

DISSOCIATION AND VIOLENCE

A Review of the Literature

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Violent acts are sometimes committed by people who do not normally appear violent or aggressive. This simple observation and others have led some to speculate about a relationship between dissociation and violence. However, no systematic review of the literature has so far been published. To address this gap, studies assessing the prevalence of dissociation among violent individuals, and violence among highly dissociative persons, are reviewed. Possible links between dissociation and violent behavior are explored. It is concluded that dissociation predicts violence in a wide range of populations and may be crucial to an understanding of violent behavior. There is a clear need, however, for large scale, well-designed studies using reliable structured instruments in a number of areas reviewed. Recommendations for clinical applications include the routine screening of offenders for dissociative disorders and adequate consideration of dissociation and dissociative disorders in the development and implementation of violence treatment and prevention programs.

Key words: *dissociation, violence, amnesia, depersonalization*

THE NOTION THAT PEOPLE who appear to their neighbors or colleagues to be perfectly “normal,” unremarkable, or even kind in disposition can, under some circumstances, commit heinous, violent crimes has long fascinated and repelled the public. As crystallized in Robert Louis Stevenson’s masterpiece, *The Strange Case of Dr. Jekyll and Mr. Hyde*, the concept that an individual can have two or more sides, and be capable of both great good and profound evil, is a notion abhorrent to most people, who labor under the conviction that “bad” people are different than “good” people and that one can tell the difference. But is this really the case?

On the morning of March 5, 2001, Charles “Andy” Williams, a 15-year-old student, walked into Santana High School in California and shot 13 students and two staff. Two students were killed. No one saw it coming. As is often the case in adolescent mass murders, Andy was considered quiet and nice, and those who knew him were mystified that he could commit such an act. Sentenced to “50 years to life,” he is now described as a “model” prisoner. In an interview with Diane Sawyer of ABC, aired in October 2002, Williams described his feelings during the rampage as follows: “I don’t think crazy is the right word. It’s, like, an out-of-body experience—when I was in my body, I was

KEY POINTS OF THE RESEARCH REVIEW

Dissociation may mediate the so-called "cycle of violence."

Increased dissociation is associated with increased violence in a wide range of populations, including college students, young mothers, military veterans, psychiatric inpatients and outpatients, and sexual, domestic violence, and homicide offenders.

About one quarter of inmates report pathological levels of dissociative experiences.

Dissociative "flashbacks" to prior traumatic events can drive violent behavior by causing an individual to believe they are back in the danger situation again and to behave accordingly.

Violent individuals can be traumatized by their own actions; transient depersonalization while committing a violent act, a form of peritraumatic dissociation, may be common.

Amnesia for violent crime is frequent, reported in almost a third of homicides, and is associated with a lack of premeditation, significant emotional arousal, and alcohol use; most claims cannot easily be dismissed as dissimulation.

out of my body at the same time. . . . I didn't feel like it was actually me doing it" (ABC News/ "Primetime," 2002).

When such sentiments are expressed by murderers, they are often brushed off as efforts to deny responsibility or minimize guilt. However, there is evidence to be presented that they may be more than that and, at least in a portion of such cases, may represent dissociative episodes experienced during the commission of violent crimes. Certainly, Andy Williams's description of his feelings and perceptions at the time he was shooting his classmates is strikingly similar to those reported by survivors of various forms of trauma (Cardena & Spiegel, 1993; Noyes, Hoenk, Kuperman, & Slymen, 1977). Although it may be counterintuitive (and certainly disconcerting), one can suggest that perpetrators of violent crime may, in some instances, be "traumatized" by their own actions. This is one of the many tenets to be explored in this article, intended as a wide-ranging discussion of various ways in which the concepts of dissociation and dissociative disorders can inform our understanding of violent behavior.

Dissociation researchers have long wondered about a relationship between dissociation and violence. Some have argued that the overwhelming preponderance of women diagnosed with dissociative disorders could partly be due to males with dissociative disorders being funneled into the criminal justice system and their diagnoses missed (Carlson & Putnam, 1993; Steinberg, 1995). Indeed, several authors have claimed to have found more than a dozen violent offenders in various prisons diagnosed with dissociative identity disorder (DID) (Carlisle, 1991; Lewis, Yeager, Swica, Pincus, & Lewis, 1997; Snow, Beckman, & Brack, 1996). Stein (2000) identified 14 severely dissociative men out of 64 in a prison hospital sample, all of whom had lengthy psychiatric histories, but none of whom had received a dissociative disorder diagnosis. In addition, two clinical outpatient samples of men diagnosed with DID found past incarceration rates of 28.6% (Ross & Norton, 1989) and 47% (Loewenstein & Putnam, 1990). Strikingly, more than 40% of the men with prison histories in the latter study had been incarcerated for murder.

Despite the interest expressed by dissociation researchers, until recently there has been relatively little attention paid to this putative relationship by those actively studying criminal and violent behavior.¹ The only exception in this regard is the relationship between amnesia and crime, which has been chronicled for well over 75 years (see Hopwood & Snell, 1933), partly because of its important implications for criminal law. Only J. Reid Meloy, who dedicates 30 pages of his book *The Psychopathic Mind* (1988) to a discussion of dissociation and psychopathy; A. L. Carlisle (1991, 1993), who published two important articles on dissociation and homicide; and Dorothy Otnow Lewis, whose book *Guilty by Reason of Insanity* (1998) strongly emphasizes dissociation as a factor in violent crime, have expressed interest in this relationship. Over the last several years, however, there has been a surge in relevant Ph.D. dissertations (Campbell, 2000; Cuartas, 2002; Landsman, 1999; Narang, 2002; Redondo, 1997; Snow, 1998; Stein, 2000; Ward, 1995), two reviews of the relationship between dissociation and violence in psychiatric patients (Kluft, 1994; Porteus & Taintor, 2000),

and numerous published studies assessing the prevalence of dissociation in offender populations (Campbell, 2000; Carrion & Steiner, 2000; Ellason & Ross, 1999; Friedrich et al., 2001; Simoneti, Scott, & Murphy, 2000; Stein, 2000; Walker, 2002).

Thus, the time appears ripe for a review of the relationship between dissociation and violence. This review will take the following form. Following discussion of evidence that dissociation may mediate the so-called "cycle of violence," studies addressing the frequency of dissociation and dissociative disorders in criminal and violent populations and the frequency of violence in persons with dissociative symptoms or disorders will be presented. Having discussed evidence that dissociation is linked to violence in the first three sections, the fourth section focuses on specific forms that this connection may take including dissociative episodes during violence, manifested by flashback-driven violence or transient depersonalization, and dissociative episodes subsequent to violence, manifested by amnesia. This review will not cover legal and forensic aspects of dissociative disorders, such as malingered DID or criminal responsibility, as these issues have been well covered elsewhere (Coons, 1991; Hall, 1989; McSherry, 1998; Porter, Birt, Yuille, & Herve, 2001; Sadoff, 1974). It will also not cover possible links between long-term, chronic dissociation and the development of certain types of violent offenders, such as those considered "psychopathic"; such considerations are addressed in a companion article (Moskowitz, 2003). Prior to turning to the evidence for a dissociation-violence link, a brief discussion of dissociation, dissociative disorders, and approaches to assessment is called for.

Definition and Assessment of Dissociation and Dissociative Disorders

The concept of dissociation is generally considered to have originated with Janet (Ellenberger, 1970), although it has been suggested that the English term "disaggregation" would have been a more suitable translation from the French (Kihlstrom, Tatarzyn, & Hoyt, 1993). Janet thought that dissociation was due

to a psychological trauma whose cause was unknown and which produced a separation between certain thoughts, experiences, and actions and "the monitoring and controlling function of a central executive ego" (Kihlstrom et al., 1993, p. 203).

Dissociation is defined in the *Diagnostic and Statistical Manual of Mental Disorders DSM-IV* as "a disruption in the usually integrated functions of consciousness, memory, identity, or perception of the environment" (American Psychiatric Association [APA], 2000, p. 456). Although dissociation has been seen as existing on a continuum ranging from "normal" dissociation (i.e., daydreams) to "pathological" dissociation (i.e., significant "psychogenic" amnesia or experiences of derealization or depersonalization), a growing consensus is forming that these pathological forms of dissociation are qualitatively different from normal dissociation (Waller, Putnam, & Carlson, 1996; Waller & Ross, 1997). One distinction may be that normal dissociation largely consists of transient dissociative "states" but not enduring dissociative "traits" (Kruger & Mace, 2002).

By far the most popular instrument used to assess dissociation is the Dissociative Experiences Scale (DES) (Carlson & Putnam, 1993). The DES consists of 28 statements describing various dissociative symptoms, some common (e.g., missing part of a conversation) and others much more unusual (e.g., finding belongings with no memory of purchasing them). The subject marks how often (from 0% to 100% of the time) they have had these experiences when not under the influence of alcohol or drugs, and the DES score is considered the mean of all 28 responses. Typically, a score of 30 or higher is

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considered suggestive of severe or pathological dissociation. The DES was not designed to diagnose dissociative disorders per se and is generally used as a screening instrument. It has been used in hundreds of studies over the past 15 years and is generally considered to have good reliability and validity (Carlson & Putnam, 1993).

There have also been several structured interviews constructed to assess the presence of dissociative disorders, including the Structured Interview for *DSM-IV* Dissociative Disorders (SCID-D) (Steinberg, 1994) and the Dissociative Disorders Interview Schedule (DDIS) (Ross, Heber, Norton, Anderson, & Barchet, 1989). The former assesses the presence and severity of 5 dissociative symptoms—amnesia, derealization, depersonalization, identity confusion, and identity alteration—presumed to underlie all of the *DSM-IV* dissociative disorders. The latter assesses 16 areas, such as “amnesia,” “trances,” and “Schneiderian symptoms,” thought to be relevant to *DSM-IV* dissociative disorder diagnoses. Both are considered to have good reliability and validity (Ross et al., 1989; Steinberg, 1994).

The *DSM-IV* includes five diagnoses within the category of dissociative disorders: dissociative amnesia, dissociative fugue, depersonalization disorder, DID (formerly multiple personality disorder), and dissociative disorder not otherwise specified (DDNOS). The latter category can include persons with severe dissociative symptoms who do not meet the diagnosis of DID due to limited amnesia or because the personality states are not “distinct” from one another and those suffering from dissociative trance disorders such as *amok*. Dissociative symptoms also form an integral part of the *DSM-IV* diagnoses of posttraumatic stress disorder (PTSD) and acute stress disorder (ASD). In fact, the latter category relies so heavily on dissociative symptoms, requiring three from a list of five, that it was originally proposed to be classified as a dissociative disorder (Speigel & Cardena, 1991). PTSD is also closely linked to dissociative disorders, as two of its most prominent symptoms—“flashbacks” and emotional numbing (feeling “detached” from others, or “unable to have loving feel-

ings”)—are dissociative in nature. In addition, under the *DSM-IV-TR* “avoidance” symptoms is “an inability to recall an important aspect of the trauma” (APA, 2000), which may be linked to dissociative amnesia.

PTSD and dissociative disorders not only have some symptoms in common but may also share etiology. Although PTSD is, by definition, related to an experienced trauma, dissociative disorders are also acknowledged in the *DSM-IV* as occurring after experiences of trauma or severe stress. Dissociation is seen as an adaptive response to childhood abuse, in which the individual is unable to fight or flee and so psychologically attempts to distance or numb themselves (Perry, Pollard, Blakely, Baker, & Vigilante, 1995), a response that has been likened to the animal fear response of freezing (Nijenhuis, Vanderlinden, & Spinhoven, 1998). In particular, DID is often believed to develop in response to severe childhood abuse (Putnam, Guroff, Silberman, Barban, & Post, 1986; Speigel & Cardena, 1991), although some have argued that an inborn predisposition to dissociate may contribute to its genesis (Jang, Paris, Zweig-Frank, & Livesley, 1998; Kluft, 1984; though see Waller & Ross, 1997, for evidence of zero heritability for pathological dissociation). Evidence is now emerging to suggest that not only does dissociation in an individual arise from experiences of childhood abuse but it also may place them at higher risk of being abusive to others.

EVIDENCE FOR A DISSOCIATION-VIOLENCE CONNECTION

Dissociation and the Cycle of Violence

It has long been believed, at least in some quarters, that violent individuals are not born but bred and come from a background of significant abuse and neglect (Gilligan, 1996; Lewis et al., 1997; Widom, 1989). In the most common form of this “intergenerational transmission” hypothesis, child abuse is seen as a necessary but not sufficient condition for the development of violent behavior (Athens, 1989), mediated by social learning (Bandura, 1973), abnormal brain

development (Perry, 1997), or biased information processing (Dodge, Bates, & Pettit, 1990). Indeed, both retrospective (Song, Singer, & Anglin, 1998; Wolfe, Scott, Wekerle, & Pittman, 2001) and prospective (Weiler & Widom, 1996; Widom, 1989) studies have supported this relationship, and a recent review concluded that "the cycle of violence or the intergenerational transmission of violence appears to have been validated to some extent" (Haapasalo & Pokela, 1999, p. 116). Nonetheless, the same review argued that the "developmental mechanism" underlying this relationship remains obscure.

Three recent studies have proposed that the "mechanism" underlying the cycle of violence may be dissociation. In a sample of women who had been abused as children, Egeland and Sussman-Stillman (1996) found significantly higher dissociation scores in women who abused their own children than in women who, despite having been abused, did not. The mean DES scores for the abusing mothers was 36, well over the cutoff of 30 usually considered indicative of severe dissociation and 20 points higher than the mean for the nonabusing mothers. The authors surmised that women who dissociated were less likely to have empathy toward their child, making it more likely that they would be abusive, and concluded that "dissociation may serve as the mechanism for explaining the transmission of abuse across generations" (Egeland & Sussman-Stillman, 1996, p. 1130).

Using a very different sample and methodology, Narang and Contreras (2000) came to similar conclusions. Two hundred and twenty-three students from a midwestern American university completed three instruments: a modified version of the Childhood History Questionnaire (Milner, Robertson, & Rogers, 1990, as cited in Narang & Contreras, 2000), which assessed the frequency and nature of childhood abuse; the DES, for dissociative experiences; and the Child Abuse Potential Inventory to assess the students' risk for physically abusive behavior toward others (Milner, 1986, as cited in Narang & Contreras, 2000). This latter scale is reported to not only have good reliability but also excellent criterion validity, having been used to successfully classify 81% of physically abusive and 99% of non-physically abusive individuals (Milner,

1994, as cited in Narang & Contreras, 2000). Narang and Contreras found that physical abuse potential was strongly related to both physical abuse history ($r = .34$), and DES score ($r = .54$) but that the former relationship was weakened considerably after controlling for dissociation scores. Essentially identical results ($r = .53$ for DES and abuse potential) were recently found by Narang (2002) in a replication with a sample of mothers of young children. Narang and Contreras (2000) concluded that dissociation "significantly mediated the observed relationship between physical abuse history and physical abuse potential" (p. 660) and suggested that future research examine elevated dissociation levels not only in trauma victims but also in "aggressors." It is to that relationship that we now turn.

Dissociation and Dissociative Disorders in Criminal and Violent Populations

Until recently, there had been very few systematized attempts to establish how common dissociative experiences and disorders were in violent and criminal populations. The few studies that addressed the issue suggested that dissociative experiences were surprisingly common. Tanay (1969), a forensic psychiatrist, attempted to generate a typology of 53 homicide offenders he had evaluated over a 10-year period. He argued that the bulk of these offenders (70%) had been in a "dissociative reaction" at the time of the crime, a term that he related to "trance" and "fugue states." These offenders, who normally functioned well and had no history of psychiatric problems beyond some episodes of depression, shifted into an "altered state of consciousness" immediately prior to the crime. Many of the individuals who committed these "dissociative homicides" (Tanay's term)

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TABLE 1: Prevalence of Pathological Dissociation and Dissociative Disorders in Offender and Violent Populations

<i>Study</i>	<i>Population</i>	<i>n</i>	<i>Definition of Pathological Dissociation</i>	<i>Proportion Demonstrating Pathological Dissociation (%)</i>
Graham, 1993	Sexual offenders	42	DES \geq 50	9.5
Snow, Beckman, & Brack, 1996	Mixed defendants ^a	298	DES \geq 30	25.2
			\geq 50	9.3
			DES \geq 30	49.0
Simoneti, 2000	Domestic violence offenders ^d	47	DES \geq 30	10.6
Moskowitz, 2001	Mixed offenders ^f	43	DES \geq 30	27.9
			\geq 50	7.0
			A-DES \geq 5	27.6
Walker, 2002	Mixed adolescent offenders	29	A-DES \geq 5	27.6
Stein, 2000	Mixed offenders	64	JJAI, modified	21.9
			DID diagnosis	6.3
			DSM-III DID/ DD diagnosis from clinical interview	21.2 39.3
Lewis, Yeager, Swica, Pincus, & Lewis, 1997	Homicide defendants ^a	~150	DSM-IV DID diagnosis from clinical interview	9.3
			DSM-IV DID/ DD diagnosis from DDIS	38.5 76.9
Ellason & Ross, 1999	Sexual offenders ^c	13	DSM-IV DID/ DD diagnosis from DDIS	38.5 76.9
Carrion & Steiner, 2000	Juvenile offenders ^e	64	SCID-D diagnosis of any DD	28.3
Friedrich et al., 2001	Adolescent sexual offenders ^d	70	DD of Childhood based on Field Trial Questionnaire	14.3

NOTE: DES = Dissociative Experiences Scale (Carlson & Putnam, 1986); A-DES = Dissociative Experiences Scale, Adolescent Version (Putnam, 1997); DID = dissociative identity disorder; DD = dissociative disorder; DDIS = Dissociative Disorders Interview Schedule (Ross et al., 1989); SCID-D = Structured Clinical Interview of *DSM-IV* Dissociative Disorders (Steinberg, 1994); JJAI = Juvenile Justice Assessment Instrument (Stein, Lewis, & Yeager, 1993).

a. Remand prison (mixed gender).

b. Forensic hospital (80% pretrial, 20% sentenced).

c. Private psychiatric hospital.

d. Community-based or residential.

e. Mixed gender (90% secure custody, 10% community-based).

f. Prison, mixed gender.

claimed to have had impaired recall of the crime and also described "perceptual disturbances of a transitory nature" at the time of the crime. Although Tanay does not describe these perceptual disturbances in more detail, it appears likely that they are consistent with the frequent reports of depersonalization during the commission of violent crimes (i.e., objects appearing larger or smaller in size, a sense of time speeding up or slowing down, sensations of "watching oneself" or feeling "disconnected" from one's behavior) (Carlisle, 1991; Meloy, 1988), which are discussed in a later section.

Although Tanay's (1969) findings and diagnoses are based on his own clinical interviews, most recent studies have used more formalized diagnostic criteria and measures to assess dissociation in offender populations. Twelve studies addressing this issue, ranging in sample size

from 13 to 298 participants, were found and are presented in Table 1. Unless otherwise noted, the subjects are all male and incarcerated.

Seven of the 12 studies (listed first in the table) assessed pathological levels of dissociation, and 6 attempted to diagnose dissociative disorders in the offender populations (Stein, 2000, did both). The levels of pathological dissociation in the seven studies ranged from 9.5% to 49.0%; six of these studies used some version of the DES and, as such, can be most easily compared. Of these, 5 used the "standard" rate of scores greater than 30 on the DES or greater than 5 on the Adolescent-DES (A-DES) to indicate pathological levels of dissociation (Campbell, 2000; Moskowitz, 2001; Simoneti et al., 2000; Snow et al., 1996; Walker, 2002). Rates of pathological dissociation ranged from a low of 10.6% in a sample of violent men in a community-

based domestic violence treatment program (Simoneti et al., 2000), to a high of 49% (Campbell, 2000) in a sample from a forensic psychiatric hospital largely consisting of mentally disturbed men awaiting trial on a variety of charges. Three studies of mixed adult or adolescent offenders found rates between 25% and 28% (Moskowitz, 2001; Snow et al., 1996; Walker, 2002). Given this consistency and the fact that these scores fall midway between the other two studies (and in the same general area as the 22% found by Stein, 2000, using a different measure), it seems reasonable to conclude that approximately one quarter of inmates have had, or are currently experiencing, severe dissociative symptoms. This conclusion is further buttressed by the one study in which the published data only allowed an assessment of DES scores of 50 or higher, a very high rate (Graham, 1993). The percentage of participants scoring higher than 50 in this study, 9.5%, is consistent with the percentages scoring higher than 50 in the Snow et al. (1996) and Moskowitz (2001) studies, 9.3% and 7.0%, respectively. Because both latter studies also found approximately 25% of their subjects scoring higher than 30 on the DES, it appears likely that the percentage scoring higher than 30 in the Graham (1993) study might be similar. Thus, the estimate that one quarter of offenders experience pathological levels of dissociation is consistent with the results of 5 studies, with a total *n* of 476—more than 60% of which came from the large Snow et al. (1996) study. Unfortunately, one cannot determine whether this 25% includes an overrepresentation of violent offenders, as most of the studies did not present dissociation scores for different types of offenders.

Turning to the studies that looked for dissociative disorders rather than degrees of dissociation in these populations (the final 6 shown in Table 1), we find a similar story. One would expect to find lower rates in these studies, as not all persons with high DES scores (and thus severe dissociative symptoms) would be expected to meet *DSM-IV* criteria for a dissociative disorder. As is argued later, some individuals experience transient dissociative symptoms during violent crime but do not suffer from a dissociative disorder. Rates of DID in

these studies ranged from 6.2% (Stein, 2000) to 38.5% (Ellason & Ross, 1999) and, for diagnoses of any dissociative disorder, from 14.3% (Friedrich et al., 2001) to 76.9% (Ellason & Ross, 1999). The rates at the higher end, coming from a study of sexual offenders that used the DDIS to assess dissociation (Ellason & Ross, 1999), may be an overestimation of the prevalence in comparison with other measures. The DES was also used in the Ellason and Ross (1999) study, with a mean score of 25.4 reported. This indicates that less than half of the subjects in the study would have scored higher than 30 on the DES. Because even individuals scoring higher than 30 do not necessarily suffer from a dissociative disorder, the reported rate of almost 77% diagnosed with dissociative disorders in this study should be viewed critically.² Thus, putting aside the Ellason and Ross results, a conservative estimate would be that between 6% and 21% of violent or sexual offenders are suffering from DID and between 14% and 39% from any dissociative disorder. Although these high figures are surprising, they come from both research studies and more “clinically based” assessments (i.e., Bliss & Larson, 1985; Lewis et al., 1997). Further, the two most recent studies, both on adolescent offenders (Carrión & Steiner, 2000; Friedrich et al., 2001), using structured diagnostic instruments with reasonable-sized samples, also found high rates of dissociative disorders, 28.3 and 14.3%, respectively.³

By way of comparison, two large studies of mental disorder in male prisoners in the United Kingdom (Taylor & Gunn, 1984a) and in New Zealand (Brinded, Simpson, Laidlaw, Fairley, & Malcolm, 2001) found rates for schizophrenia of 6.1% and 4.2%, respectively. Of interest, the latter study also found that almost 10% of their subjects met criteria for PTSD which, as has been noted, is closely related to dissociative disorders (Bremner et al., 1992; Carlier, Lamberts, Fouwels, & Gersons, 1996). PTSD was not assessed in the Taylor and Gunn study (1984a), and dissociative disorders were not assessed in either study.

It must be noted that a potential confound to the high dissociation levels found in the studies reviewed above may be the effects of incarceration

tion. The study that had the fewest subjects scoring higher than 30 on the DES (10.6%) was the only one conducted exclusively with community-based offenders (Simoneti et al., 2000).

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It is possible, as Snow et al. (1996) has noted, that the process of incarceration may exacerbate or possibly even induce dissociative symptoms. Of course, it is also likely that violent offenders given a community sentence are less violent and thus possibly less dissociative than those who are incarcerated. Further studies, ideally comparing incarcerated and community-based offenders with both violent and nonviolent offenses, may determine whether the apparent rates of pathological

dissociation of 10% for nonincarcerated and 25% for imprisoned offenders are reliable.

This section has indicated that dissociation, based on dissociation scores or diagnosed dissociative disorders, is not uncommon in violent and criminal offenders. A complementary question is whether violent behavior is common in individuals with dissociative symptoms or dissociative disorders.

Violent Behavior in Persons With Dissociative Symptoms or Disorders

Although the prevalence of dissociation and dissociative disorders in criminal and violent populations has been reasonably well explored over the last few years, considerably less attention has been paid to the prevalence of violent behavior in dissociative populations. The legal and forensic implications of dissociative disorders for issues such as criminal responsibility have been reviewed elsewhere (Coons, 1991; McSherry, 1998; Wilson, 1997), and there have been a number of case studies presented in the forensic and popular literature of persons with

DID who have committed crimes (Febbo, Hardy, & Finlay-Jones, 1993-1994; Hall, 1989; Keyes, 1981; Uchinuma & Sekine, 2000). However, there have been only a few empirical studies addressing this issue.

Richard Kluft, one of the pioneers in the study of DID, published what appears to have been the first discussion of this area in 1994. He concluded that, at the time, little was known about the true prevalence and nature of aggression in persons with dissociative disorders and cautioned that some claims of violent acts, particularly those associated with memories of ritual satanic abuse, might not be accurate. Although more than 50% of the DID patients he had treated or assessed claimed to have been violent, most of these claims were in the context of reports of ritual satanic abuse; however, Kluft (1994) was able to find documentation of violent behavior in 8 of the 40 individuals (20%) with whom he had contact.

Porteus and Taintor (2000), in a chapter from a book on violence in psychiatric patients, also considered the relation between violence and dissociation. After reviewing a range of issues, including the prevalence of dissociation and trauma in psychiatric patients, and the relation between dissociation, aggression, suicide, and self-destructive behaviors on inpatient units, Porteus and Taintor concluded that dissociative states created "an environment in which violent and impulsive acts are more likely" to occur (p. 138).

The studies reviewed in this area fall into two groups—correlations between dissociation scores and violent or aggressive behavior in psychiatric inpatients (Quimby & Putnam, 1991) or outpatients (Kaplan et al., 1998), and assessments of the frequency of violent behavior in persons diagnosed with DID (Dell & Eisenhower, 1990; Kluft, 1987a; Loewenstein & Putnam, 1990; Putnam et al., 1986; Ross & Norton, 1989).

Relation Between Dissociation and Aggression in Psychiatric Patients

In Kaplan et al.'s (1998) study, 36 psychiatric outpatients who scored 25 or higher on the DES (29% of the sample) were significantly more likely to endorse assaultive behavior on a self-

report measure ($p = .002$) than 86 outpatients who scored less than 25. Likewise, Quimby and Putnam (1991) found that the 30% of their inpatients who scored higher than 30 on the DES were significantly more aggressive ($p < .05$), based on staff observations and ratings, than those patients who scored less than 30. However, more detailed analysis revealed that the significant results were due primarily to the female patients and to those housed on higher security wards. Although these mixed results somewhat tempered their conclusions, Quimby and Putnam nonetheless contended that a "demonstrated link" between dissociation and aggressive behavior had been established and argued for the importance of assessing dissociative pathology within psychiatric populations.

Violence in Persons Diagnosed With DID

There are five studies, all published in the late 1980s, that addressed this issue. Richard Kluft (1987b) assessed the "parental fitness" of 75 women with multiple personality disorder (DID) who had children. The sample came from a large psychiatric clinical and research series of 241 persons. On the basis of self-report, Kluft estimated that 16% of this group had been abusive to their children. *Abusive* was defined as "causing serious bodily injury" and included serious physical damage, failing to protect the child from physical injury, and sexual abuse.

The remaining four studies examined violent and homicidal behavior in individuals diagnosed with DID as well as the prevalence of violent or homicidal "alters." It has been suggested that such alters, or personality states, may develop through a process of identification with an abuser or as a "protector" personality that has become aggressive over time (Putnam, 1989). Putnam et al. (1986) found violent alters in 70 out of 100 DID patients, only 8 of whom were male. Twenty percent claimed to have committed a sexual assault, and 6% claimed to have committed homicide. It is unclear to what extent such claims were corroborated. In a study of adolescents with DID, 82% had aggressive "persecutor" alters, and more than a third had been violent or had threatened violence (Dell & Eisenhower, 1990). In the largest study

of male DID subjects to date, Loewenstein and Putnam (1990) compared 21 men with DID to a sample of female DID patients from the Putnam et al. study (1986). They found the male DID subjects to have a greater percentage of violent (90% compared to 74%) but not homicidal alters (present in about a third of both genders) and a higher rate of criminal conviction (47% compared to 35%) than the women. All the convicted men had been incarcerated; in more than 40% of these men and 20% of the women, the convictions were for homicide. Finally, Ross and Norton (1989), reporting on a series of 236 DID patients described in a questionnaire completed by more than 200 American and Canadian clinicians, found significantly more male (28.6%) than female (9.7%) DID patients with a history of criminal conviction and imprisonment.

In addition to the above, dissociative symptoms have been linked to violence in persons diagnosed with other disorders. As has already been noted, dissociative symptoms are part of the reexperiencing and avoidance/numbing symptom clusters of PTSD, and their connection with violence will be discussed in a section to come. In addition, in psychotic patients, three delusions have been identified as being particularly predictive of violence—paranoia, delusions of control (i.e., being controlled by others or outside forces), and delusions of thought insertion (i.e., thoughts being placed in your mind by an outside force or agency) (Link & Stueve, 1994; Link, Stueve, & Phelan, 1998; Swanson, Borum, Swartz, & Monahan, 1996). The latter two symptoms are also frequently reported in persons with DID, where they are generally interpreted as being due to alter personalities influencing the behavior or thinking of the "host" personality (Kluft, 1987b; Ross et al., 1990).

Thus, dissociative symptoms have been linked to violent behavior in both persons with dissociative disorders and those with other psychiatric diagnoses. In addition, the evidence presented in this section reveals that criminal and violent behavior is not uncommonly reported by persons diagnosed with DID. There is also some preliminary evidence to support the assertion that more male than female individu-

als with DID have been incarcerated, particularly for violent or homicidal offences.

The evidence that violence is common in psychiatric patients with dissociative symptoms or disorders supports the finding that dissociation is common in criminal and violent populations. Although one could certainly question the validity of claims of dissociation in offenders (a point discussed in more detail below), the converse is untrue. That is, there is little reason to suspect that individuals with dissociative symptoms or disorders would exaggerate reports of violent behavior; indeed, as amnesia is common in this population, there is reason to suspect that such behavior may be underreported.

“State” Dissociation and Violence

In this section, two forms of dissociation experienced during violence—flashbacks and de-

It is premised that trauma can drive violence (in the form of flashbacks from early traumatic experiences), arise from violence (in the form of depersonalization, and amnesia), and, in some instances, both.

personalization—and one type of dissociation experienced subsequent to violent episodes (amnesia) are explored. The concept of trauma is central to understanding all three. It is premised that trauma can drive violence (in the form of flashbacks from early traumatic experiences), arise from violence (in the form of depersonaliza-

tion and amnesia), and, in some instances, both.

No assumption is made that such episodes necessarily imply ongoing dissociative pathology in the individuals who experience them. That is to say, in some cases, dissociative *states* may be related to violence in individuals who demonstrate no ongoing or chronic dissociative *traits*. Rather, dissociation may be a core component of certain violent experiences, relatively independent of the personality of the violent individual.

Few studies have directly addressed the first two areas covered—flashback-driven violence and depersonalization during violence. In contrast, much empirical work has been done

in the area of amnesia subsequent to violent crime.

Dissociative Flashback-Driven Violence

In her book, *Guilty by Reason of Insanity* (1998), psychiatrist Dorothy Otnow Lewis describes the case of a young man who brutally raped and murdered an elderly nun. Not knowing his history of childhood abuse at the hands of his grandmother, Dr. Lewis initially did not consider a diagnosis of DID. However, after witnessing personalities “switching” on several occasions and ultimately discovering his abuse history (corroborated by another family member), Dr. Lewis came to believe that this young man committed his crime while in a severely dissociative state. In her formulation of the case, she commented,

We can be fairly certain, however, that whoever committed the murder, whoever slashed the throat of the innocent nun, did not see Sister Catherine’s face when he did it. He saw instead the face of Granny. Alters, stuck in time, are always mistaking one situation for another, forever confusing someone with someone else. (Lewis, 1998, pp. 235-236)

It is not only alters, however, who can confuse people and situations. Such confusion can occur in the context of PTSD; indeed, “re-experiencing” symptoms such as flashbacks form the core of this disorder. Flashbacks are clearly recognized as dissociative in nature by the *DSM-IV*, where they are called “dissociative flashbacks” and are defined as “dissociative states that last from a few seconds to several hours, or even days, during which components of the event are relived and the person behaves as though experiencing the event at that moment” (APA, 2000, p. 464).

PTSD has been strongly associated with violence in both military (Kulka et al., 1990; Lasko, Gurvits, Kuhne, Orr, & Pitman, 1994) and non-military populations (Collins & Bailey, 1990), and flashbacks are among the most common PTSD symptoms. Several studies have found elevated rates of PTSD in offenders, ranging from 17% in forensic inpatients (Spitzer et al., 2001) to 24% to 32% in juvenile offenders (Burton, Foy, Bwanausi, Johnson, & Moore, 1994; Ruchkin, Schwab-Stone, Kuposov, Vermeiren, & Steiner,

2002; Steiner, Garcia, & Matthews, 1997) to almost 74% in a small sample of maximum security adolescent offenders (Mann, 1995). Because it appears that, in the majority of these PTSD cases, the trauma preceded the offending, the opportunity clearly existed for flashbacks to occur during the violent episodes (Collins & Bailey, 1990; Steiner et al., 1997)

Although there are several case studies describing flashback-driven violence (Lewis, 1998; Salley & Teiling, 1984; Silva, Derecho, Leong, Weinstock, & Ferrari, 2001; Taylor, 1997), there appears to have been no systematic study of this phenomenon (Silva et al., 2001). However, it is easy to see how reexperiencing or reliving a trauma in which one was being attacked or one's life was in danger could lead to violent behavior. The sources above describe cases in which individuals attacked others they thought were Vietnam soldiers (Salley & Teiling, 1984; Silva et al., 2001) or sexual abusers from childhood (Lewis, 1998; Taylor, 1997). In some cases, dramatic perceptual distortions are reported, such as individuals' faces changing into those of perpetrators or enemies (Silva et al., 2001).

Silva et al. (2001), in their comprehensive review of violence in PTSD, consider flashbacks to be one of the main causes of violence in these individuals. However, they also emphasize that PTSD is related to violence in ways that have little to do with dissociation; increased anger and irritability for example, clearly related to aggression, are among the most enduring symptoms of PTSD and are considered by some to be core symptoms of the disorder (Novaco & Chemtob, 1998, 2002). Nonetheless, Silva et al. suspect that dissociation may play a broader role in PTSD-related violence than has previously been recognized, arguing that "its (dissociation's) association with violence in the context of PTSD is in great need of systematic study" (Silva et al., 2001, p. 314).

Although flashback-related violence emphasizes the role of prior trauma in driving violent behavior, depersonalization experiences during violent episodes raise the possibility that individuals not previously disturbed may be traumatized by their own violence. Indeed, this is a point made explicitly in a study of police officers involved in critical shooting incidents

(Rivard, Dietz, Martell, & Widawski, 2002), as follows:

The occurrence of dissociative symptoms among such a high proportion of shooting-involved officers casts serious doubt on the credibility of those who argue that dissociation at the time of a crime is a mental disease or defect. . . . It would be more reasonable to believe that, in general, *dissociation is a normal response of some criminals to the traumatic events they create* (Rivard et al., 2002, p. 6; italics added).

Transient Depersonalization During Violent Episodes

In the *DSM-IV*, depersonalization is described as both a symptom and a disorder; however, the disorder is defined primarily by "persistent or recurrent" experiences of depersonalization and will not be dealt with further here (APA, 2000, p. 490).⁴ Depersonalization itself is defined in the *DSM-IV* as "feeling detached from, and as if one is an outside observer of, one's mental processes or body (e.g., feeling like one is in a dream)" (APA, 2000, p. 490). In addition, a range of associated symptoms are often experienced, including perceptual distortions (changes in the size of objects, sounds seeming far away), temporal distortion (events speeding up or slowing down), physical or emotional "numbing," and a "sensation of lacking control of one's actions" (APA, 2000, p. 488). Derealization may also be present, in which the external world in general, or other persons in particular, seem strange, distant, or unreal.

The *DSM-IV* reports that "transient" experiences of depersonalization develop in nearly a third of individuals exposed to "life-threatening danger" (APA, 2000, p. 489), a reference to research conducted with survivors of automobile accidents (Noyes et al., 1977). Between one quarter and one half of survivors of an earthquake reported depersonalization symptoms 1 week afterward (Cardena & Spiegel, 1993), and more than 90% of police officers involved in a shooting incident reported dissociative symptoms at the time, primarily depersonalization (some amnesia was also reported) (Rivard et al., 2002).

Dissociation at the time of a trauma has been termed "peritraumatic dissociation" and is argued to strongly predict the development of

PTSD or PTSD symptoms (Rivard et al., 2002; Shalev, 2002; Shalev, Peri, Canetti, & Schreiber, 1996). It has also been posited to predict post-traumatic amnesia (Yates & Nasby, 1995) and is considered a core component of the diagnosis acute stress disorder (ASD) (APA, 2000).

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(or peritraumatic dissociation), such as the "out-of-body" experience described by Andy Williams at the beginning of this review, may be an indication of this. Unfortunately, there have been very few studies that have addressed this issue. Tanay (1969), in his study of 53 homicides, described an "altered state of consciousness" at the time of the crime in the 70% of offenders he classified as "dissociative reactions." He reported that "perceptual disturbances

of a transitory nature" (not further described) were frequent in this group (Tanay, 1969). Reid Meloy described frequent experiences of depersonalization during violent episodes in individuals he considers to be psychopathic (Meloy, 1988), and depersonalization during violence is commonly reported by men who are violent toward their partners (Cuartas, 2002; Simoneti et al., 2000). Such experiences include reported changes in the apparent size or distance of the perpetrator or victim and feelings of "watching oneself" (Simoneti et al., 2000). Furthermore, men reporting dissociative experiences were rated as significantly more violent than men who reported fewer or no such experiences (Cuartas, 2002; Simoneti et al., 2000). Of course, it may be that more violent men are more strongly motivated to minimize their behavior by describing feeling "out of control" in one way or another, but the possibility that they are accurately reporting their experiences at the time cannot be discounted.

One set of findings that support the possibility of dissociation at the time of violent behavior is that some individuals report experiencing traumatic symptoms in response to their own actions. As noted above, dissociation at the time of a trauma, or peritraumatic dissociation, is a core component of ASD, and is strongly predictive of later PTSD. Steiner et al. (1997), in a study of PTSD in juvenile offenders, reported that 5% of those claiming trauma histories had been traumatized by their own violent offense. In a more recent study, Spitzer et al. (2001) found more than one fifth of forensic inpatients with lifetime or current PTSD to report having been traumatized by their own crime. Of note, all five individuals who reported such trauma symptoms had committed violent crimes, which in three cases was murder (constituting all of the murder cases in the sample). Neither study describes specific symptoms reported by these subjects.

Finally, one study reported a link between dissociation and violence that may be indicative of either trauma-driven violence or violence-caused dissociation. Schapiro, Glynn, Foy, and Yavorsky (2002) found Vietnam veterans who participated in war-zone atrocities to have significantly higher levels of trait dissociation, when assessed some years later, than those who had not participated in atrocities. The veterans were not asked about dissociative experiences at the time of the atrocities. As the study was retrospective, the authors were unable to conclude whether the dissociative symptoms preceded the atrocities or not but noted that preexisting factors, such as combat exposure and childhood abuse, did not correlate with dissociation levels. Partly as a result of this, Schapiro et al. (2002) appeared to conclude that the high levels of trait dissociation observed were more likely to have resulted from participation in the atrocities, rather than being a possible cause of them.

Thus, there is preliminary evidence that depersonalization experiences, such as feeling as though one were watching oneself, can occur in the midst of a violent attack and may be related to the development of trauma symptoms or PTSD. There is also some suggestion that such experiences may predict amnesia for violence (Yates & Nasby, 1995), to which we now turn.

Amnesia for Violent Behavior

The content of consciousness of one moment is independent of and unaware of that of the preceding moment. It is in such a period that the criminal act is committed. Later another rupture of the stream occurs, and the earlier field of consciousness associated with the normal personality of the patient reasserts itself, and the experiences and acts committed between the two breaks are then completely obliterated from the memory. (Hopwood & Snell, 1933, p. 39)

Claims of amnesia in individuals accused or convicted of violent crimes has long been of interest to psychiatrists and psychologists. Indeed, as indicated by the above quote, this interest extends back more than 70 years, no doubt partly fuelled by the legal wrangling such amnesia claims engender. As there have been two thorough reviews of this area (Kopelman, 1987; Schacter, 1986), this section will focus on key early studies and studies published since 1987. Of note, for ease of usage, "amnesia" and "amnesic" will occasionally be used without qualifiers such as "alleged," "reported," or "claimed"; this does not imply that such claims are necessarily valid. This important issue is discussed in detail below.

Although not coming to any firm conclusions as to the nature of amnesia in defendants, both Kopelman (1987) and Schacter (1986) concluded that amnesia is most often reported after violent (usually apparently unpremeditated) crimes and is frequently associated with alcohol and/or drug use and extreme emotional arousal. Since these reviews, five studies commenting on amnesia in this population have been published (Bourget & Bradford, 1995; Gudjonsson, Hannesdottir, & Petursson, 1999; Gudjonsson, Petursson, Skulason, & Siguroardottir, 1989; Holcomb & Daniel, 1988; Stein, 2000).

Characteristics of Persons Claiming Amnesia for a Crime

In the first known systematic assessment of the relation between amnesia and crime, Hopwood and Snell (1933) examined 100 inmates of the State Criminal Lunatic Asylum in the United Kingdom who had claimed amnesia during their trials. All of the subjects were considered mentally disturbed at the time of

the crime. More than 70% of the amnesia cases were associated with a charge of murder, and an additional 19% were classified as "attempted murder or wounding." Hopwood and Snell noted that amnesia was most often related to crimes in which strong emotional reactions were elicited and were more often associated with depression and alcohol abuse. They argued that repression and dissociation were responsible for amnesia in most of the cases, with dissociation related to permanent amnesias and repression common in more temporary ones.

In a recent study conducted at the Sexual Behaviors Clinic of the Royal Ottawa Hospital (Bourget & Bradford, 1995), 20 sexual offenders claiming amnesia were compared to sexual offenders who admitted their crimes and offenders who denied their crimes but did not claim amnesia (both comparison groups, 20 in each, were randomly selected from a larger population awaiting trial). All participants were subsequently convicted on their charges. The amnesic subjects' crimes were more violent, and they were more likely to have been under the influence of alcohol at the time, compared to subjects in the other two groups.

Prevalence of Amnesia in Homicide Offenders

Ten studies, summarized in Table 2, have assessed the prevalence of amnesia in persons awaiting trial for, or convicted of, homicide. Possible explanations for these reported cases of amnesia are explored in the next section.

Leitch (1948), Guttmacher (1955), and O'Connell (1960) all examined the prevalence of reported amnesia in men convicted of homicide, finding 31%, 33%, and 40%, respectively. Bradford and Smith's (1979) study was conducted on 30 consecutive homicide cases referred to a forensic psychiatry department for evaluation. Sixty percent of their subjects claimed amnesia, either only for the crime itself (37%) or for a period of time from 30 minutes to 24 hours surrounding the crime (23%). They concluded that amnesia limited to the crime itself was likely dissociative in nature, whereas the longer duration amnesia might be more organically based. Consistent with previous researchers, they found increased prevalence of

TABLE 2: Prevalence of Reported Amnesia in Homicide Offenders

Study	Site	Population	n	Amnesic
Leitch, 1948	Prison	Homicide offenders	51	16 (31%)
Guttmacher, 1955	Prison	Homicide offenders	36	12 (33%)
O'Connell, 1960	Prison	Homicide offenders	50	20 (40%)
Bradford & Smith, 1979	Prison	Homicide offenders	30	18 (60%)
Taylor & Kopelman, 1984	Remand prison	Homicide defendants	34	9 (26%)
Parwatikar et al., 1985	Remand prison	Homicide defendants	105	24 (23%)
Holcomb, 1988	Forensic hospital	Homicide offenders	206	41 (20%)
Gudjonsson, 1989	Remand prison	Homicide defendants ^a	16	9 (56%)
Gudjonsson, 1999	Remand prison	Homicide defendants ^a	19	9 (47%)
Spinelli, 2001	Community	Homicide (neonaticide) defendants	16	14 (87%)
Total			563	172 (31%)

a. Study included a few defendants charged with violent crimes other than homicide.

alcohol abuse and emotional arousal in the amnesia cases.

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Taylor and Kopelman (1984) interviewed 203 men awaiting trial on a range of violent and non-violent charges, usually within 6 weeks of their offense(s), about their mental state at the time of the offense. They identified 19 men who claimed amnesia for crimes for which they were subsequently convicted. Nine had been convicted of murder or manslaughter, 1 for attempted murder, and all of the others for violent crime; no men convicted of nonviolent crimes claimed amnesia. The amnesic men convicted of murder or manslaughter comprised 26% of the men convicted of such crimes. In addition, the crimes committed by those claiming amnesia were found to be significantly more violent ($p <$

.009) than crimes of those who had not claimed amnesia. The amnesic group was more likely to be depressed and abusing alcohol, to know their victims, and to not have planned their at-

tacks. The authors concluded that amnesia was particularly related to unplanned homicides with significant emotional arousal and that the mechanisms involved could be repression, state-dependent memory, or dissociation.

Subsequent studies of persons accused or convicted of homicide have found amnesia rates of 23% (Parwatikar, Holcomb, & Menninger, 1985), 20% (Holcomb & Daniel, 1988), 56% (Gudjonsson et al., 1989), and 47% (Gudjonsson et al., 1999). The latter two studies included a small number of attempted homicides or other violent crimes. Finally, 87% of a sample of women accused of neonaticide reported amnesia for part of the crime (Spinelli, 2001).

Thus, the evidence suggests that amnesia is most commonly reported after the commission of violent crimes, particularly homicides, which appear not to have been premeditated and are associated with extreme emotional arousal and alcohol abuse. As a whole, the 10 studies presented in Table 2 suggest that almost one third of persons accused or convicted of homicide claim to have amnesia for all or part of the crime.

Explanations for Amnesia in Homicides

When a defendant claims not to remember having committed a violent crime, it is not unreasonable to assume that they may be simulating amnesia. Increased motivation to avoid a guilty verdict or longer sentences, or a reduction in feelings of shame or guilt, could help to explain the association of amnesia with more serious crimes. In his review of the area, Schacter

(1986) concluded that “many” claims of amnesia were “simulated.” However, he provided no evidence for this assertion. Hopwood and Snell (1933), after observing and interviewing their subjects, decided that 78% of the amnesia cases in their sample were “genuine” (they did not, unfortunately, present the criteria used to classify cases as “genuine,” “almost certainly malingerers,” and “doubtful”). Others have suggested that cases of “patchy,” as opposed to “complete” amnesias, with gradual or blurred onset, are more likely to be genuine than simulated (Power, 1977), but no empirical work supports such a contention (Schacter, 1986).

Nonetheless, there is evidence supportive of the validity of amnesia claims. Kopelman (1987) noted that many amnesic subjects report the crime themselves or make no attempt to conceal it, and in two studies, none of the amnesic subjects denied having committed the crimes for which they were accused or convicted (Gudjonsson et al., 1999; Parwatikar et al., 1985). In fact, it is not uncommon for persons amnesic for committing a violent crime to plead guilty, expressing considerable frustration that they cannot remember what they believe they must have done. Thus, although some amnesia claims are undoubtedly simulated, it appears unlikely that the majority are. Adding credibility to this position is a recent study of police officers involved in critical shooting incidents (who would clearly not have the same motivation for malingering as would criminal defendants), in which almost 20% were found to have partial amnesia for the incident (Rivard et al., 2002).

Most studies have found alcohol to be an important covariate with amnesia. Although it might be tempting to attribute the memory loss in many of these cases to the physiological effects of alcohol, this conclusion is premature for several reasons. First, the nature of alcohol “blackouts” remains somewhat obscure (Zucker, Austin, & Branchey, 1985). Although some studies have linked amnesia to overall levels of, or rapid increases in, blood alcohol (Goodwin, Othmer, Halikas, & Freemon, 1970; Lisman, 1974), other studies have not (Goodwin, Crane, & Guze, 1969). Indeed, some have argued that alcohol consumption can “trigger” a dissociative state or that alcohol

blackouts may themselves be “state-dependent” or dissociative in nature (Good, 1989; Storm & Smart, 1965, as cited in Lisman, 1974). Second, drinkers often perform complicated behaviors during the “blackout” period (boarding planes, checking into hotels, writing checks), apparently incompatible with high levels of intoxication, and are described as not seeming inebriated at the time (Goodwin et al., 1969). Third, several studies have now suggested that dissociative experiences (a) are fairly common in substance abuse populations even when not under the influence of a substance (Dunn, Paolo, Ryan, & Van Fleet, 1993; Ross et al., 1992), (b) may precede the substance abuse, and (c) are more common in alcoholics than drug abusers (Wenzel et al., 1996). Thus, the relationship between alcohol consumption and amnesia in violent populations is a complex issue that bears further exploration but does not at this time appear to be a full and satisfactory explanation for the majority of reported cases of amnesia.

Beside malingering and alcohol intoxication, a third possible mechanism underlying the amnesia reported after violent crimes, proposed by Hopwood and Snell (1933) and Parwatikar et al. (1985), is traumatic repression. Although some memory loss after experiencing a trauma is not uncommon (Van der Kolk, McFarlane, & Weisaeth, 1996) and is in fact listed in the *DSM-IV*, it is not at all clear that repression after violence is a more adequate explanation for amnesia than dissociation during the crime. Indeed, as discussed in a previous section, dissociation during trauma is quite common, is strongly associated with the development of PTSD symptoms, and may itself be an adequate explanation for the memory difficulties often associated with PTSD (Van der Kolk et al., 1996; Yates & Nasby, 1995; Zoellner, Alvarez-Conrad, & Foa, 2002). Thus, despite the evidence presented earlier that some individuals may be traumatized by their own violence, there appears to be little reason to suggest that any subsequent memory difficulties may be due to repression.

Alternatively, it has been suggested, most prominently by Bower (1981), that the amnesia seen after violent crime may be a “state-dependent” effect, such that experiences encoded during a state of high emotional arousal

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most emotional part of a violent crime that is not recalled, a phenomenon they call a "red-out," to associate with the "red" of extreme anger. They have found that defendants are able to report many aspects of a murder, including quite incriminating ones, with the exception of the period during which they appear to have been extremely angry. This is consistent with Dutton, Fehr, and McEwen's (1982) description of men claiming amnesia for domestic violence perpetrated when they were in "highly aroused" states of rage.

However, in the only known test of this hypothesis, five men who had committed murder when highly aroused (and inebriated) did not recall the murders after becoming experimentally intoxicated, despite reexperiencing high levels of violent feelings (Wolf, 1980).

Finally, at least some of the amnesias reported after violent crime may be best characterized as dissociative in nature, an explanation suggested in three studies (Bradford & Smith, 1979; Hopwood & Snell, 1933; Taylor & Kopelman, 1984). Wolf's (1980) study, which ar-

gues against a state-dependent explanation of amnesia, lends itself to this type of explanation and thus bears closer scrutiny. Five Alaskan natives with no prior history of violence committed murder while inebriated. They claimed not to recall the murders despite all giving statements to the police indicating a "vague" awareness that the killings had taken place. Under carefully controlled conditions in a hospital environment, Wolf (1980) attempted to get these five men inebriated while monitoring blood alcohol levels, affective state, and EEG. During the experiment, observers noted an "abrupt" change in affect, to a "more angry and challenging" mood, a few hours after the session began, when the blood alcohol level reached 125 mg per ml. Over the next few hours, the men became progressively angrier and their conversations turned to "emotion-laden" themes of cultural and personal identity. All began to experience violent feelings, and one—who was described as actually "becoming" the "central figure" in the theme—did become violent. None of the men, however, remembered the homicides (Wolf, 1980).

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When interviewed the next day, all men experienced amnesia for periods ranging from 2 to 7 hours of the night before. Their memory gaps coincided with the affect change noted by observers and also with general electroencephalogram (EEG) slowing. Wolf (1980) concluded that the amnesia and EEG changes were "clinical sign(s)" of the affect switches. Certainly, the abrupt onset of angry violent moods and emphasis on themes of identity coincident with the memory loss, along with the enigmatic description of one of the murderers "becoming" another figure, suggests the possibility that a dissociated violent "part" or "aspect" of each man's personality was elicited during the experiment. Thus, on the basis of this and other studies and consistent with the measured levels of dissociation and reports of depersonalization in violent offenders, dissociation should be considered an adequate explanation for some, if not most, amnesias reported after violent crime. This conclusion is consistent with Porter et al.'s (2001) comment in a review of the legal implications of dissociative amnesia: "There is considerable evidence from both nonoffender and

offender populations to support the validity of dissociative amnesia in defendants" (p. 37).

DISCUSSION

For years, authors have been suggesting that dissociation may be relevant to an understanding of violent behavior. Dissociation researchers, such as Carlson & Putnam (1993), Steinberg (1995), and others, have long proposed that offenders be assessed for dissociative disorders, and forensic psychologists and psychiatrists such as Carlisle (1991, 1993), Meloy (1988), and Lewis (1998; Lewis et al., 1997) have found many of the violent men and women they have assessed to be highly dissociative. Only in the last few years, however, has research begun to address the very important questions posed by these researchers and clinicians.

Prior to considering the results of this review, a major objection requires addressing—namely, that claims of dissociative experiences, such as depersonalization and amnesia, made by persons accused or convicted of violent crimes should be viewed in a highly critical light, as this population is likely to lie or manipulate to minimize guilt and accountability (Rogers, 1997). Although there is undoubtedly some basis for this objection, it is argued here that such concerns should not detract from the primary conclusion of this review—that dissociation is relevant to an understanding of violent behavior and is common in violent offenders. This objection can be addressed on a number of levels.

First of all, reports of dissociative experiences are not outright denials that violent acts have been committed. That is to say, many individuals claiming amnesia, and all of those who describe depersonalization experiences, do not deny that they have committed a crime. As such, they may be legally "mitigating" but are not "expiating" factors (unless a defense of insanity is raised). Thus, if such reports are distortions, they are far more likely to be psychologically motivated than legally. Such psychological motivations, such as to relieve guilt for repugnant behavior, are certainly not unique to this population.

Similarly, it is not only in interviews with criminal defendants that one must rely on self-

report data. Psychological and psychiatric research, particularly that which involves the establishment of clinical diagnoses, relies heavily on subjects' own self-reports for much of the relevant information, which cannot be externally validated. Many psychiatric patients for example, well aware that their statements could lead to involuntary psychiatric hospitalization, must be considered at least equally capable of inaccurately reporting internal states as persons awaiting trial for serious crimes.

In addition, there is evidence within the studies of dissociative experiences in offenders to support the validity of their claims, such as the acceptance of legal responsibility for the crime among some (and in some studies, all) amnesic homicide defendants. Finally, studies of other populations, such as police officers and psychiatric patients, who are clearly less motivated to lie about experiences such as depersonalization and amnesia (among police involved in shooting incidents) or violence (among patients with dissociative disorders), lends support to the complementary claims of offenders. Nonetheless, such claims cannot completely be dismissed and must be carefully considered in the design and interpretation of future research in this area.

That having been said, based on the studies reviewed here, certain conclusions can be offered. The first is that, across a wide range of populations, increased dissociation scores or diagnoses are associated with increased violence. Dissociation predicts either the likelihood or the severity of violence among the following groups: college students (Narang & Contreras, 2000), young mothers abused as children (Egeland & Susman-Stillman, 1996; Narang, 2002), Vietnam veterans (Schapiro et al., 2002), psychiatric inpatients (Quimby & Putnam, 1991) and outpatients (Kaplan et al., 1998), and sexual (Bourget & Bradford, 1995), domestic violence (Simoneti et al., 2000), and homicide offenders (Taylor & Kopelman, 1984). Such a consistency of results across such a wide range

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of populations speaks to the robustness of this finding. Second, there appears to be good evidence that a significant proportion of offenders, about 25%, experience substantial dissociative symptoms in prison, and a somewhat smaller percentage meet diagnostic criteria for dissociative disorders, including DID. What remains unclear is (a) the extent to which violent and sexual offenders are overrepresented in this group and (b) the extent to which incarceration itself may produce or exacerbate dissociative symptoms. Many of the studies are small in scale and possibly not representative of the overall prison population. Clearly, there is a strong need for methodologically sound large-scale studies, akin to those that have assessed inmates for schizophrenia and PTSD (e.g., Brinded et al., 2001; Taylor & Gunn, 1984a, 1984b), to properly assess the prevalence of dissociative disorders in prison and in various types of offenders.

Third, individuals previously traumatized may engage in violent behavior when under the influence of dissociative flashbacks. Such intense experiences of life-threatening danger can lead some to mistake current events or persons for those from their past and drive them to behave violently as a result. Considerable research is required in this area, which currently consists solely of case studies.

Fourth, it appears that the commission of certain types of very violent crimes, particularly those that are not premeditated and are associated with significant emotional arousal, may involve substantial dissociative symptoms such as depersonalization and amnesia. Although depersonalization experiences have been sys-

tematically assessed in only two studies of domestic violence offenders, there have been a dozen studies of amnesia in individuals charged with or convicted of homicide. These studies suggest that about a third of such individuals claim amnesia for all or part of the crime. Furthermore, these reported depersonalization and amnesia experiences may indicate that, for a portion of violent offenders, their own crimes are traumatizing to them. PTSD or PTSD symptoms resulting from one's own violent offense were reported in two studies, one of which found all murder cases to report such symptoms (Spitzer et al., 2001). Although amnesia experiences have been reasonably well researched, experiences of depersonalization during violent crime are clearly in need of careful study. Also, the role of extreme emotional arousal in driving dissociative experiences during violent crime and possible connections between alcohol blackouts and dissociative amnesia are two other areas important to explore in future studies. Alcohol blackouts in particular have been examined little in recent years and remain poorly understood. The possibility that alcohol may trigger the expression of a dissociated state is an intriguing and important idea for follow-up.

Fifth, within psychiatric populations, there appears to be some evidence to suggest that dissociative symptoms are particularly predictive of violent behavior and that persons with DID are at high risk for violent behavior. Due to the extreme compartmentalization of function and emotions seen in DID, limited restraints can be placed on violent behavior, as the part of the individual that restrains violent behavior may be disconnected from the part that engages in it. It needs to be said, of course, that not all persons with dissociative disorders are violent to others; many are violent to themselves, and others manage to avoid engaging in any form of violent behavior whatsoever. Nonetheless, the relation between violence and dissociation in psychiatric populations appears real and deserving of attention. Of considerable interest is whether the psychotic symptoms considered particularly predictive of violence (delusions of control, thought insertion, and persecution) are related to dissociative symptoms (Link &

Stueve, 1994; Link et al., 1998; Swanson et al., 1996).

Finally, and perhaps with the most important implications for prevention, are the cycle of violence studies. From these studies, there is evidence emerging to suggest that dissociation may drive the cycle of violence; that is, individuals who are abused and develop dissociative symptoms in response are considerably more likely to abuse their children than those who, despite having been abused, do not develop such symptoms. The factors that protect people from developing dissociative symptoms under conditions of abuse and neglect remain to be discovered but may be similar to those argued to improve "resilience" in general to childhood abuse. These include protective caretakers who can minimize the negative impact of the abuse (Rak, 2002) and the establishment and maintenance of self-esteem and self-efficacy (Rutter, 1987). Research designed to elucidate factors that protect against dissociation is clearly needed and could have profound implications with regard to reducing future violent behavior.

Future Research and Directions

First of all, any future large-scale studies, similar to those conducted over the past several decades (e.g., Swanson, Holzer, Ganju, & Jono, 1990), designed to explore the relationship between psychiatric conditions in general and violent behavior, should include dissociative disorders among the mental disorders considered. On the basis of this review, to not do so would be to seriously risk the validity of any findings generated.

Several of the areas reviewed in this article are clearly in need of further, careful research. Two areas appear to be most pressing. First, well-designed, large-scale studies using reliable instruments are needed to confirm the high levels of dissociation and dissociative disorders reported in the offender studies reviewed. Such studies should include information on the inmates' current crimes and criminal history to determine whether dissociation and dissociative disorders are more strongly associated with violent than other types of crime and should attempt to address dissimulation. Care-

ful attention should be paid to any apparent gender disparities in this area, as have been predicted (Carlson & Putnam, 1993; Steinberg, 1995). Effort should also be made to determine whether any currently expressed dissociation developed subsequent to imprisonment. Because this approach would focus on long-term or current dissociation, complementary research studies should address the prevalence of dissociative experiences during the commission of violent crimes. Such studies would ideally involve not only interviews with the violent individuals but also interviews with victims or witnesses to the violent behavior. Instruments developed to assess dissociation during violent behavior, including the Dissociative Violence Interview (Simoneti et al., 2000) and a modified version of the State Scale of Dissociation (Kruger & Mace, 2002), could be used in such studies.

Possible areas for future study include relationships between long-term dissociative processes and the development of violent offenders. For example, although speculative, there are interesting similarities, both descriptively and physiologically, between offenders classified as psychopathic and individuals with de-personalization disorder. Furthermore, the intense fantasy lives described by many violent and sadistic killers (Ressler, Burgess, & Douglas, 1988) may be dissociative in nature and could lead to a form of dissociated identity (Carlisle, 1993), and the meek, quiet individual who explodes in a paroxysm of blind violence, the "overcontrolled" offender (Megargee, 1966), could be explained from a dissociative perspective. These potentially rich areas, addressed further elsewhere (Moskowitz, 2003), await careful clinical study.

Implications

There are several implications of the many facets of this relationship between dissociation and violence. With regard to primary prevention, reducing the prevalence of child abuse should reduce the prevalence of severe dissociation and dissociative disorders and thus potentially reduce the level of violence in society. Toward this end, close monitoring and supervi-

sion of parents at high risk for abusing their children, including those who are highly dissociative, and early intervention in families suspected of abuse, would be warranted.

For children who have been abused and who have already developed dissociative disorders

Highly dissociative children and their families should be offered all appropriate interventions designed to minimize the aftereffects of trauma and reduce the possibility of subsequent violent behavior. Dissociative adolescents, particularly those who show other "risk factors" related to violent behavior (Meloy, Hempel, Mohandie, Shiva, & Gray, 2001), should be identified and offered appropriate treatment.

or severe dissociative tendencies, early identification is crucial. School personnel should be educated as to the signs of dissociation and informed that dissociation may indicate that abuse has been experienced and is a potential risk factor for violent behavior. For both of these reasons, highly dissociative children and their families should be offered all appropriate interventions designed to minimize the aftereffects of trauma and to reduce the possibility of subsequent violent behavior. Dissociative adolescents, particularly those who show other "risk factors" related to violent behavior (Meloy, Hempel, Mohandie, Shiva, & Gray,

2001), should be identified and offered appropriate treatment.

In adults, because dissociation is linked with violence in both psychiatric and prison institutions, patients and inmates should be routinely screened for dissociative disorders and staff educated as to signs indicative of dissociation. It is likely that simply educating institutional staff on these matters will allow for more rapid identification of dissociative individuals and intervention in potentially explosive situations.

Finally, treatment programs designed for violent and sexual offenders may not be appropriate to the highly dissociative subgroup of these offenders. It appears unlikely that, for these individuals, treatment or educational experiences conducted in prison will aid them in handling those situations likely to lead to violence in the

community. Identifying and addressing their dissociative symptoms, and the triggers that produce dissociative experiences, through appropriate therapy may be of benefit.

CONCLUSION: THE DISSOLUTION OF AMBIVALENCE

If each, I told myself, could be housed in separate identities, life would be relieved of all that was unbearable; the unjust might go his way, delivered from the aspirations and remorse of his more upright twin; and the just could walk steadfastly and securely on his upward path, doing the good things in which he found his pleasure, and no longer exposed to disgrace and penitence by the hands of this extraneous evil. It was the curse of mankind that these incongruous faggots were thus bound together—that in the agonized womb of consciousness, these polar twins should be continuously struggling. How then were they to be dissociated? (*The Strange Case of Dr. Jekyll and Mr. Hyde*, Stevenson, 1886/1923, p. 114)

As is well known, Jekyll did find a way to "dissociate" those parts of himself, although his concoction included a substance he was later unable to reproduce, which led to his downfall. Perhaps the crucial ingredient of Jekyll's potion related to "ambivalence" or the lack thereof. Once healthy ambivalence is dissolved in Jekyll's potion, as described above, impulses can be expressed without struggle or remorse. This may in fact partly be an explanation for why dissociation should be considered a risk factor for violence. In discussing the case of a murderer with DID, Nijenhuis (1996) noted, "These states . . . lack a normal sense of ambivalence . . . and may (therefore) escape influence or control by other states which otherwise might modulate and contain the aggressive feelings, thoughts, and impulses that render the patient potentially dangerous" (p. 283). Not so dissimilar from the disinhibition seen under the influence of alcohol, those psychological functions associated with the expression of violent impulses become disconnected from those functions associated with the inhibition of violent impulses, thus placing the individual at higher risk for violent behavior.

This review strongly suggests that dissociation and dissociative disorders are relevant to an understanding of violent behavior. Violent

abusive behavior often leads to the development of dissociative tendencies, which in turn increase the likelihood of perpetrating violence. Robert Louis Stevenson appeared to understand the universality of this phenomenon, when he wrote to his friend and illustrator William Low, after the publication of *Jekyll and Hyde*.

I send you herewith a gothic gnome. . . . (H)e came out of a deep mine, where he guards the fountain of tears . . . The gnome's name is *Jekyll and Hyde*; I be-

lieve you will find he is likewise quite willing to answer to the name of Low or Stevenson. (Booth & Mehew, 1995, p. 163)

Stevenson appeared to realize that the Hyde of his novel, just like the violent parts in some persons with DID, was forged from experiences of pain and sorrow. If we hope to contain and treat the Hydes of this world, in all of their various guises, we must seek to understand the connection between violence and dissociation.

IMPLICATIONS FOR PRACTICE, POLICY, AND RESEARCH

As dissociation may be a risk factor for violence, inmates and psychiatric patients should routinely be screened for dissociative symptoms and disorders and offered appropriate treatment.

Staff at prison and psychiatric institutions should be educated as to the signs and symptoms of dissociation, with the hope of limiting violent episodes.

Further research, using standardized instruments, is required to identify the prevalence and nature of dissociation in prisoners.

Efforts should be targeted toward limiting and managing dissociative symptoms in parents with traumatic childhoods who may be at risk for abusing their own children.

Primary and particularly secondary school staff should be educated as to the signs of dissociation and seek to identify highly dissociative adolescents who may be at risk for violent behavior.

NOTES

1 Indeed, although there is a substantial literature on the relationship between mental disorders and violent behavior, assessed in psychiatric, violent, and community samples (see Monahan, 1992 and Eronen, Angermeyer, & Schulze, 1998, for useful reviews), there appears to have been no major study that has included dissociative disorders (or posttraumatic stress disorder [PTSD] for that matter) among the psychiatric conditions considered. Typically, psychotic and affective disorders, along with substance abuse and personality disorders, are included. In the few studies in which anxiety disorders have been considered (i.e., Swanson, Holzer, Ganju, & Jono, 1990), PTSD was not.

2. Indeed, a recent review found significantly higher rates of dissociative disorders in studies that used the Dissociative Disorders Interview Schedule (DDIS) in comparison with the Structured Clinical Interview for *DSM-IV* Dissociative Disorders (SCID-D) and concluded, for a variety of reasons, that the DDIS overestimates dissociative disorders (Friedl, Draijer, & de Jonge, 2000).

3. Friedrich et al. (2001) assessed their sample for Dissociative Disorder of Childhood, a diagnostic category proposed by the American Academy of Child and Adolescent Psychiatry and the *DSM-IV* Task Force for Dissociative Disorders. Of relevance to this thesis, the proposed diagnostic criteria include "antisocial behaviors" and "unprovoked anger and violence" as possible symptoms.

4. The possibility that chronic depersonalization or depersonalization disorder may be connected with the development of violent behavior in some individuals, particularly those considered psychopathic, is addressed elsewhere (Moskowitz, 2003).

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