small number of studies have investigated this issue (Cornell et al., 1996; Hart & Dempster, 1997). Williamson, Hare, and Wong (1987) examined the nature of the violent offenses in a group of 101 Canadian offenders. They found that psychopathic offenders frequently were motivated by material gain or revenge (45.2% compared with 14.6% of the nonpsychopaths) and did not appear to have been in a state of heightened emotional arousal at the time of the violent act. In contrast, nonpsychopathic offenders appeared to have experienced more emotional arousal during their crimes: 31.7% of the nonpsychopaths exhibited strong emotional arousal—such as jealousy, rage, or a heated argument during their offense—compared with 2.4% of the psychopaths.

In more recent work, Cornell et al. (1996) examined the relationship between psychopathy and violence in 106 male offenders from a medium-security state prison. The authors operationalized instrumental violence as violence that was goal-driven and required planning without an antecedent of provocation. Reactive aggression was defined by an absence of planning or goals and, instead, involved a dispute or interpersonal conflict with the victim. They found that, across their criminal histories, psychopaths (as classified using the PCL–R) were more likely to have committed instrumental violence than nonpsychopaths (who were more likely to have committed reactive violence). Instrumental violence was most commonly associated with a self-reported lack of arousal or anger during the commission of the offense. Further, the victim of instrumental violence was typically a stranger, whereas reactive violence often was associated with high emotional arousal and a close relationship with the victim. There also is some evidence for a link between psychopathy and instrumental/proactive aggression in nonincarcerated samples. For example, Chase, O’Leary, and Heyman (2001) found a relationship between psychopathy and the use of instrumental violence by male spousal assaulters. In their sample of 60 abusive married men, no individuals who were classified as being reactively aggressive were psychopathic, compared with 17% of the men who were classified as instrumentally aggressive.

There is disagreement about the extent to which the instrumental–reactive distinction is useful in conceptualizing the violence committed by psychopathic and nonpsychopathic individuals. Dempster et al. (1996) investigated the institutional files of 75 adult male violent offenders participating in an inpatient treatment program. Although psychopaths were found to have committed more instrumental violence, they also had displayed impulsive behavior in the context of their offenses. Based on these findings, Hart and Dempster (1997) concluded that even if psychopathic individuals commit more instrumental crimes, they may be “impulsively instrumental.” It is possible, then, that psycho-

paths could engage in homicides that, although goal-directed, are highly impulsive and involve little planning (having elements of both instrumentality and reactivity). Thus, in addition to homicides that appear to be exclusively instrumental or reactive, some primarily instrumental homicides may contain a reactive component, and some primarily reactive homicides may contain an instrumental component. Conceptually, this complex or diverse violent behavior seems plausible because the current construct of psychopathy encompasses both affective/interpersonal traits, known as Factor 1 characteristics on the PCL-R (e.g., glibness and superficial charm, pathological lying, lack of remorse, and shallow affect) as well as Factor 2 characteristics associated with a chronically antisocial and unstable lifestyle (e.g., a need for stimulation, impulsivity, lack of realistic goals, and promiscuity). There is some evidence that instrumental aggression is related to the Factor 1 features of psychopathy, whereas reactive aggression is more associated with the Factor 2 characteristics (e.g., Patrick & Zempolich, 1998). The present study addressed these issues and was the first to specifically examine the relationship between psychopathy and homicidal violence.

Method

Sample

The sample was composed of incarcerated homicide offenders (in the year 2000) from two Canadian federal institutions, one in British Columbia on the west coast and one in Nova Scotia on the east coast. The inclusion of offenders from two prisons allowed a large sample size and could increase the generalizability of the findings. Mountain Institution is a medium-security prison located in British Columbia that houses approximately 400 inmates at any given time. A review of file information indicated that a total of 92 offenders had committed at least one homicide, and extensive efforts were made to obtain adequate information on these homicides to include them in our sample. There was detailed file information on the homicide in 74 cases, which were included. The second prison (Springhill Institution) is a medium-security prison located in Nova Scotia also housing approximately 400 inmates. At the time of data collection, there were 54 homicide offenders in this institution. Of these, detailed file information regarding the homicide was available in 51 cases. Thus, in total, there was detailed information on 125 homicide offenders.

Materials

PCL-R (Hare, 1991). The PCL-R has been widely adopted in the assessment of psychopathy in forensic populations. Psychopathy, as measured by the PCL-R, is characterized by 20 criteria, scored as 0, 1, or 2, allowing a maximum score of 40. As recommended in the manual, a score of >30 was the cut-off used for classifying psychopathy (Hare, 1991). The PCL-R score is highly reliable over time and has demonstrated validity according to a number of indices of validity (e.g., Fulero, 1995; Stone, 1995). Although there has been some debate over whether psychopathy represents a discrete or a continuous variable (e.g., Harris, Rice, & Quinsey, 1994), recent research suggests that psychopathy may represent a distinct clinical entity or taxon (see Hart & Hare, 1997). Nonetheless, we used both a dichotomous and a continuous score approach to examine psychopathy and homicide.

In the Canadian correctional system, risk assessments for the purposes of conditional release and treatment programs normally include an evaluation of psychopathy by a psychologist who has been well trained in the administration of the PCL-R. PCL-R assessments are typically conducted as part of the intake assessment and for conditional release decisions and are based on a structured interview as well as a thorough review of all

collateral and historical information. A file search yielded all available PCL-R scores and corresponding Factor 1 and Factor 2 scores as reported in the official risk assessments. (It is now a requirement of the Canadian correctional system that a risk assessment [including a PCL-R] be conducted on all violent offenders.) However, due to the recentness of this policy, 29 offenders from the Springhill sample still required a PCL-R rating. Although PCL-R assessments are often based on a review of file information and an interview with the offender, research (e.g., Grann, Langstroem, Tengstroem, & Stalenheim, 1998; Wong, 1988) has consistently shown that assessments based solely on the offender's file information are highly similar to ratings including an interview (see Hare, 1991) and are appropriate in the absence of an interview (provided that there is sufficient file information to code the PCL-R; files on Canadian federal offenders are generally extensive, detailed, and multifaceted). For the current study, a graduate student in psychology and a senior undergraduate student who had been trained in administering the PCL-R reviewed all available official file information and scored the 29 other PCL-Rs. These raters were kept blind to the purpose and hypotheses of the study to prevent any bias in their scoring of the PCL-R.

File documentation concerning the homicide. The crime information was coded directly from the official Criminal Profile Reports (CPR) and the Psychological Assessment Reports (PAR) included in the institutional files. These two documents are considered to be the most important and informative files within each offender's case file for describing in detail the offender's violent crimes. The CPR is written by a case management officer and is based on the official police report (submitted to the prosecutor to allow charges to be laid) and court information (e.g., submissions by the prosecutor). The report is an objective description of the actual crime as a result of a thorough investigation and court testimony. Within the CPR, an official, detailed description (typically 1–2 pages in length) is provided for each serious offense. The PAR is a detailed assessment of the offender's psychological status and description of violent crimes, written by a psychologist. The extensiveness of the documents contained within each inmate's institutional file clearly was sufficient for completing both the homicide coding and the additional 29 PCL-Rs.

Procedure

PCL-R reliability. Interrater reliability of the PCL-R assessments for the entire sample was examined in two ways. First, 21 offenders (16.8%) were randomly selected for dual coding. In these cases, with the exception of the PAR documenting the original PCL-R score, all file information available on each offender was made available to the blind coder. This check ensured that the original PCL-R scores were accurate, as expected given that the original raters were all highly trained psychologists. For a second reliability check, a set of 33 cases was randomly selected for dual coding. However, for these cases, all details pertaining to the current homicide offense were completely removed prior to coding. Although this practice for assessing reliability has rarely been adopted in psychopathy studies, we felt that it was an important measure. The rationale for this second test of reliability was that coding in the absence of the homicide description would circumvent the possibility of "circularity" or contamination in scoring the PCL-R. In other words, just as it was necessary for homicide coding to be done without knowledge of whether the offender was psychopathic (see below), we felt that it was important to demonstrate that PCL-R scores were not unduly influenced by knowledge of the details of the homicide.

Homicide coding scheme. The characteristics of the 125 homicides were coded on the basis of pertinent information in the offenders' files. To avoid possible rating bias, the coder was kept unaware of the PCL-R score (removed prior to coding). Overall, 13 of the 125 (10.4%) offenders had committed more than one homicide; 11 offenders had committed two homicides, and 2 offenders had committed three homicides. However, due to a general lack of file information concerning "historical" homicides,

some of which were from decades earlier, only the most recent homicide was coded.

To examine in detailed (rather than dichotomous) fashion whether the degree of instrumentality and reactivity associated with homicide was associated with level of psychopathy, each homicide was rated on a Likert-type scale with possible ratings ranging from 1 to 4. Based on Cornell et al.'s (1996) coding criteria for instrumental and reactive aggression, as well as an extensive literature review, this was conceptualized as a continuum as follows:

1. *Purely reactive*: In order for a homicide to be rated as purely reactive, there had to be strong evidence for a high level of spontaneity/impulsivity and a lack of planning surrounding the commission of the offense. Reactive violence was coded if there was evidence for spontaneity or impulsivity, a rapid and powerful affective reaction prior to the act, and no apparent external goal other than to harm the victim immediately following a provocation/conflict. A clear example of a purely reactive homicide is if an unknown victim verbally insulted the perpetrator, who in a rage immediately started a fight and proceeded to stab the victim to death with a weapon of "convenience" (e.g., a broken bottle in a bar).

2. *Reactive/instrumental*: To qualify for this rating, the homicide had to show evidence for both reactive and instrumental violence. However, the primary quality of the violence leading to death had to be reactivity. For example, using the example above, the reactive/instrumental description would apply if after or during the unplanned fight (and eventual murder), the perpetrator elected to rob the victim as well. Thus, the evidence would suggest that the homicide was unplanned/reactive but that there was also a secondary instrumental, opportunistic component.

3. *Instrumental/reactive*: To qualify for this rating, the homicide had to show evidence for both instrumental and reactive violence. However, the primary quality of the violence leading to death had to be instrumental. For example, an instrumental/reactive homicide would be coded if the offender started to commit a bank robbery but in the process proceeded to murder a bank teller after becoming agitated when the teller picked up a phone. In this case, a crime occurred for an obvious external gain, and the homicide was part of this instrumental act. However, the homicide occurred as a reaction to unplanned events within the context of the crime.

4. *Purely instrumental*: For a homicide to be rated as purely instrumental, the offense had to have been clearly goal-oriented in nature with no evidence of an immediate emotional or situational provocation. The homicide had to have been committed for a clearly identifiable purpose other than "hot-blooded" spontaneous anger or a response to an immediate frustration. Therefore, a purely instrumental homicide was coded if there was strong evidence that the homicide had been intentional, premeditated (nonimpulsive), motivated by a clear external goal such as drugs, money, to obtain sex or revenge, and not immediately following a potent affective reaction. For example, an offender may have carefully planned, carried out, and concealed a homicide in order to steal from the victim. We also examined this issue categorically to test whether the psychopaths and nonpsychopaths had engaged in primarily reactive (rating of 1 or 2) or instrumental violence (rating of 3 or 4).

Instrumental violence was then classified further according to the following categories: *primary instrumental violence* and *secondary instrumental violence*. Instrumental violence was identified as primary when its main purpose was to inflict harm on an individual (e.g., revenge) and not to serve some other purpose such as material gain (e.g., drugs, money). In contrast, instrumental violence was considered secondary when the main purpose was not to inflict pain on the victim but to achieve a clear goal (e.g., drugs, money), and violence was committed only as a means by which to achieve these goals. Indeed, it should be noted that although we relied heavily on Cornell et al.'s (1996) original coding scheme, after an extensive literature review we decided to include planned revenge/retribution as a potential type of instrumental aggression. This was meant to reflect the growing concern of researchers that instrumental violence, although planned and nonimpulsive, sometimes is committed primarily for

the purpose of inflicting pain and harm on another person and that "hostile" aggression also should sometimes be viewed as instrumental (e.g., Bushman & Anderson, 2001; Indermaur, 1996; Tedeschi & Felson, 1994). Therefore, if there was a "cooling off" period, or a discernible gap in time between the provocation/frustration and the homicide, revenge/retribution was coded as an instrumental motive. Further, the various motivations that the offenders may have had for committing an instrumental homicide were investigated. Specifically, the possibility that the instrumental violence had been committed (a) for monetary gain, (b) drugs/alcohol, and/or (c) revenge/retribution, (d) to obtain nonconsensual sex, or (e) for an idiosyncratic reason was recorded. A homicide was not coded if the motive or rationale for committing the homicide could not be determined or if it was not possible to ascertain whether the homicide had been spontaneous or planned.

As was conveyed in our main coding description above, the degree of instrumentality or reactivity associated with a homicide mainly considered (a) instrumental gain, (b) impulsivity, and (c) level of antecedent affective arousal. We assumed that these dimensions would generally be closely interrelated in considering homicidal violence. For example, we predicted that a clear instrumental gain would generally be associated with low impulsivity and low affective arousal. However, it was important to explore empirically how these three main components co-occurred and how each related to both the instrumentality ratings and the PCL-R scores. Therefore, these three dimensions were coded for the entire sample of the homicides (and dual coded for a reliability check in 19 [15.2%] cases) to allow a careful delineation of their interrelationships and relationships with instrumental violence and psychopathy. Trained raters coded for the presence or absence of an instrumental gain (*evidence* or *no evidence*), impulsivity (*not*, *somewhat*, or *highly impulsive*; Hare, 1991), and affect arousal (*low*, *moderate*, or *high* amount of emotional arousal). (Interested readers may contact the authors for more detailed information on how the three dimensions were coded.)

Results

Preliminary Analyses

PCL-R scores and interrater reliability. For the entire sample, the mean PCL-R total score was 22.27 ($SD = 8.81$; range = 1–37). Using the diagnostic cut-off score of ≥ 30 , offenders were classified either as psychopaths or nonpsychopaths. Ninety-one (72.8%) offenders scored below the cut-off and were classified as nonpsychopaths, whereas 34 (27.2%) offenders scored within the psychopathic range.

A preliminary interrater reliability check was conducted on the PCL-R scores, using 21 (16.8%) randomly selected case files for dual coding. Intraclass correlation coefficients (ICC) were examined to determine the level of inter-rater reliability for continuous scores. Interrater reliability was high/acceptable for PCL-R total, Factor 1, and Factor 2 scores (ICCs = .92, .81, and .95, respectively; $ps < .001$). Further, there was no mean difference between the two sets of scores ($M = 24.95$, $SD = 7.91$, and $M = 25.81$, $SD = 6.91$, for Rater 1 and Rater 2, respectively), $t(40) = .37$, $p > .05$. Similarly, computing Cohen's kappa revealed an acceptable level of agreement between Raters 1 and 2 for classifying the offenders as psychopaths or nonpsychopaths, $\kappa = .79$, $p < .001$ (common guidelines for acceptable kappa scores are $< .40 = poor$; $.40-.59 = fair$; $.60-.74 = good$; and $\geq .75 = excellent$; e.g., Cicchetti & Sparrow, 1981; Fleiss, 1981).

To examine the potential problem of circularity or criterion contamination, a second interrater reliability check was conducted on an additional 33 (26.4%) randomly selected files in which the

raters were kept blind to the description of the offenders' current homicide offense (the description of the offense was removed in advance of coding). Similar to the initial reliability check, interrater reliability was high/acceptable for PCL-R Total, Factor 1, and Factor 2 (.97, .95, and .94, respectively; $ps < .001$). This analysis established that the PCL-R ratings were valid and argues against the possibility of circularity in the ratings.

Interrater reliability for homicide coding. An interrater reliability check was conducted on the variables coded pertaining to the characteristics of the homicides. A second well-trained rater who followed the same coding guidelines as the first rater coded the homicide variables (the second rater had been trained over a 2-day period and was kept blind to the PCL-R data for each offender). The reliability check (using 21 randomly selected files) indicated that the coded scores were highly reliable. Specifically, reliability was high/acceptable for type of homicide, $K(21) = .81$, $p < .001$, and specific type of instrumental violence, $K(21) = .87$, $p < .001$.¹ An interrater reliability check also was conducted on the three dimensions of the homicide offenses, using 19 randomly selected case files. ICCs were used to determine the level of interrater reliability for these scores. Inter-rater reliability was high/acceptable for gain, impulsivity, and affect (ICCs = .90, .95, and .88, respectively; $ps < .001$).

Descriptive Statistics

Age. The offenders' mean age at the time of data collection was 41.8 years ($SD = 10.5$; range = 18–67 years). The mean age at the time they committed the current homicide was 30.0 years ($SD = 9.5$; range = 14–55 years). The age at which the offender committed the current homicide did not differ significantly between psychopaths and nonpsychopaths ($p > .05$).

Characteristics of the victims. The victims' mean age at time of death (based on a subset of 68 victims for whom the specific age at time of death was listed in the file information) was 31.6 years ($SD = 9.5$; range = 3–92). The general age group of the victim was reported in 100 cases. Eight victims were children (0–12 years old; 8%), 15 were teenagers (15%), 69 were adults (20–64 years old; 69%), and 8 were seniors (65 years and older; 8%). In addition, in 8 cases (6.4%) the offender had more than one victim during his current homicide offense.

Relationship Between Psychopathy and Homicide Offense

Instrumental/reactive differences as a function of psychopathy. Overall, 45 (36%) homicides were purely instrumental, 25 (20%) were instrumental/reactive, 29 (23.2%) were reactive/instrumental, 16 (12.8%) were purely reactive, and 10 (8%) could not be coded. Possible differences in the violence committed by the psychopathic and nonpsychopathic groups were examined.² Results indicated that there was a significant difference between the two groups, $t(113) = 3.73$, $p < .001$, $\eta^2 = .11$.³ Specifically, homicides perpetrated by psychopaths were associated with a higher degree of instrumentality ($M = 3.47$, $SD = .82$) than homicides committed by nonpsychopaths ($M = 2.65$, $SD = 1.10$). There also was a significant correlation between the continuous PCL-R total scores (0–40) and the instrumental ratings. Higher scores on the PCL-R were associated with higher levels of instrumental violence, $r(115) = .45$, $p < .001$.⁴ Psychopaths and non-

psychopaths were then compared on whether their violence was primarily reactive (rating of 1–2) or primarily instrumental (rating of 3–4). Results indicated that, overall, 70 (60.9%) of the offenders had committed a primarily instrumental homicide, whereas 45 (39.1%) offenders had committed a primarily reactive homicide. Again, a significant relationship between type of homicide and psychopathy was found. Specifically, psychopathic offenders were far more likely, $\chi^2(1, N = 115) = 17.96$, $p < .001$, to have used primarily instrumental violence (93.3%), compared with nonpsychopathic offenders who were more likely to have committed primarily reactive rather than instrumental violence (51.6%; see Figure 1). It is interesting that nonpsychopathic offenders (48.4%) also were clearly capable of committing primarily instrumental homicides but to a much lesser extent than psychopaths.

An analysis of the three separate dimensions (affect, instrumental gain, and impulsivity) revealed that although these dimensions were partially interrelated, they each contributed in a meaningful way to the instrumental/reactive coding scheme. As expected, gain ratings were significantly negatively correlated with impulsivity ratings, $r(109) = -.62$, $p < .001$, and negatively (nonsignificantly) correlated with ratings of affective arousal, $r(48) = -.26$, $p = .078$, whereas affect and impulsivity were positively correlated, $r(50) = .59$, $p < .001$. Further, as expected, gain ratings were significantly positively related to the instrumental/reactive ratings, $r(112) = .63$, $p < .001$, whereas affect, $r(50) = -.54$, $p < .001$, and impulsivity, $r(112) = -.84$, $p < .001$, were significantly negatively related.

A hierarchical regression analysis was conducted with affect, gain and impulsivity entered sequentially as potential predictors of the instrumental/reactive ratings. The model was significant, $\text{adj}R^2 = .70$, $F(3, 44) = 37.36$, $p < .001$. Specifically, when affect was entered into the model, it significantly predicted instrumental/reactive ratings, $\text{ch}R^2 = .27$, $F(1, 46) = 16.87$, $p < .001$. Next, the gain dimension was entered and was also found to add signifi-

¹ Although kappa is most commonly used when comparing the reliability of dichotomous variables, its suitability for a multileveled categorical variable has also been shown to be appropriate (Carletta, 1995; Howell, 1992).

² As mentioned in the introduction, from our theoretical framework we conceptualized the ratings as representing a continuum. We also analyzed the instrumental/reactive data categorically using a nonparametric approach and obtained the same pattern of results.

³ When the 29 PCL-Rs that had been completed by the researchers (on the basis of file information only) were excluded from this analysis, the effect size was almost identical ($p < .001$, $\eta^2 = .12$), indicating the same pattern of results as obtained with the full sample.

⁴ Previous literature has suggested that individuals who score above 20 on the PCL-R also display many of the characteristics of psychopathy, although they are not formally labeled as psychopathic. Therefore, the sample also was broken down into three PCL-R categories of low (0–20; $n = 39$), medium (20–30; $n = 46$), and high (30–40; $n = 30$) psychopathy. Similar significant results were again obtained, $F(2, 112) = 16.32$, $p < .001$. Specifically, the high-psychopathy group ($M = 3.47/4$) committed 60% instrumental, 33.3% instrumental/reactive, 0% reactive/instrumental, and 6.7% reactive homicides. The medium-psychopathy group ($M = 3.04/4$) committed 43.5% instrumental, 23.9% instrumental/reactive, 26.1% reactive/instrumental, and 6.5% reactive homicides. The low-psychopathy group ($M = 2.18/4$) committed 17.9% instrumental, 10.3% instrumental/reactive, 43.6% reactive/instrumental, and 28.2% reactive homicides.

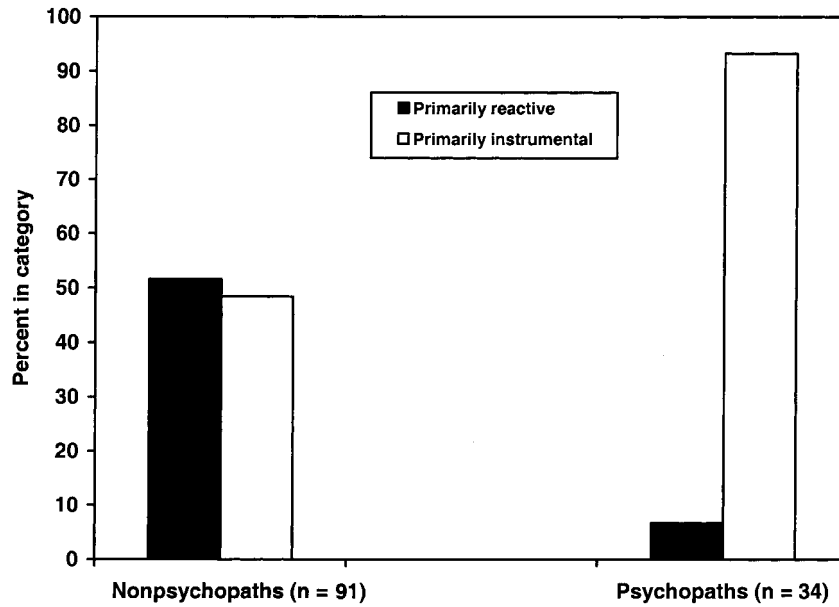


Figure 1. Primary nature of homicides as a function of psychopathy.

cantly to the prediction model, $chR^2 = .31, F(1, 45) = 33.38, p < .001$. Finally, when the impulsivity dimension was included in the model, it also significantly added to the prediction model, $chR^2 = .14, F(1, 44) = 21.56, p < .001$. However, with all three variables entered concurrently into the model, only the impulsivity dimension uniquely predicted instrumental/reactive ratings, $\beta = -.65, t(44) = -4.64, p < .001$, whereas affect, $\beta = -.10, t(44) = -.93, p = .36$, and gain ratings, $\beta = .181, t(44) = 1.52, p = .14$, did not predict scores independently.

It also was important to examine how the three dimensions of the homicide offense were related to the offender's overall PCL-R score. Results indicated that although the presence of external gain was significantly positively related total PCL-R score, $r(112) = .28, p < .01$, the presence of impulsivity was significantly negatively related to total PCL-R score, $r(112) = -.26, p < .01$.

Affective arousal was negatively related to total PCL-R score, but the correlation was nonsignificant, $r(52) = -.17, p = .23$.

To examine the relative contributions of Factor 1 (F1; interpersonal/affective traits) and Factor 2 (F2; antisocial behavior) in predicting the degree of instrumentality within the homicides, a regression model consisting of F1 and F2 scores (entered simultaneously into the model) was conducted. The regression equation was significant, $adjR^2 = .20, F(2, 112) = 15.65, p < .001$. Although the partial correlation for F1 scores was significant, $r(115) = .37, p < .001$, the partial correlation for F2 scores was not, $r(115) = .09, p > .05$, suggesting that F1 but not F2 scores played a role in predicting the level of instrumentality in the crime. These results were confirmed by a calculation of the zero-order correlations between PCL-R total score, Factor 1, Factor 2, and the type of homicide (see Table 1).

Table 1
Zero-Order and Partial Correlations Between Factor 1, Factor 2, PCL-R Total, and Homicide Type

Type of correlation	Factor 1	Factor 2	PCL-R total	Homicide type
Zero-order correlation				
Factor 1	—	.53*	.85*	.46*
Factor 2		—	.87*	.31*
PCL-R total			—	.45*
Homicide type				—
Partial correlation, with Factor 1 removed				
Factor 2		—		.09
PCL-R total			—	.13
Partial correlation, with Factor 2 removed				
Factor 1	—			.37*
PCL-R total			—	.39*

Note. PCL-R = Psychopathy Checklist—Revised.
* $p < .001$.

Psychopathy and victim gender. In 41.6% of the homicides, the victim was male and in 54.4% cases the victim was female. The relationship between psychopathy and victim gender was significant, $\chi^2(2, N = 115) = 6.94, p < .05$. When victim gender was known, offenders in the nonpsychopathic group committed homicides against males (48.4%) and females (47.3%) in approximately equal numbers, whereas offenders in the psychopathic group committed homicides more commonly against females (73.5%) than males (23.5%).

Specific type of instrumental violence. Possible motives behind the type of instrumental violence used were examined. In 16 cases, this variable was not coded because the homicides were purely reactive with no instrumental component. Ten additional cases were not coded either because of a lack of information. Therefore, the sample size for this analysis was 99. Results indicated that 30 homicides (30.3%) were committed for revenge or retribution, 24 (22%) for monetary gain, 21 (19.3%) to obtain nonconsensual sex, 11 (11.1%) occurred in a conflict over a female, 7 (6.4%) were for other reasons, and 3 (2.8%) were to obtain drugs or alcohol. No significant relation was found between psychopathy and the specific type of instrumental violence committed.

General type of instrumental violence. The final issue examined was whether instrumental homicides showed *primary instrumental violence* or *secondary instrumental violence*. Purely reactive homicides or those that could not be coded because of insufficient information were excluded from the analysis. In addition, 8 cases were excluded because it was unclear whether instrumental violence should be coded as secondary, primary, or a combination. Therefore, the sample size for this analysis was 97. Results indicated that secondary instrumental violence had been committed in 26 (26.8%) of the homicides, whereas primary instrumental violence was perpetrated in 65 (67.0%) of the cases, and 6 homicides (6.2%) showed a combination of both types of instrumental violence. Thus, more than twice as many offenders committed primary instrumental violence compared with secondary instrumental violence. However, no significant relation was found between psychopathy and the general type of instrumental violence committed, $\chi^2(2, N = 91) = .49, p > .05$.

Discussion

Much research has established a strong connection between psychopathy and criminal behavior, including violence (see Hart & Hare, 1997). Psychopaths seem to have few inhibitions to prevent callous interactions with others across the life span (e.g., Hare 1996, 1998; Harpur & Hare, 1994; Porter, Birt, & Boer, 2001; Simourd & Hodge, 2000). However, the current study was the first to examine the relationship between psychopathy and the most serious form of crime—homicide. We predicted that psychopaths would show a higher level of instrumentality in their homicides than nonpsychopaths, who would be more likely to have committed reactive crimes of passion. On the other hand, it is also possible that given their expected pattern of impulsivity, psychopathic offenders might have perpetrated spontaneous and reactive murders (e.g., Hare, 1998).

The results clearly supported the hypothesis that psychopaths are more likely to engage in instrumental or cold-blooded homicides compared with nonpsychopathic individuals. In fact, almost

all of the psychopaths had committed a primarily instrumental murder.⁵ Our data suggested that nonpsychopathic offenders were certainly capable of committing instrumental offenses, but they did not show the same clear preference for or tendency toward instrumental violence witnessed in the psychopathic offenders. There are a number of possible reasons for this finding. First, psychopathic offenders characteristically show a marked lack of empathy toward others (e.g., Levenston, Patrick, Bradley, & Lang, 2000), and this appears to extend to their crime victims. Recent research by Herpertz et al. (2001) indicated that psychopaths display a profound level of hypoemotionality that could effectively disallow an inhibition against acting in a violent manner if it served a selfish function. Here, psychopaths appeared to be capable of premeditating and carrying out ruthless, cold-blooded homicides that many nonpsychopathic (although potentially violent) individuals would be considerably less likely to consider perpetrating (also see Abbott, 2001). For example, one psychopathic offender (scoring at the 87th percentile on the PCL-R relative to other inmates) admitted to police that he had decided to murder an ex-girlfriend because he felt that she was interfering with his new relationship, and he simply decided that murdering her would help resolve this issue. Another inmate carefully planned and murdered his wife because he stood to gain financially from her insurance policy. It is likely that few people without the affective deficit associated with psychopathy would seriously consider such acts, and even fewer would actually plan and carry them out. It is of note that previous studies have found that an inability to experience or anticipate the remorse (characteristic of psychopathy) that is often a consequence of aggressive behavior may lead to an increase in instrumental aggression (e.g., Guerra, Nucci, & Huesmann, 1994; Kingsbury et al., 1997).

It was interesting that the overall level of instrumental violence characterizing these homicides was substantially higher than expected on the basis of previous contentions. However, although there seems to have been a long-standing and widely held belief that most homicides are reactive, emotional, or even irrational, there were actually few empirical data to speak to the issue prior to the current study. In fact, the current study was one of the first to look specifically at the offense of homicide in terms of rich, well-defined instrumental/reactive criteria. In our view, past conceptions of homicide greatly underestimated the relevance of forethought and instrumentality in understanding the phenomenon. The majority of murderers in this study did not “snap” and kill another person (although some did) as many might have expected. In our view, more research is needed (perhaps by interviewing the offenders themselves) to increase our understanding of why so many homicide offenders “chose” to engage in this type of violence.

Among the most important findings was that nearly all of the psychopaths had perpetrated primarily instrumental homicidal vi-

⁵ Note that the data reported here do not allow a determination of whether psychopaths are more likely than nonpsychopaths to commit an instrumental homicide (or less likely to commit a reactive homicide) because the prevalence of psychopathy in the general population is not clear (despite a published estimate of 1%; e.g., Hare, 1996). Nonetheless, among those who have committed a murder, nonpsychopaths are far more likely to have committed a reactive murder.

olence and that so few had committed highly impulsive homicidal violence. It has been long understood that individuals with psychopathic qualities will sometimes engage in highly spontaneous, impulsive behavior in criminal and noncriminal contexts (e.g., Ellis, 1987; Hare, 1996). As noted by Newman and Schmitt (1998), “[P]sychopathic individuals are notorious for their failure to inhibit or modify behaviors that culminate in negative consequences” (p. 527). Given this connection with impulsivity and lack of behavioral controls, why were the homicide offenders in the current study unlikely to have engaged in primarily impulsive, reactive violence? We think that this pattern could possibly reflect *selective impulsivity*; that is, psychopaths may behave in a more instrumental manner (or, rather, may behave in a less reactive and impulsive manner) specifically for the offense of homicide. It is possible that when committing an act with such extreme negative consequences as with homicide perpetration (e.g., lifetime incarceration), psychopaths may plan their actions in a calculating fashion because the stakes are high. Although it may seem somewhat paradoxical that psychopaths would still elect to murder someone after a more rational appraisal of the potentially serious costs of perpetrating the act, this process might be influenced by an undersensitive behavioral inhibition system (BIS). Some researchers have suggested that the BIS is weaker in psychopaths who are seemingly unable to properly inhibit their behavior even when presented with serious punishment cues (e.g., Fowles, 1980).

Psychopathic offenders also might be more likely than other offenders to resist an impulse to kill someone when caught in an emotion-driven dispute or less likely to experience such powerful emotions in the first place. Thus, the impulsive behavior often seen in psychopaths outside of the context of homicide may not be simply uncontrollable or reflect an *inability* to consider the consequences but rather may be a function of *not caring* to control or inhibit the behavior. In fact, our results indicated that of the three dimensions of instrumentality we considered, impulsivity contributed most to the variance of the instrumental/reactive scores and was, surprisingly, negatively related to the overall PCL–R score in these homicide offenders. It is clear that this issue must be investigated in future research before solid conclusions can be formulated.

The results indicate that the PCL–R factor scores were differentially related to the instrumentality of the homicides. Specifically, Factor 1 scores accounted for much of the variance associated with the instrumentality of the homicides, whereas Factor 2 scores did not significantly contribute to this dimension. These findings appear to be consistent with Dempster et al.’s (1996) study of 75 adult male violent offenders attending an inpatient treatment program for violent offenders. They found that Factor 1 was significantly related to ratings of planning and instrumentality, whereas Factor 2 actually had a negative relationship with elements of planning during the offense (see also Cunningham & Reidy, 1998; Patrick & Zempolich, 1998).

This study had many strengths in addition to being the first to examine the relationship between psychopathy and homicide. Our results supported the contention of researchers such as Bushman and Anderson (2001) that many acts of aggression cannot be categorized as strictly instrumental or reactive but, rather, contain elements of both. Further, we had access to a large sample to study a poorly understood and highly consequential form of abnormal behavior, devised a highly reliable and rich coding scheme for

characterizing instrumentality and its basic elements, and ensured that no circularity problem was present.

Future studies could explore consistencies (or inconsistencies) between the offender’s primary motivation (instrumental or reactive) for previous homicides and other violent acts and his or her motivation for the current homicide. Research examining whether these results would generalize across a range of criminal offenses would be useful in testing the validity of our selective impulsivity hypothesis (e.g., examining whether psychopaths who had committed instrumental homicide also had committed reactive, non-homicidal violence). It is also possible that research examining particular groups or subcultures could obtain different results. For example, research on homicides committed by inner-city gangs, organized criminals, or terrorists could yield different results regarding both the type of homicides committed and the perpetrators’ motivations.

In conclusion, we carefully investigated the psychological aspects of homicide—a type of violent behavior that often seems incomprehensible to both the public and mental health professionals—and found that the construct of psychopathy contributes much to our understanding of the phenomenon. Psychopaths engage in far more instrumental or cold-blooded homicides than other offenders. Given the wealth of information now available on the behavioral and personality patterns seen in psychopaths across the life span (e.g., Porter, Birt, & Boer, 2001), the homicide investigator could potentially reduce the field of suspects in difficult investigations. In terms of treatment planning in the prison setting, it seems clear that a consideration of psychopathy and the type of violence committed is necessary (e.g., anger management would not seem to be an optimal approach for the psychopathic murderer). Future research should attempt to differentiate nonpsychopathic offenders (nearly half in this study) who commit primarily instrumental homicides from those who commit primarily reactive homicides. Further, in light of these results, classic conceptions of impulsivity in psychopaths may need to be reconsidered. As we have argued, it may be that “impulsivity” in psychopaths has less to do with a lack of control than with *conscious decision making* that depends on a rapid consideration of the gravity of the consequences.

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Received May 7, 2001

Revision received October 24, 2001

Accepted December 18, 2001 ■

Call for Nominations

The Publications and Communications (P&C) Board has opened nominations for the editorships of *Contemporary Psychology: APA Review of Books*, *Developmental Psychology*, and *Psychological Review* for the years 2005–2010. Robert J. Sternberg, PhD, James L. Dannemiller, PhD, and Walter Mischel, PhD, respectively, are the incumbent editors.

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