Illuminating the Relationship Between Personality Disorder and Violence: Contributions of the General Aggression Model

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Although a consensus exists among mental health professionals that certain personality disorders are associated with an increased propensity for violence, uncertainties regarding the nature and extent of this relationship persist. Previous approaches to studying the personality disorder-violence relationship are also hampered by an array of methodological issues. This paper presents a novel approach to enhanced understanding of the personality disorder-violence relationship, by integrating contemporary psychological aggression theory with the extant personality disorder-violence literature. A theoretical conceptualization based on the most comprehensive and contemporary psychological theory of aggression, the General Aggression Model (GAM), is proposed. The GAM was developed to explain individual variations in aggression propensity, and specifies several key constructs that are important in influencing aggression: aggression-related knowledge structures, maladaptive cognitions, and anger. Results of this analysis support the notion that people with those personality disorders that are associated with violence have more of these constructs, though the empirical evidence is strongest for Antisocial Personality Disorder, and a number of constructs, including violent scripts, have rarely been studied. The conceptualization offered here provides a focus for researchers to further elucidate the relationship between personality disorder and violence and for clinicians to more systematically assess relevant constructs to determine violence potential in people with personality disorder, and also, to focus their violence reduction efforts on relevant psychological constructs. This analysis also calls into question the use of personality disorder per se for risk assessment or as a criterion by which to determine inclusion or exclusion from mental health treatment or incapacitation.

Keywords: violence, personality disorder, theory, aggression, cognition
for clinicians to investigate relevant aggression-related phenomena, and (3) to focus interventions to reduce violence potential.

The paper begins with a brief outline of relevant literature, before noting the ways in which research on the relationship between personality disorder and aggression is compromised. It then describes the GAM, focusing on the key cognitive and affective factors that are proposed to influence aggression propensity. Finally, it examines whether evidence is available to confirm an increased incidence of key constructs contained within this model, in particular aggression-related cognitions, in people with personality disorder, and the implications of these findings to the assessment and treatment of violent individuals with personality disorder, or who are considered to be at risk for violence.

Evidence for a Relationship Between Personality Disorder and Violence

Prisoners

A diagnosis of Antisocial Personality Disorder (ASPD) has consistently been linked to the criminal behavior, including violent offending, of prisoners (e.g., Hodgins & Cote, 1993; Roberts & Coid, 2009); it also predicts violent and disruptive incidents while in prison (Friedmann, Melnick, Jiang, & Hamilton, 2008; O’Brien, Mortimer, Singleton, & Meltzer, 2003). Two studies examining rates of personality disorder among offenders convicted of serious violent offending found that the vast majority met criteria for at least one personality disorder, where the rates of ASPD, Borderline (BPD), Narcissistic (NPD), and Paranoid (PPD) Personality Disorders ranged from 47 to 69% (Blackburn & Coid, 1999; Coid, 1998). Similarly, in a sample of male prisoners transferred to special prison units in England as a result of disruptive behavior, Coid (2002) found rates of between 56 and 84% for the same four disorders.

Psychiatric Patients

Patients detained in forensic psychiatric hospitals are also more likely to meet diagnostic criteria for personality disorder when compared with the general population and these patients are also more likely to reoffend violently after discharge. For example, Tardiff, Marzuk, Leon, and Portera (1997) found that patients with BPD or ASPD were four times more likely, and patients with any other personality disorder were more than two times more likely, to be violent after discharge from a psychiatric hospital than those without personality disorder. Higher rates of violent behavior have also been documented in patients with personality disorder admitted to psychiatric wards (Hodgins, Melnick, Brennan, Schulsinger, & Engberg, 1996), in contact with public psychiatric services (Wallace et al., 1998) and entering substance abuse treatment (Hernandez-Avila et al., 2000).

Other Violent Individuals

Further evidence for a relationship between personality disorder and violence has emerged from research investigating perpetrators of violence in the community. A large number of cross-sectional studies have demonstrated that individuals who engage in violent and nonviolent offending (Barros & Serafin, 2008; Thornton, Graham-Kevan, & Archer, 2010), aggression (Berman, Fallon, & Coccaro, 1998; Yang & Coid, 2007), and intimate partner violence (Ross & Babcock, 1999; South, Turkheimer, & Oltmanns, 2008), are more likely to predict aggression for a personality disorder. These patterns have also been reflected in longitudinal data. For instance, Johnson et al. (2000) found that individuals diagnosed with a cluster A or B personality disorder, as defined by the Diagnostic and Statistical Manual of Mental Disorders, fourth edition (DSM–IV–TR; American Psychiatric Association, 2000), had a threefold likelihood of committing violent acts in the future. A high propensity for aggression has also been identified in individuals seeking treatment for personality disorder (Critchfield, Levy, Clarkin, & Kernberg, 2008; Howard, Huband, Duggan, & Mannion, 2008).

Violent Recidivism

Personality disorder is a central criterion in current approaches to violence risk assessment and management, and has been documented to increase the risk of violent recidivism (Bonta, Law, & Hanson, 1998; Hiscoke, Langström, Ottosson, & Grann, 2003). A diagnosis of ASPD is especially predictive, for instance, Hiscoke et al. (2003) found that reconviction rates
for attempted or completed murder, manslaughter, assault, robbery, or rape were 3.7 times higher for individuals with this diagnosis. Psychopathy has also been found to strongly predict violent recidivism (Grann, Langstrom, Tengstrom, & Kullgren, 1999).

Barriers to Precise Characterization of the Personality Disorder and Violence Relationship

Limitations of Personality Disorder Constructs and Measurement

The abovementioned studies incorporate a range of different populations and methodologies and collectively support the existence of a relationship between certain personality disorders and violence, with the strongest evidence appearing to relate to four personality disorders: ASPD, BPD, NPD, and PPD. However, there are inherent difficulties associated with exploring patterns of violence in people with personality disorder, limiting the assumptions about the violent behavior of this group.

Overlapping and equally weighted criteria in the current diagnostic system. A major limitation of research in this field stems from the inherent and widely acknowledged difficulties that are present in our existing classification of personality disorder. In the prevailing diagnostic system, the DSM–IV–TR (American Psychiatric Association, 2000), angry and aggressive behavior is specified as a defining feature in two of the 10 disorders (ASPD and BPD), with antagonistic and hostile traits noted in seven categories. The present nomenclature has often been criticized for the lack of a cohesive, prototypic hierarchy of characteristics and for giving equal weight to criteria that may be less central to the personality disorder they define (McGlashan et al., 2005). In particular, given the polythetic nature of the criteria, it is impossible to determine whether an actual disposition toward aggressive or violent acts is inferred by any diagnosis. It is also unclear whether aggressive behavior is the product of overall personality pathology, or linked to particular personality characteristics that manifest heterogeneously across the disorders. Because the DSM–IV–TR is currently undergoing significant change and is proposing a move toward rating dimensions of personality traits (American Psychiatric Association, 2011), reexamination of the role of personality dysfunction and specific psychological constructs associated with aggression is especially timely.

Comorbidity of diagnoses. Another tenuous assumption is that the categories of personality disorder traits are etiologically distinct rather than co-occurring. In both forensic and nonforensic populations, research suggests that the most common pattern observed is one of high comorbidity, both within and across the three DSM–IV–TR clusters (Zimmerman, 2005). Consequently, the “individual” relationship between each disorder and aggression is confounded.

Methodological difficulties. There are also a range of methodological problems associated with research in this area. Principally, the assessment of personality disorder itself continues to be contentious. For instance, there tends to be a lack of agreement between different assessment instruments (Tyrer et al., 2007), and poor correspondence between self-report and interview methods of assessment (Clark, Livesley, & Morey, 1997). With regard to the empirical exploration of the relationship between personality disorder and violence, studies are frequently limited by focusing only on the disorders widely assumed to be linked to violence (Thornton et al., 2010), the use of small or unrepresentative samples, the use of violence in the establishment of the personality disorder diagnosis and as a dependent variable, and the reliance on cross-sectional assessment methods, which fail to capture the stability of personality disorder and violence over time. There is also a relative lack of research using female samples.

Limitations in the Measurement of Aggression and Violence

Considerable progress has been made in psychological knowledge regarding aggression and violence, and there is increasing acknowledgment that violent behavior results from a complex interaction of individual and contextual factors, the relative importance of which varies across person, time, and situation (Widiger & Trull, 1994). In the past decade, research has confirmed the existence of various types of aggression that are accompanied by differing underlying motivations (McEllistrem, 2004; Weinshein & Siegel, 2002). Recent studies
have elaborated on the role of impulsivity in relation to both hostile and instrumental forms of aggression (Howard, 2009), and investigated the differing manifestations of violence in males and females (Thornton et al., 2010). The potential confounding effect of different kinds of aggression may account for the conflicting or inconclusive results that are frequently observed in the personality disorder-violence literature. Finally, a recent study demonstrated that the aggression of individuals with personality disorder serves a range of different functions that differ across environments (Daffern & Howells, 2009), and further emphasizes the importance of more sophisticated levels of understandings of violence to this category of disorders.

Social Psychological Theories of Aggression and Violence

Although a number of theoretical accounts of the specific processes contributing to violent behavior in personality disorder have emerged (e.g., Duggan & Howard, 2009; Howard, 2009), development of a common theoretical framework is required to guide the investigation of the personality disorder-violence relationship. A logical approach would be to commence with an overarching conceptualization of aggressive behavior. In this sense, application of the well-established social–cognitive literature regarding personality and aggression may offer valuable insight into the distinct psychological features that characterize those with personality disorder and a propensity for violence.

Social cognition is based on the principle that constructs relevant to cognitive representation and process are fundamental to understanding all human responses, regardless of whether those responses are social or non-social in nature (Ostrom, 1994). Our cognitions shape our perceptions of the environment around us and the behavioral responses that are deemed to be appropriate (Huesmann, 1988). Contemporary theoretical and investigative approaches to aggression are guided by the notion that individual differences in aggressive tendencies are, to a large extent, determined by the influence of an underlying set of cognitive variables. These variables are understood to include cognitive-processing, negative affect, self-regulation, and social-information processing (Bettencourt, Talley, Benjamin, & Valentine, 2006). Prominent and informative theories of aggression suggest that individuals with a propensity toward aggressive behavior hold more elaborate and readily accessible aggression-related cognitions (Anderson & Bushman, 2002; Crick & Dodge, 1994; Huesmann, 1998).

The GAM

The most contemporary and comprehensive theory of aggression, the GAM (Anderson & Bushman, 2002; Anderson & Carnagey, 2004; Anderson et al., 2007) is notable in that it draws on existing theoretical approaches such as cognitive neoassociation (Berkowitz, 1990) and social learning (Bandura, 1977), and unifies them. The GAM contends that aggressive acts rarely occur without the convergence of multiple precipitating situational factors and predisposing personal characteristics, and identifies the various constructs that operate in the current situation to initiate aggression alongside those that exert an influence over a longer period of time. Aggressive behavior is therefore understood as resulting from a series of experiences that prepare the individual to behave aggressively in different situations, culminating in the acquisition of aggressive cognitive structures that are then repeatedly retrieved and used.

While an intention to harm is the immediate, proximate, goal of aggression, the ultimate goals may differ (Anderson & Bushman, 2002). For example, acts may primarily have an instrumental or affective basis, or may contain a combination of motives. Emerging research tends to be consistent with this overall view, supporting the notion that characteristically aggressive individuals have more extensive and developed cognitive networks linked to aggression (see Collie, Vess, & Murdoch, 2007, for a review). Figure 1 describes the main focus of the GAM, representing the (1) person and situational factors influencing aggression likelihood, (2) the internal routes through which input variables influences the present internal state, and (3) the underlying appraisal and decision-making process that determines behavioral outcomes.
Personality as Schema

While the GAM posits important roles for innate biological tendencies and situational factors, it characterizes personality as the sum of the knowledge structures an individual constructs from their experiences (Anderson & Carnagey, 2004). These structures, more widely referred to as schema, exist on a macro level to represent substantial knowledge about a concept, its attributes, and relationship to other concepts (Huesmann, 1998). The form and content of knowledge structures influence how the environment is perceived, and are used to guide people's interpretations and behavioral responses to their social environment. Knowledge structures also influence which types of situations are sought out and which are avoided, contributing to trait-like consistency in behavior.

Aggression-Related Knowledge Structures

Huesmann’s (1998) formulation of aggressive schema is incorporated into the GAM and describes in detail the specific types of knowledge structure that shape individual aggression propensity. Huesmann proposes that there are two important kinds of aggression-related schematic content. The first is aggressive behavioral scripts, which are acquired through observations of others, and serve to define situations and guide behavior. The process of use and positive reinforcement of aggressive scripts causes them to become firmly established as structures, and as a consequence, they become well-rehearsed and highly accessible. Habitually aggressive people are those individuals who regularly retrieve and use aggressive scripts for social behavior.

The second kind of knowledge structure influencing the likelihood of aggression is normative beliefs, which consist of cognitions about the perceived appropriateness of the behavior (Huesmann, 1998). These beliefs serve to guide the evaluation of social behavior and the search for appropriate behavioral scripts, effectively operating as a filter that regulates aggression. Although the nature of the beliefs is related to perceived social norms, they ultimately reflect what is suitable for the individual. The properties of scripts and normative beliefs, and their mode of operation, were recently described elsewhere (Gilbert & Daffern, 2010).

The Role of Affective Arousal in Aggression

A further determinant of behavioral action is the affect-based rules that are linked to an individual’s aggression-related knowledge structures. Anger, as well as other types of affective arousal (e.g., fear, anxiety, depression), can serve as cues for retrieval of related schemas and scripts. In addition, according to the GAM, unrelated states of arousal may increase dominant behavioral tendencies such as aggression; and high or low levels of affective arousal may be aversive states that stimulate aggressive responses (Anderson & Bushman, 2002). Huesmann (1998) further contends that anger restricts cognitive processing so that only the most accessible scripts are retrieved, meaning that if an aggressive repertoire is entrenched, it will be enacted.

Evidence for the GAM Constructs in Those Personality Disorders Associated With Violence

The GAM was developed with the intention of explaining enduring differences in aggressiveness, and thus may help to clarify the relationship between personality disorder and violence. This section integrates the existing personality disorder literature relating to four areas of significance from a GAM perspective: maladaptive cognitions, aggressive behavioral scripts, aggression-supportive beliefs, and an-
The purpose of this review is to answer two questions, (1) because the GAM provides a broad understanding of aggression, can this framework account for the increased aggressiveness of those individuals with the personality disorders that have an established link with violence; and (2) does the application of the GAM to personality disorder elucidate the relationship between these disorders and violence?

**Cognitive Schema and Personality Disorder**

The characteristic emotional dysfunction and maladaptive behavior associated with personality disorder has been conceptualized as being maintained by maladaptive cognitive schema (Beck, Freeman, & Associates, 1990). Particularly influential has been the work of Young and colleagues (Young, 1994, 1999; Young, Klosko, & Weishaar, 2003), which proposes that personality pathology is initiated by rigid core beliefs called Early Maladaptive Schema (EMS). EMS develop early in life as relatively realistic representations of, and effective adaptations to, the environment, becoming elaborated on throughout the lifetime. Young et al. (2003) contend that the dysfunctional behaviors represented by personality disorder develop in response to the presence of EMS.

In line with the GAM, a range of EMS may well be implicated in aggression. Common themes of hostility and emotional pain and discomfort underpin a large number of EMS, aspects which the GAM suggests are key activators of aggression-related knowledge structures (Anderson & Bushman, 2002). In addition, the presence of EMS can be speculated to contribute to chronic aggressive behavior. Young et al. (2003) propose that the triggering of EMS, through situational factors such as interpersonal provocation or failure to attain a goal, becomes a threat representing a frustration of a core emotional need (e.g., secure attachment) and the prospect of experiencing intensely painful emotions. However, because of the need for cognitive consistency, incoming information is distorted to maintain the validity of the EMS. The tendency to experience this combination of internal discomfort and distorted information-processing may increase aggression propensity over the long-term, whereby aggression emerges as a coping style aimed at restoring a more tolerable internal state.

Relatively few studies have examined the empirical relationship between schema content and personality disorder in clinical samples. The available literature does, however, reveal that BPD has been linked to a diverse range of EMS, with modest schema configurations across the other personality disorders (Ball & Cecero, 2001; Jovev & Jackson, 2004; Nilsson, Jorgensen, Straarup, & Licht, 2010; Nordahl, Holthe, & Haugum, 2005). Moreover, two studies suggest that investigation of the role of EMS in prompting or maintaining violent behavior in people with personality disorder is warranted. Specht, Chapman, and Cellucci (2009) recently examined the relationship between schema and BPD symptoms in a sample of female prisoners. Although the nature of the offenses committed by the sample were not described, the authors found that two schema domains, ‘Disconnection and Rejection’ and ‘Impaired Limits,’ were significantly correlated with BPD severity. Another study investigated the association between EMS and trait aggressiveness. In a nonclinical sample, Tremblay and Dozois (2009) found significant relationships for the majority of EMS, although those most strongly associated were ‘Mistrust and Abuse,’ ‘Insufficient Self-Control,’ and ‘Entitlement.’ Schema configurations have yet to be examined in violent offenders with personality disorder, meaning that relatively little is understood regarding the schematic content and processes involved in their cognitive functioning.

**Aggressive Scripts**

Investigation of aggressive scripts is currently limited by the lack of standardized measures available for this purpose. As noted by Collie et al. (2007), the presence and form of cognitive structures must be inferred from self-report and cognitive paradigms. A range of different methodologies have been utilized to date, including examination of offense narratives (Polaschek & Gannon, 2004), self-report measures of aggressive scripts (Grisso, Davis, Veselinov, Appelbaum, & Monahan, 2000), and implicit association tasks (Gray, MacCulloch, Smith, Morris, & Snowden, 2003). Although several studies have specifically examined the importance of aggressive behavioral scripts in aggressive children (e.g., Guerra, Huesmann, & Spindler, 2003), there is currently only one stan-
dardized measure in existence that is appropriate for use with adults. This measure, the Schedule of Imagined Violence (SIV), was developed by Grisso et al. (2000) to examine the presence of violent mental imagery in patients hospitalized with mental disorder. The SIV assesses whether or not a person has thoughts about physically hurting other people, and the quality of these thoughts (e.g., frequency, chronicity). Using the SIV, Grisso et al. found that the degree of violent thought rehearsal reported by patients was predictive of violent acts occurring after discharge. The SIV has also been used to explore the relationship between aggressive scripts and aggression in a nonclinical sample, where a significant positive association was also observed (Nagtegaal, Rassin, & Muris, 2006). These findings support the GAMs proposal that social situations are more likely to trigger aggressive cognitive content among people for whom the rehearsal of aggressive scripts is more frequent.

The findings of Coid (2002) are also noteworthy. Coid examined the relationship between personality pathology and motivations for severe disruptive behavior in a sample of prisoners in the U.K. He found that individuals who met criteria for psychopathy, NPD, PPD, or Histrionic Personality Disorder (HPD) displayed a range of violent behaviors that were motivated by pride in physical prowess and fighting skills. According to the GAM, these motivations would be associated with activation of aggressive knowledge structures, particularly the rehearsal of aggressive scripts. Frequent rehearsal of aggressive scripts renders the script more accessible, increasing the likelihood of enactment of violent acts.

**Normative Beliefs Supportive of Aggression**

Research investigating the relationship between antisocial attitudes and offending is well established, and there has been a proliferation in the methods available for this purpose. However, few studies have examined the normative beliefs about aggression held by those with personality disorder. Investigation of the motivational factors for offending in this group provides some insight into the significance of beliefs about the appropriateness of violence. For example, in Coid’s (2002) study, the various disruptive behaviors exhibited by prisoners with psychopathy, and NPD, PPD, HPD, and Passive-Aggressive Personality Disorder, were in part motivated by a belief that violence was the only solution to interpersonal problems. In contrast, the belief was not associated with the disruptive behavior of prisoners with BPD. This study seems to suggest that normative beliefs supportive of violence may partly precipitate the violence of those with personality disorder.

With respect to the individual personality disorders, it would be expected that individuals with ASPD, who are described as displaying a pervasive pattern of disregard for the rights of others (American Psychiatric Association, 2000), would be especially likely to hold attitudes that support the use of aggression. Aggression-supportive beliefs are broadly predictive of violent offending and violent recidivism (Archer & Haigh, 1997; Mills, Kroner, & Hemmati, 2004). A study by Polaschek, Calvert, and Gannon (2009) examined in detail the various beliefs associated with violent offending by analyzing the transcripts of offense process interviews for men convicted of violent offenses. A commonly held belief was the “normalization” of violence, in which it was seen as a routine occurrence that was helpful in achieving personal and social goals. This assumption also underpinned more specific violence-supportive beliefs, such as the need to act violently to achieve or maintain status in a violent world, and a moral entitlement to harm other people if required. Given the high rates of ASPD in violent offenders, it is likely that these beliefs are also endorsed in those violent offenders meeting criteria for ASPD. In further support of a relationship between normative beliefs supportive of violence and ASPD, Holtzworth-Munroe and Stuart’s (1994) research into males perpetrating domestic violence describes two subtypes characterized, respectively, by borderline and antisocial personality disorder traits. The researchers found that although these subtypes displayed separate profiles of risk factors for violence and differed in the nature and extent of their violent behavior, they could both be distinguished from other domestically violent men by the presence of positive attitudes to violence (Holtzworth-Munroe, Meehan, Herron, Rehman, & Stuart, 2000).

Additional evidence is available from the psychopathy literature. Psychopathy and ASPD share characteristics, although the latter is a
more narrowly defined personality disorder in which behavioral traits predominate (Ogloff, 2006). The literature supports a strong relationship between psychopathy and diverse forms of violence, including those acts underpinned by instrumental goals (Cornell et al., 1996). Blair (1995) notes that cognitive-affective processes that would normally inhibit violence, such as moral remorse and empathy, are distinctively lacking in psychopathy. In support of this, studies have confirmed a relationship between psychopathy and various criminal cognitions (Seager, 2005; Simourd & Hoge, 2000). For example, using a form of implicit association to examine the strength of associations between violent concepts in memory in psychopathic murderers, Gray et al. (2003) found that violent words were closely associated with positive evaluations. This suggests that these individuals hold positive cognitions about violence.

Research into beliefs about violence held by those with other personality disorders is unfortunately lacking. Aggression-supportive beliefs may, however, be tentatively linked to two other personality disorder categories. The GAM identifies narcissism as a proximate cause of aggression (Anderson & Carnagey, 2004). Studies in nonclinical populations have confirmed the association between aggression-supportive beliefs and narcissistic traits, with these beliefs predicting delinquent behavior in adolescents (Ang, Ong, Lim, & Lim, 2010; Calvete, 2008). In addition, Calvete and Orue (2010) found that justification of violence and grandiosity schemas were more relevant for proactive, instrumental aggression than angry, reactive acts. Other, more specific, schemas that are theoretically associated with the acceptance of violence have also been found to predict aggression, for example, rigid gender role beliefs (Parrott, Peterson, & Bakeman, 2011), although these have yet to be examined in relation to the construct of personality disorder.

The suspicious and hostile expectations of abuse and mistreatment described in PPD may also result in a tendency toward beliefs supporting violence. Howells (2009) notes that the cognitive components of this disorder are comparable to the cognitive and attributional biases that characterize angry aggressive reactions, such as the attribution of malevolent intent, rehearsal of grudges, blaming, and a lack of forgiveness. This relationship has not been investigated empirically, although one study has investigated the presence of an aggressive attributional style, comprising hostile attributions, perceptions of threat and the appropriateness of violence, in psychiatric inpatients (McNeil, Eisserer, & Binder, 2003). It found that a cognitive style comprising these features was associated with increased levels of violence, suggesting that perceptions of hostility and threat may operate to justify violent behavior in a particular context, increasing the likelihood of its occurrence. Equivalent research is required in people meeting criteria for PPD.

Anger

Under the GAM, the presence of highly arousing interpersonal situations are understood to interfere with higher-level cognitive processes and reduce inhibitions by providing a justification for aggressive retaliation. Anger is an important affective antecedent for aggression, and four of the 10 DSM–IV–TR personality disorders make explicit reference to pathological anger: ASPD, BPD, NPD, and PPD (American Psychiatric Association, 2000). Recent research findings are consistent with the notion that anger is associated with the aggression of individuals with personality disorder. For instance, Posternak and Zimmerman (2002) examined experiences of subjective anger and aggression in a large sample of psychiatric outpatients. They found that individuals with a cluster B personality disorder were almost five times more likely to report subjective anger compared to those without this diagnosis. In a study of the functions of aggression in inpatients at a high secure Dangerous and Severe Personality Disorder service in the U.K., Daffern and Howells (2009) also found that anger expression was the most common function of aggression across patients’ violent index offenses and acts of inpatient aggression.

Independently, it appears that BPD demonstrates the strongest association with anger. A robust link is consistently observed in clinical studies (e.g., Costa & Babcock, 2008), although there is evidence to suggest that anger is more prevalent in males with a diagnosis of BPD than females (Tadic et al., 2009). The literature also indicates that the violence perpetrated by individuals with BPD may be broadly underpinned by the emotion regulation difficulties that char-
acterize the disorder (Critchfield et al., 2008; Warren & South, 2009).

In relation to ASPD, study findings relating to anger are inconsistent. Research rarely excludes those who also meet diagnostic criteria for psychopathy (de Brito & Hodgins, 2009), which is problematic since a deficient affective experience, rather than pathological anger, is a major dimension in contemporary measures of psychopathy. Consequently, the extent to which violence perpetrated by people with ASPD is driven by anger and difficulty controlling anger remains unclear. In a study by DiGiuseppe and Tafrate (2004), ASPD produced only a modest correlation with anger in a clinical sample, lower than that for other personality disorders. In contrast, other studies have documented a strong relationship between ASPD and anger (e.g., Wang & Diamond, 1999). These differing outcomes may indicate that anger is not a critical instigator for violence in people with ASPD, because there are other traits that are present acting as cognitive mechanisms to facilitate violent acts. For example, recent evidence suggests that anger experienced by those with ASPD may reflect a strong, controlled, predatory component (Lobbestael, Arntz, Cima, & Chakhssi, 2009). This is consistent with the recent hypothesis by Howard (2009) that offensive violence, accompanied by pleasant affect, may be more common in those with ASPD. Nevertheless, the research overall seems to suggest heterogeneity across individuals with ASPD with respect to the relationship between their affective experience and violent behavior.

A recent contention has been that the combination of ASPD and BPD has a particularly strong relationship with violent offending (Sheldon & Krishnan, 2009). These disorders share anger as a central criterion, and recent research suggests that this may be linked with an increased propensity for violence. Howard et al. (2008) examined the personality and criminal history of individuals in the community with a combination of these personality disorders. They found that high levels of emotional dysregulation, impulsivity and anger expression, and low anger control were associated with a history of violence. A recent study also found that when controlling for criminal history and severity of violence, men with BPD were more likely to engage in angry, reactive partner violence, whereas men with ASPD used violence both proactively and reactively (Ross & Babcock, 2009), suggesting that the affective precipitants of these disorders cannot be mapped directly onto each other.

Finally, the GAM contends that a major feature of NPD, inflated self-esteem, is associated with anger and aggression if this self-image is threatened (Anderson & Bushman, 2002). Although there is a comparative lack of research in relation to NPD, the existing literature appears to indicate that the anger of these individuals has a narrow relationship with triggering or provoking events. In nonclinical populations, individuals with narcissistic traits have been found to respond with anger in response to feedback informing them of their failure on tasks (Rhodewalt & Morf, 1998), while a series of studies by Twenge and Campbell (2003) found that individuals high in narcissism were more likely to respond to an experience of social rejection with anger. Because the GAM suggests that anger enables a person to sustain aggressive intentions over the long-term and provides a justification for aggressive retaliation, further research exploring the conditions in which anger and aggression are deemed to be appropriate appears necessary. Replication of existing findings in clinical samples and in individuals with established histories of responding aggressively would be particularly useful.

Summary

The assumption that certain personality disorders are associated with an increased propensity for violence has been repeatedly established, although several methodological issues, including measurement, definitional and construct related problems, continue to obscure and overshadow this relationship. The current analysis has consequently drawn on the GAM, a comprehensive theoretical model that provides an account of the development of aggressiveness and the operation of cognitive variables important to aggression, to elucidate the relationship between personality disorder and violence. Application of the GAM to the personality disorder-aggression relationship assists with the organization of the vast array of existing research, and will hopefully generate further research interest in this area. The current analysis highlights the deficit in research into particular constructs. For this conceptualization to
be wholly validated there will be a need to more fully examine the existence and operation of the GAM-related constructs in a range of populations with personality disorder.

The GAMs main contention is that people who hold entrenched and accessible aggression-related cognitions, and who are susceptible to experiencing the internal states that activate these cognitions, are more prone to act aggressively. With respect to aggression-related knowledge structures, an increasing amount of evidence is available to confirm a relationship between normative beliefs supportive of aggression and ASPD. For two personality disorders, NPD and PPD, the presence of a relationship with these beliefs remains speculative, while for BPD, a relationship is entirely uncertain. The research more broadly suggests, in line with the GAM, that individuals who believe that aggressive behavior will produce the desired outcome, and who believe that they can successfully carry out aggressive acts, are more likely to be aggressive (Anderson & Bushman, 2002).

The second type of knowledge structure, aggressive scripts, is the area that is least researched. Whether people with those personality disorders linked to violence are more likely to hold and rehearse aggressive behavioral scripts has yet to be investigated. As such, it is unclear to what extent the relationship between personality disorder and violence is accounted for by the presence of aggressive scripts.

In terms of maladaptive cognitions, EMS research substantiates their importance to personality disorder more generally. BPD has received the most empirical attention and has been linked to a diverse range of EMS. Research that has examined the significance of schema in individuals with other personality disorders displaying a proneness to violence is rare, however, making conclusions about the underlying antecedents for violence in this group difficult. The GAM theorizes that maladaptive cognitions are an important component influencing aggression propensity, and Young’s conceptualization of EMS appears to lend itself well to further exploration of the relationship.

The GAM further contends that affective arousal is an important instigator of aggression. Examination of the literature confirms that anger is frequently associated with the violent behavior of people with various personality disorders. However, it also tends to challenge the assumption that anger invariably precipitates this violence. Violent acts may, instead, be initiated by other personality characteristics that reinforce the use of well-rehearsed and accessible aggression-related cognitions (e.g., a restricted affective experience). Both of these kinds of violence have been observed in studies of people with ASPD, suggesting that the diagnostic criteria for this disorder alone have limited explanatory value with respect to the significance of anger and affective arousal to patterns of violence. Nonetheless, elevated levels of anger, does, from a GAM perspective, account in part for the increased proneness to violence of this group.

Overall, the accumulating evidence seems to support the notion that people with personality disorders who are violent demonstrate more of the key cognitive and affective characteristics central to aggression as conceptualized by the GAM, that is, aggression-related cognitions, maladaptive cognitions, and anger. It appears that of all the personality disorders, the relationship between ASPD and violence is best accounted for by the increased presence of the various constructs of the GAM. The evidence for the other personality disorders linked to violence is less clear, primarily because these important aggression-related constructs have not been adequately studied. The GAM provides a logical theoretical counterpart for clinicians tasked with assessing violence propensity in people with personality disorder. More thorough assessment of the cognitive and affective factors associated with aggression is likely to assist in differentiating individuals coming under the broad category of personality disorder, in that this approach helps to overcome the difficulties associated with focusing on the diagnostic categories themselves.

Research Implications

To increase the clinical applicability of the GAM to the assessment and treatment of individuals with personality disorder, there are a number of important research implications. Several of these concern the investigation of individual aspects of the GAM, which would assist with development of a more robust research foundation upon which to base clinical applications. Most importantly, further research into aggressive scripts is required. Given that
aggressive scripts have a critical role in the GAM, the lack of research in this area inhibits overall progress in theoretical understandings of the relationship between personality disorder and violence. As such, it will be necessary to investigate the role of aggressive scripts in individuals with personality disorder with established histories of violent behavior. This would enable a test of the overall assumption that individuals with personality disorder who are more violent hold more significant and entrenched aggression-related cognitions, helping to account for the variations in violence propensity observed in people with these diagnoses.

Research should also further examine the normative beliefs about aggression and violence held by individuals with personality disorder. It seems unlikely that the operation of these beliefs would be the same across the different personality disorders; for instance, there may be differences in the types of situations in which violence is perceived to be acceptable. Research in samples of people with BPD, NPD, and PPD is especially needed. In addition, because various studies have demonstrated that maladaptive schema can be quantified with relative ease, further investigation in personality disorder populations displaying increased levels of violence is required. This seems particularly important given the increasing application of schema-focused therapy to offending populations. Finally, future research will need to explore the role of anger in relation to ASPD while controlling for psychopathy, and examine the presence of other types of affective arousal with respect to violence in BPD.

The other main research implication is that it will be important for studies to investigate how maladaptive cognitions, aggression-related knowledge structures and anger and other affective states interact with each other and are linked to violent behavior in people with different personality disorders. The GAM contends that the existence of one of these constructs would increase the likelihood of activation and retrieval of the other constructs, because of the strengthened associations between aggression-related cognitions. The relative importance or combined effect of the constructs may differ in individuals with personality disorder compared to those without these diagnoses, and studies should specifically examine violent offender populations in which high rates of personality disorder are common. Given that the GAM remains largely theoretical in nature, this in turn may assist with refinement of the model as it currently stands.

Clinical and Policy Implications

The policy implications of this analysis are that clinical assessment of the central tenets of the GAM, that is, aggression-related cognitions, maladaptive schema and anger, in offenders with personality disorder would be highly useful in explaining the increased violence propensity of individuals with these diagnoses. For those personality disorders with a documented relationship with violence, such as ASPD and BPD, the importance of individual case formulation of maladaptive cognitions and other aggression-related knowledge structures may be helpful. More standardized assessment of these various constructs would undoubtedly be useful for treatment planning. This would assist the demarcation of factors that are closely tied to violence propensity and thus, should be a specific focus of treatment. In particular, interventions that change aggression-supportive cognitions (e.g., the Violence Reduction Program; Wong, 2000), schema-focused therapy (Bernstein, Arntz, & de Vos, 2007), and anger management (e.g., Watt & Howells, 1999) might all be needed, depending on the significance of these aspects to the individual.

Finally, the current reconceptualization of the personality disorder nomenclature that is emerging with the DSM-V (American Psychiatric Association, 2011) points toward a more dimensional classification of personality dysfunction. Utilization of the GAM and assessment of relevant knowledge structures is consistent with this approach and would assist in the quantification of trait-based aggression, improving the measurement and categorization of individuals. Furthermore, in those instances where personality disorder is used as a criterion to determine inclusion or exclusion from mental health treatment or incapacitation (e.g., the United Kingdom’s Dangerous and Severe Personality Disorder program), the present review suggests that an assessment of core GAM specific knowledge-structures represents a more valid and theoretically coherent strategy for identifying people with personality disorder.
who are at risk for violence rather than rely on diagnosis per se.

**Conclusion**

A large body of literature has accumulated that suggests violence is a clinically relevant correlate of certain personality disorders. However, to date, knowledge and investigation in this area has been impeded by conceptual and methodological barriers, meaning that considerable uncertainty still exists in terms of how personality disorder operates to influence violence. One way that these difficulties may be resolved is by utilizing current psychological theories of aggression, in particular, the GAM, which was developed to account for differences in aggression propensity across individuals. A review of the available literature in this area indicates that the GAM has relevance to the study of the violent behavior of people with personality disorder. This analysis may also assist clinicians focus their assessment and intervention efforts for violent individuals with personality disorder.

**References**


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