CHAPTER 33

Intermittent Explosive Disorder

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WHAT IS INTERMITTENT EXPLOSIVE DISORDER?

Intermittent Explosive Disorder (IED) falls under the category of Impulse-Control Disorders Not Elsewhere Classified (APA, 1994).[1] In addition to IED, kleptomania, pyromania, pathological gambling, Trichotillomania and Impulse-Control Disorders Not Otherwise Specified are also included in this category. The essential feature of all Impulse-Control Disorders is "the failure to resist an impulse, drive, or temptation to perform an act that is harmful to the person or others" (APA, 1994, p. 609). In most cases, individuals feel an overwhelming sense of arousal and a release of that arousal upon committing the act. After committing the act, individuals may or may not feel a sense of guilt or remorse (see Figure 33.1).

The only diagnostic criteria in the DSM that describes nonpsychotic, nonbipolar aggressive disorders is IED (Coccaro, Kavoussi, Berman, & Lish,1998).[2] To receive the diagnosis of IED, three criteria must be met (APA, 2000, p. 281). These are:

a. Several discrete episodes of failure to resist aggressive impulses that result in serious assaultive acts or destruction of property.
b. The degree of aggressiveness expressed during the episode is grossly out of proportion to any precipitating psychosocial stressors.
c. The aggressive episodes are not better accounted for by another mental disorder and are not due to direct physiological effects of a substance or a general medical condition.

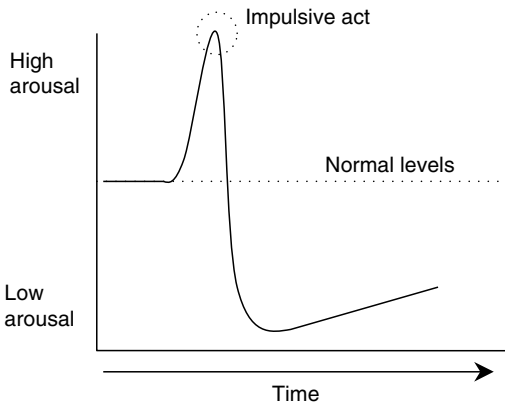

FIGURE 33.1 Arousal increases until the impulsive act. Tension is released; arousal dissipates, dropping below normal levels. Modeled after McElroy et al. (1998) Figure 1, p. 208.

[1] The ICD-10's equivalent category is "Habit and Impulse Disorders" (Code F63) (World Health Organization, 1992).

[2] See Coccaro et al. (1998) for revised diagnostic criteria for IED (IED-R), which may, ultimately, bolster reliability (e.g., their IED-R had a $\kappa = 0.92$). The most significant addition is a frequency criterion: "Aggressive outbursts occur twice in a week, on average, for at least a period of 1 month" (p. 369).

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Episodes of violence, which start and stop abruptly, typically last several minutes, though have been known to continue for hours (Maxmen & Ward, 1995). Infrequently, both prodromal physiological or mood symptoms and partial amnesia are reported after the aggressive act (Meyer & Deitsch, 1996). Individuals, who met the diagnostic criteria for IED, often describe these aggressive impulses as the "need to attack", the "need to strike out", an "adrenaline rush", "seeing red", or the "urge to kill someone" (McElroy, Soutullo, Beckman, Taylor, & Keck, 1998, p. 205).

Let us turn next to an example of IED, showcasing the diagnostic criteria. No example paints a clearer picture of IED than that of "road rage".

An Example of IED

"Road rage" has attracted much media attention as of late. Road age is an incident in which an angry or impatient motorist or passenger intentionally injures or kills another motorist, passenger, or pedestrian (Rathbone & Huckabee, 1999). It should be noted that road rage and aggressive driving are not one and the same. "Road rage" is uncontrolled anger that results in a violent act or the threat of violence; it is criminal behavior. Aggressive driving, such as tailgating or abrupt lane changes are certainly dangerous behaviors, however, do not rise to the level of criminal behavior.

Some researchers argue that road rage can be characterized as IED, because both share the essential feature, "discrete episodes of failure to resist aggressive impulses in serious assaultive acts or destruction of property" (Galovski, Blanchard, & Veazey, 2002, p. 642). For the purpose of illustration, let us consider a recent story that made the news in the writer's community, where a man followed a woman after she cut him off on the Interstate. After both motorists pulled over, an altercation ensued. It ended in the man reaching into the cab of her vehicle, pulling out her small dog, and hurling it in front of vehicles traveling at highway speeds. After an investigation, it was discovered that the man had allegedly been getting in trouble at work for "blowing up" at coworkers.

This incident presents a convincing case for IED. Conceivably, the aggressive motorist (1) could not "resist" the "aggressive impulse" that resulted in a "serious assaultive act". Certainly (2) the "degree of aggressiveness expressed during the episode (was) grossly out of proportion to any precipitating psychosocial stressors," as the dog was not attacking him and the other motorist had not engaged in physical aggression (i.e., he was not acting out of self-defense). This and previous aggressive episodes (3) "(could) not be better accounted for by another mental disorder," as he had no recent or longstanding psychiatric history, apart from an "explosive temper." Likewise, he was not under the influence of a substance during the time of the episode (and presumably at work, as he had been gainfully employed at the same place of business for some time). Nor was it uncovered that he had a "direct physiological or medical condition" that could account for his "explosive temper."

IS IED A SEPARATE ENTITY?

Despite the fact that IED has been discussed in the literature for several decades and has been included in several editions of the *Diagnostics and Statistics Manual* (though it almost did not make it into the fourth edition), there is still much debate among researchers and practitioners about the existence of IED as a separate entity (Hucker, 2004). Rather, IED is seen as a nonspecific symptom that coincides with a wide range of psychiatric and medical disorders (McElroy, 1999).

Proponents against the idea that IED is an independent phenomenon argue that anger and aggressive behavior is extremely common across many psychiatric conditions. For example, in a sample of 1,300 psychiatric outpatients, Posternak and Zimmerman (2002) reported that half had significant problems with anger and aggressive behavior in the previous week. Moreover, in preparing for the *DSM-IV*, Bradford, Geller, Lesieur, Rosenthal, & Wise (1994) reviewed 800 probable cases of IED. Given that so many of the cases overlapped with other psychiatric conditions, only 17 cases (about 2%) were identified.

PROBLEMS WITH DIAGNOSTIC CRITERIA

There are several inherent problems in the diagnostic criteria that are worthy of mention; these are: the use of the term "impulse"; the problem with the criterion of "serious assaultive acts" or "destruction of property"; and the criterion to rule out IED when the aggressive behavior is due to the "direct physiological effects of a diagnosable medical condition." Of course, due to page limitations, every weakness will not be discussed here. Interested readers are referred to *Rethinking the DSM: A Psychological Perspective* (2002) for an in-depth discussion on these and other limitations of the DSM-IV.

The first problem with IED is the use of the term "impulse." Unfortunately, the DSM-IV provides no elaboration on this term. It is therefore open to many interpretations. Let us consider several variants; the emphasis of which has major interpretive implications. In a vernacular sense, "impulse" is an intense feeling or emotion that immediately precedes an action. From a psychoanalytic point of view, it entails a "psychic" or "unconscious drive." According to a sociobiological perspective, it means "instinctual urge," as in the case of "instinctual" or "territorial aggression." From a biomedical orientation, an "impulse" refers to the excitation of a neuron. All of these interpretations are admissible because the DSM's authors fail to elucidate what they mean by "impulse."

A second problem with IED is the fact that there has to be "serious assaultive acts" or "destruction of property" to warrant a psychiatric diagnosis. Because the diagnosis is only allowable in those who commit "serious" acts of aggression (again the word "serious" is open to interpretation), many individuals with significant impulsive-aggressive behaviors fall by the wayside (Coccaro et al., 1998). Indeed, many individuals who commit less "serious" acts of aggression also have considerable functional impairment (i.e., cannot hold a job) and/or legal problems (e.g., misdemeanor for smashing a neighbor's garden gnome). Thus, even though both groups of individuals are *functionally* the same (i.e., significant impulse-control difficulties), because they differ somewhat *topographically* (e.g., one group destroys more expensive property), one group meets the criteria for IED and the other does not.

A third problem with IED concerns the criterion, rule out IED when the "pattern of aggressive episodes is judged to be due to the *direct* physiological effects of a diagnosable general medical condition" (APA, 1994, p. 611, italics added). How is it even possible to determine "direct" from the implied "indirect physiological effects" of the medical condition during an episode of aggression? All medical conditions have "*direct* physiological effects" on the entire organism, all the time. Take Type I Diabetes, for example. A faulty pancreas has "direct physiological" effects on all organ systems. Poorly managed diabetes, for example, results in cardiovascular disease, retinopathy (eye disease), nephropathy (kidney disease), and neuropathy (nerve disease). Behaviorally, individuals are moody, lethargic, have difficulties with

concentration, and can behave "impulsively." Accordingly, at what point are clinicians able to determine "direct" from "indirect" effects of diabetes?

BASIC FACTS ABOUT INTERMITTENT EXPLOSIVE DISORDER

Comorbidity

Apart from McElroy et al.'s (1998) study, no research has been conducted on IED using DSM-IV criteria (McElroy, 1999). McElroy et al. (1998) examined 27 individuals with IED. Many participants were convicted felons or had been referred by a healthcare provider. Comorbidity with other psychiatric disorders was highly prevalent in this sample: 93% ($N = 25$) of the participants had lifetime DSM-IV diagnoses of mood disorders; 48% ($N = 13$) with substance use disorders; 48% ($N = 13$) with anxiety disorders; and 37% ($N = 10$) with major depressive disorder. While these data are informative, caution is in order in interpreting these findings. Namely, as noted by Galovski et al. (2002), there were no patient controls, no normal controls, and no dimensional psychological tests were employed.

Prevalence

Reliable prevalence data are not available. However, the received view is that IED is extremely rare (APA, 1994). For example, data taken from clinical surveys of psychiatric patients and patients undergoing treatment for IED, suggest that rates with IED in psychiatric settings ranges from 1% to 2% (Coccaro, Schmidt, Samuels, & Nesadt, 2004; Monopolis, & Lion, 1983). Thus, the prevalence of IED is likely comparable to that of schizophrenia.

Age of Onset and Course

Based on limited data, this disorder usually begins in late adolescence or early childhood and continues until individuals reach 30 years of age (APA, 1994; McElroy et al., 1998; Meyer & Deitsch, 1996).

Gender

IED is more prevalent in males than females. Previous studies suggest that the gender ratio is about three males for every female (Coccario et al., 1998; McElroy et al., 1998).

Impairment and other characteristics

IED is associated with significant impairment in day-to-day functioning. In McElroy et al.'s (1998) study, for example, most participants reported problems with chronic anger and frequent episodes where they experienced aggressive impulses, though resisted the urge or engaged in less destructive behavior. While not addressed in the literature on IED, chronic anger is related to a host of chronic health problems, particularly difficulties with cardiovascular health. For decades, hostility, anger, and aggression have been highly correlated with hypertension, coronary heart disease, and coronary arterial disease (Robins & Novaco, 2000).

Another area where individuals with IED are sure to be impacted is driving. Driving is frustrating for everyone, and can elicit much anger in persons with IED. Many individuals get into motor vehicle accidents (MVA) due to aggressive driving (Galovski & Blanchard, 2002). The Assistant General Counsel of the American Insurance Association estimated that about half of all MVA crashes involve aggressive driving (Snyder, 1997, as cited in Galovski & Blanchard, 2002).

Individuals with IED also experience regret, remorse, and embarrassment over their aggressive displays, and often isolate themselves so as to avoid coming into

contact with situations that evoke aggression (McElroy, 1999). Accordingly, due to the nature of the disorder (i.e., "aggressive impulses that result in serious assaultive acts or destruction of property"), many individuals become "loners" or suffer from interpersonal and/or work problems. In more extreme cases, such individuals get in trouble with the law (McElroy et al., 1998).

ASSESSMENT

What Should be Ruled Out?

Aggressive episodes better accounted for by another mental disorder This is the hardest decision that clinicians face, as the diagnostic criteria for IED overlap with so many other disorders, particularly Cluster B Personality Disorders. Antisocial Personality Disorder (APD) is arguably the most closely related disorder in the DSM. Consider the following diagnostic criteria.

> They may repeatedly perform acts that are grounds for arrest . . . such as destroying property . . . A pattern of impulsivity may be manifested by a failure to plan ahead . . . Decisions are made on the spur the moment, without forethought, and without consideration for the consequences to self or others; this may lead to sudden changes of jobs, residences, or relationships. Individuals with Antisocial Personality Disorder tend to be irritable and aggressive and may repeatedly get into physical fights or commit acts of physical assault (APA, 1994, p. 646).

Likewise, APD also begins in childhood or early adolescence and continues into adulthood.

In deciding whether a client meets the diagnostic criteria for APD or IED, clinicians should orient to the essential feature of APD, that being, "a pervasive pattern of disregard for, and violation of, the rights of others" (APA, 1994, p. 646). Specifically, does the pattern of behavior suggest psychopathy or sociopathy? Does the client "disregard the wishes, rights, or feelings of others" (APA, 1994, p. 646)? Is the client "frequently deceitful and manipulative" (APA, 1994, p. 646)? Of course, "a pervasive pattern of disregard for, and violation of, the rights of others" would entail other situations in addition to just those involving aggressive acts. With IED, an individual would only have "disregard for, and violation of, the rights of others" during aggressive outbursts, not at other times. Individuals with APD also do not express remorse for their aggressive actions, which often is not the case for individuals with IED. Moreover, individuals with IED probably would not evidence patterns of behavior frequently deemed "deceitful and manipulative".

Borderline Personality Disorder (BPD) also entails episodes of inappropriate anger and impulsive–aggressive behavior. However, with BPD, there is "a pervasive pattern of instability of interpersonal relationships (and) self-image" (APA, 1994, p. 654, parenthesis added). Moreover, clients with BPD usually vacillate between "extremes of idealization and evaluation" in all relationships, including that with the therapist (APA, 1994, p. 654). They also frequently report feelings of "emptiness", lack a sense of "self," and make recurrent threats or engage in suicidal and/or parasuicidal behavior (APA, 1994, p. 654). Neither of these is associated with IED.

Anger and impulsive–aggressive behavior also occurs during episodes of psychosis and mania (APA, 1994). Delusions (e.g., persecutory type), hallucinations, and disorganized or incoherent speech are associated with psychotic and manic episodes, not IED. Should a client present with a thought disorder, therefore, rule out IED.

Direct effects of a general medical condition. Rule out IED if the aggressive behavior is likely due to the "direct effects" of a general medication (APA, 1994, p. 611). Impulsive aggression due to severe traumatic brain injury (particularly in the orbital-frontal region) and Tourette's syndrome are obvious examples (Budman, Rockmore, Stokes, & Sossin, 2003). Other examples include: psychomotor seizures; acute metabolic derangements, due to hypoglycemia; and certain types of brain tumors (e.g., involving the temporal lobes) (Victor & Ropper, 2002, p. 205).

Substance intoxication or withdrawal. Rule out IED if aggressive act(s) occurred in association with substance intoxication or substance withdrawal. Certain psychomotor stimulants (e.g., cocaine and amphetamines), for example, potentiate attack behaviors, while other drugs (e.g., alcohol) interfere with the cognitive functioning that underlies planning and impulse-control (Hoaken & Stewart, 2003; Pihl & Hoaken, 2002; Pihl & Peterson, 1995).

Substance related aggressive behavior is best determined by way of a blood or urine screen. Should plencyclidine, cocaine, barbiturates, inhalants, and/or high levels of alcohol turn up on the screen, rule out IED (APA, 1994, p. 611).

Delirium

Rule out IED if aggressive behavior occurs exclusively during an episode of delirium. Delirium is an acute confusional state that usually involves agitation, problems with perception, vivid hallucinations, intense emotional experiences, and overactivity of psychomotor and autonomic nervous system functions (Victor & Ropper, 2002). Delirium can be induced by sudden withdrawal of ethanol in alcohol–dependent persons (e.g., delirium tremens), drug intoxication, electrolyte imbalance, and infection (e.g., meningitis).

Dementia

Rule out IED if the aggressive behavior occurs in individuals with suspected dementia. Dementia is an acquired, usually a progressive impairment in cognitive functioning (Greenberg, Aminoff, & Simon, 2002). In addition to problems with memory function, other cognitive spheres might also be affected, such as language, concentration, and the ability to plan routine activities. Alzheimer's disease, Parkinson's disease, Hunington's disease, vascular dementia (stroke), and general medical conditions like HIV are common examples. Treatable causes of dementia include normal pressure hydrocephalus, vitamin B_{12} deficiency, and hypothyroidism.

Malingering

Rule out IED for suspected malingering. Malingering is the intentional production of false or grossly exaggerated physical and/or psychological symptoms, motivated by external incentives such as avoiding military duty or work, obtaining financial compensation, evading criminal prosecution or obtaining drugs (APA, 2000, p. 309). Given the nature of the diagnosis (i.e., "serious assaultive acts or destruction of property"), many individuals encounter legal problems and as such, are motivated to malinger. Although winning a criminal case by pleading "not guilty by reason of insanity" is rare (given court reform after the assassination attempt on President Reagan's life), individuals and their attorneys may argue for "diminished capacity"; namely, pleading guilty to a lesser crime due to mental retardation, a psychiatric disorder and/or health condition (e.g., severe brain injury), that affects a person's ability of knowing right from wrong. While pleading "not guilty by reason of insanity"

refers to whether or not a person is culpable, "diminished capacity" pertains to the *degree to which* a defendant should be held responsible for a crime (Brogdon, Adams, & Bahri, 2004). For example rather than plead guilty to first-degree murder (i.e., intent to do harm with deliberation or premeditation), due to "diminished capacity" a defendant may plead guilty to second-degree murder (i.e., intent to do harm without deliberation or premeditation) or manslaughter (i.e. murder without express or implied intent to do harm). Of course, impulsive behavior by its very nature concerns acting without forethought, with little or no regard about the consequences. Accordingly, should a defendant meet the criteria for IED, this can constitute "diminished capacity" in a court of law.

As a general rule, malingering is especially suspect with the convergence of two or more of the following (APA, 2000, pp. 309–310):

1. the client is referred by an attorney
2. there are marketed discrepancies in test data
3. the client extends little effort or is uncooperative during the evaluation

What is Involved in Effective Assessment?

The diagnosis of IED should be made only after a thorough medical work-up. Once medical conditions are ruled out, a comprehensive assessment of IED should include an examination of the following variables (Coccaro et al., 1998).

- DSM criteria for IED
- degree of aggressive behavior
- frequency of failure to resist aggressive impulses
- extent of premeditation
- psychiatric comorbidity
- functional impairment
- substance use

Anger is inherently a multidimensional construct, which consists of physiological (e.g., sympathetic arousal), cognitive (e.g., automatic thoughts), phenomological (e.g., subjective experience), and behavioral (e.g., facial expression) variables (Eckhardt, Norlander, Deffernbacher, 2004, p. 20). As such, how the case is conceptualized and the clinician's theoretical orientation will have bearing on what instruments are employed in the assessment proper. In assessing IED, there are no hard and fast rules, as is the case with other disorders (e.g., use the Beck Depression Inventory-II for clients who meet criteria for major depression; Beck, Steer, Ball, & Ranieri., 1996). Be that as it may, the literature on IED and impulsive-aggressive behavior, more generally, provide guidance in what instruments are and are not useful when working with clients who present with IED. Apart from those instruments reviewed here, see Eckhardt et al. (2004) for an extensive review of the various types of brief assessment devices that are currently in use and readily available; many of which are psychometrically sound and cost-effective.

Clinician-administered measures Because of the wide array of Axis I disorders that need to be ruled out before making a diagnosis of IED, it is important that clinicians cover all clinically-relevant variables during the interview. The Structured Clinical Interview for DSM-IV Axis I Disorders (SCID-I) was designed with this aim in mind; to guide clinicians through the differential diagnosis process, by asking questions pertaining to each major diagnostic category (First et al., 1996).

The Module for Intermittent Explosive Disorder (M-IED), based on the SCID, attempts to refine the diagnosis by focusing on frequency of outbursts, level of

aggression, and level of social impairment (Coccaro et al. 1998). This approach augments the SCID, providing precise inclusionary and exclusionary criteria for making the diagnosis of IED. For example, aggressive behavior is assessed for premeditation (i.e., it is not committed "in order to achieve some tangible objective"); aggressive behavior causes marked distress; and the aggressive behavior occurs twice weekly, for one month, or the individual has had three episodes of impulsive-aggressive behavior, that resulted in physical assault or destruction of property, over a one year period (Coccaro et al., 2004, p. 821).

Self-report measures The most popular measure of the construct hostility is the Buss–Durkee Hostility Inventory (BDHI; Buss & Burkee, 1957; Eckhardt et al., 2004). This 75-item instrument consists of eight subscales: assault, indirect hostility, verbal hostility, irritability, negativism, resentment, suspicion, and guilt.

Although popular, there are various conceptual and psychometric inadequacies that mitigate against using the BDHI (e.g., poor reliability coefficients; see Biaggio, 1980). In lieu of the BDHI, a comparable measure, the Aggression Questionnaire (AQ), which corrected for these, is recommended (Buss & Perry, 1992).

The Aggressive Questionnaire (AQ) measures respondents' propensity for aggressive behaviors and their ability to resist engaging in destructive behavior (Buss & Perry, 1992). This 34-item, Likert-type, measure consists of five scales: physical aggression, verbal aggression, anger, hostility, and indirect aggression (i.e., expression of anger in the absence of confrontation). The AQ is superior to the BDHI in terms of "psychometric adequacy, conceptual clarity, and practical utility" (Eckhardt et al., 2004, p. 24).

The Novaco Anger Scale (NAS) is a measure of anger from an information-processing approach (Jones, Thomas-Peter, & Trout, 1999; Novaco, 1994). Respondents endorse statements about themselves that describe their experience of anger. The NAS is a two-part instrument. Part A consists of 48 items, rated on a three-part scale, that assess cognitive (e.g., hostile attitudes), arousal (e.g., feelings of tension), and behavioral indices (e.g., physical aggression). Part B, comprising 25 items, describes circumstances in which an individual becomes angry (e.g. being treated disrespectfully). Among other strengths, the NAS possesses excellent internal consistency (0.95, in both parts) and is highly accurate (94%) in discriminating between individuals referred for anger management treatment and nonclinical comparisons (Eckhardt et al., 2004; Jones, Thomas-Peter, & Trout, 1999).

The State-Trait Anger Expression Inventory (STAXI) is a measure of anger from a state-trait personality theoretical perspective (Spielberger, 1988). This Likert scale is comprised of 44 items. It assesses the intensity of the experience of anger and the extent to which hostility is a personality attribute. The STAXI has impressive psychometric properties and is useful in discriminating between violent and nonviolent groups (see Eckhardt et al., 2004, p. 28ff).

Behavioral assessment Research indicates that self-monitoring episodes of anger and aggressive behavior helps distinguish between individuals with problematic anger and those who experience less problematic, lower levels of anger (Deffenbacher, Demm, & Brandon, 1986; Deffenbacher & Sabadell, 1992). One of the simplest self-monitoring devices is a variant of that developed by Bijou and colleagues (Bijou, Peterson, & Ault, 1968). It consists of three columns: (1) antecedent, (2) behavior, and (3) consequence (see Figure 33.2). The Antecedent column is reserved for recording situations that trigger impulsive-aggressive behavior. Behavioral descriptions of what the impulsive-behavior looks like, is recorded under the Behavior column. Aggressive thoughts and self-statements are also recorded here. The interpersonal,

Antecedent	Behavior	Consequence
- guy cut me off in traffic	-I thought, "This f****** ***hole has no right!" - I fingered him and honked my horn	- he pulled over - we both got out - I punched him before he punched me - he went down and I kicked him in the back a few times - the cops came and I got arrested!

FIGURE 33.2 A self-monitoring form commonly used in assessing anger. Modeled after Bijou et al. (1968).

legal, and/or emotional consequences (e.g., guilt, remorse, embarrassment) are recorded under the column titled Consequence. See Heidt & Marx, 2003, for step-by-step guidelines in providing clients with the rationale of self-monitoring; how to operationally define behavioral targets; and how to instruct clients in recording instances of behavior and its consequences.

What Assessments are Not Helpful?

Projective tests, such as the Rorshach and Thematic Apperception Test (TAT) should not be used in assessing IED. They are simply not valid assessment instruments.

TREATMENT

What are Effective Self-Help Treatments?

Due to financial problems, unstable living arrangements, substance abuse, as well as other factors, attrition rates among male batterers ranges from 50% to as high as 90% (DeHart, Kennerly, Burke, & Follingstad, 1999; Grusznski & Carrillo, 1988; Rooney & Hanson, 2001). Many male batterers, of course, meet the diagnostic criteria for IED. While the above factors do not necessarily overlap with other groups that also meet these criteria (e.g., individuals who experience recurrent road rage), both groups share one thing in common: help-seeking is probably instigated by others (Howells & Day, 2003). As such, one might expect a certain degree of defensiveness and resistance on the part of clients who feel forced to undergo treatment (e.g., court-mandated therapy).

As it turns out, there is some evidence to suggest that highly resistant individuals tend to do better with self-directed versus therapist-directed activities (Beutler, 1991). One approach to overcoming resistance, therefore, is to employ self-directed bibliotherapy.

There are dozens of anger management self-help books on the market today. Several of these appear below. While based on cognitive-behavioral principles, readers should note that neither of these has been empirically validated, independently, or as part of a treatment package. Additionally, self-directed, relaxation exercises, on-line training, and home study programs are also included.

- Benson, H. (1975). *The relaxation response.* New York: Avan Books.
- Davis, M., Eshelman, E. R., & McKay, M. (1995). *The relaxation & stress reduction workbook* (4th ed.). Oakland, California: New Harbinger Publications.
- Ellis, A. (1994). *Anger: How to live with and without it.* New York: Carol Publishing Group.

- Ellis, A., & Tafrate, R. C. (1998). *How to control your anger before it controls you.* New York: Citadel Press.
- McKay, M., & Rogers, P. (2000). *The anger control workbook.* Oakland, CA: New Harbinger Publications.
- Nhat Hanh. Hanh, T. N. (2002). *Anger: Wisdom for cooling the flames.* New York: Penguin USA (a mindfulness approach to anger management).
- Potter-Efron, R. (1994). *Angry all the time: An emergency guide to anger control.* Oakland, CA: New Harbinger Publications.
- Schiraldi, G. R., & Kerr, M. H. (2002). *The anger management sourcebook.* New York: McGraw-Hill.
- William, D. (2001). *Overcoming anger and irritability.* New York: New York University Press.

Useful Informational Websites about Anger and Related Resources:

- http://www.apa.org/pubinfo/anger.html
- http://mentalhelp.net/psyhelp/chap7/
- http://www.services.unimelb.edu.au/counsel/issues/anger.html
- http://www.pe2000.com/anger.htm
- http://www.state.sc.us/dmh/bryan/webanger.htm
- http://www.apahelpcenter.org/featuredtopics/feature.php?id=38 (teen violence)
- http://www.long-beach.med.va.gov/Our_Services/Patient_Care/cpmpbook/cpmp-15.html (anger and chronic pain)
- http://www.anger-management-techniques.org/ (mindfulness approach to anger management)
- http://www.angerclass.com/ (online classes)
- http://www.angeronline.com/ (online classes)
- http://angermanagementonline.com/ (online classes)
- http://angermgmt.com/ (home study options available)
- http://www.ajnovickgroup.com/ (home study options available)

What Treatments are Effective?

Several meta-analytic reviews of anger management programs (i.e., cognitive therapy, cognitive-behavioral therapy, social skills training, and relaxation therapy—group and individual modes of delivery) have been published (Beck & Fernandez, 1998; Edmondson & Conger, 1996; Tufrate, 1995; Vecchio & O'Leary, 2004). All reviews demonstrated medium to large effect sizes for some aspects of anger, while small for others. Regarding explosive anger, cognitive-behavioral therapy (CBT), coupled with relaxation, appears to be the treatment of choice for anger expression problems (Edmondson & Conger, 1996; Vecchio & O'Leary, 2004). Moreover, as an added bonus, there is some evidence to suggest that combining relaxation with cognitive-behavioral therapies lowers attrition rates (Deffenbacher & Stark, 1992).

What is CBT?

CBT employs both cognitive and behavioral techniques in designing treatments. There are several assumptions underlying all CBT interventions. First, thoughts or beliefs, emotions, and behavior are interrelated. Behavior thus affects thoughts and feelings and thoughts and feelings affect behavior; they are inexplicably tied. Second, changing thoughts, beliefs, and/or behavior alters mood. Identifying and modifying negative or dysfunctional beliefs and/or engaging in more adaptive behavior, therefore, improves mood. Three, all CBT interventions employ similar techniques; the emphasis of which is on cognitive restructuring (Edmondson & Conger, 1996).

Cognitive restructuring. Cognitive restructuring (CR) is the core strategy in cognitive therapy and many cognitive-behavior therapies (Mahoney, 1977). It is a treatment technique aimed at directly modifying specific thoughts or beliefs that purportedly mediate maladaptive behavioral and emotional responding (Foa & Rothbaum, 1998; Last, 1989). According to several of these models, each emotion is believed to be associated with a particular thought or belief (e.g., Beck, 1995):

- Perceived danger or threat = *anxiety*
- Perceived loss of something crucial in one's life = *depression*
- Perceiving the actions of others as wrong or unfair = *anger*
- Perceiving the actions of oneself as wrong or unfair = *guilt*

The four major cognitive and cognitive-behavioral approaches, based on CR, are Beck's (1976) Cognitive Therapy (CT), Ellis's Rational-Emotive Therapy (RET; 1962; more recently, Rational-Emotive Behavior Therapy; REBT), Meichenbaum's (1977) Self-Instructional Training, and Burns's popular "Feeling Good" Therapy (1989). Let us turn to Ellis's Rational Emotive Therapy as an illustration of a CBT program that has been successfully used in treating anger and anger-related issues.

Rational-Emotive Therapy. Ellis's (1962, 1994) Rational Emotive Therapy (RET) "concentrates on people's current beliefs, attitudes and self-statements as contributing to or 'causing' and maintaining their emotional and behavioral disturbances" (Ellis et al., 1988, pp. 1–2). What logically follows, therefore, is the notion that *appropriate emotions* are preceded by *rational beliefs* and *inappropriate emotions* like hostility are preceded by *irrational beliefs* (Ellis, 1971). While the list of potentially irrational beliefs would seem endless, Ellis, McInerney, DiGiuseppe, & Yeager (1988) have narrowed it down to four, demandingness, awfulizing, human worth ratings, and low frustration tolerance (Ellis, 1994; Ellis et al., 1988):

1. *Demandingness*—the tendency to substitute demands for wishes, as mirrored in word choices such as "should," "ought," "must," and "have to" (e.g., "I must control my anger at all times").
2. *Awfulizing*—extreme and exaggerated negative evaluations of events—colloquially, blowing the situation way out of proportion (e.g., "My life is over if I don't get into college").
3. *Human worth ratings*—evaluations or denigrations of people including oneself (e.g., "Not being able to control myself makes me worthless to everyone in my life").
4. *Low frustration tolerance*—the perceived inability to withstand the discomfort of an activating event—activating events evoke emotional and behavioral responding (e.g., "I can't live another day").

From an Ellisian perspective irrational core beliefs ought to be disputed rationally. Cognitive disputations are attempts at changing the client's erroneous beliefs through persuasion, didactic presentations, Socratic dialogue, vicarious experiences, and other forms of verbally-mediated approaches (Ellis, 1962, 1971, 1994). In what follows are four major techniques, upon which irrational beliefs are disputed (Walen, DiGiuseppe, & Dryden, 1992):

- *Logical disputation questions*—(getting clients to evaluate the logical consistency or semantic clarity in their thinking) (p. 159). Example: Just because a person knows right from wrong does not *logically* follow that he or she must behave in accordance with these.
- *Reality-testing disputation questions*—(asking whether their beliefs are consistent with empirical reality). Example: Awfulizing beliefs can be challenged by asking such questions as (p. 161):

1. Where's the evidence . . . "that you blow every interaction?"
2. What would happen if . . . "you started to lose it and then caught yourself midstream?"
3. Let's be scientists. What do the data show?
4. What is the probability of a bad consequence, is it 2 to 1, 200 to 1, 2,000 to 1, etc.?

- *Pragmatic disputation questions*—(getting clients to assess the "hedonic" value—i.e., desire for pleasure and avoidance of pain—of their belief systems) (pp. 161–162). Example: The belief is used to regulate emotional upset.

Relaxation Many CBT anger management programs involve some form of relaxation. The rationale for employing relaxation is based on reciprocal inhibition theory (Wolpe, 1958). Namely, arousal is inhibited after pairing relaxation with anger-provoking stimuli. One simply cannot feel aroused and relaxed at the same time. Thus, on future occasions, there is a better chance that such stimuli will prompt a relaxation response versus intense anger.

Progressive muscle relaxation (PMR), using Bernstein and Borkovec's (1973) standardized protocol, and diaphragmatic breathing are recommended. PMR teaches clients how to discriminate between feelings of relaxation and arousal, by having them notice the physiological sensations as they systematically tense and release various muscle groups of their bodies. By improving self-awareness, clients are better able to recognize nascent arousal and employ self-soothing techniques before arousal escalates into an outburst. The following is the training sequence by which clients are taught to tense and release the various muscle groups (Bernstein & Borkovec, 1973, p. 25):

1. dominant hand and forearm,
2. dominant biceps,
3. nondominant hand and forearm,
4. nondominant biceps,
5. forehead,
6. upper cheeks and nose,
7. lower cheeks and jaws,
8. neck and throat,
9. chest, shoulders, and upper back,
10. abdominal or stomach region,
11. dominant thigh,
12. dominant calf,
13. dominant foot,
14. nondominant thigh,
15. nondominant calf,
16. nondominant foot.

Diaphragmatic breathing (DB) is also recommended, as it lends itself well to most situations and is relatively easy to learn (see Hazelett-Stevens & Craske, 2003, for a review of breathing techniques). For example, clients can employ DB when on the road or waiting in line—even during a potential altercation, before the situation gets out of hand.

The Structure of CBT-Relaxation-Augmented Therapies[3]

- *Sessions 1 and 2*: First, provide the rationale for CBT (e.g., how thoughts and behavior are related to mood), anger management, and relaxation (see below). Second,

[3] Recommendations are extrapolated from Deffenbacher and Stark (1992), Deffenbacher, McNamara, Stark, & Sabadell (1990), and Deffenbacher, Story, Brandon, Hogg, & Hazaleus (1988).

teach progressive muscle relaxation and diaphragmatic breathing. Third, instruct clients in how to elicit relaxing imagery, as they relax on their own. Fourth, homework involves self-monitoring anger-provoking situations (use the Antecedent-Behavior-Consequence form discussed earlier) and daily relaxation exercises. Review homework during the first half of the second session.

Sample anger management rationale script:

. . . earlier you told me that you often do impulsive things that have resulted in trouble for you . . . Many people say they do things like this because they react before they've had a chance to think about how the action will affect themselves or others. They also say that anger makes it harder to prevent them from doing impulsive behaviors that will get them in trouble . . . You will learn to recognize these feelings and thoughts early, when they are not as strong. This should enable you to do other behaviors that will keep you out of trouble. Do you have any questions? (Donohue & Cavenagh, 2003, p. 12).

Sample relaxation rationale script:

. . . relaxation training consists of learning to sequentially . . . relax various groups of muscles all through the body, while at the same time paying very close and careful attention to the feelings of . . . relaxation . . . in addition to teaching you how to relax, I will also be encouraging you to learn to recognize and pinpoint tension and relaxation as they appear in everyday situations . . . You should understand quite clearly that learning relaxation skills is very much like learning any other kind of skill such as swimming, or golfing, or riding a bicycle; thus in order for you to get better at relaxing you will have to practice doing it just as you would have to practice other skills. It is very important that you realize that . . . relaxation training involves learning on your part; there is nothing magical about the procedures. I will not be doing anything *to* you; I will merely be introducing you to the technique and directing your attention to various aspects of it, such as the presence of certain feelings in the muscles. Thus, without your active cooperation and regular practicing of the things you will learn today, the procedures are of little use . . . The goal of . . . relaxation training is to help you learn to reduce muscle tension in your body far below your adaptation level at any time you wish to do so . . . Do you have any questions about what I've said so far? (Bernstein & Borkovec, 1973, pp. 19–20, italics in original).

- *Session 3.* This session focuses on cognitive-restructuring. After reviewing homework assigned during the second session, follow Beck's (1995) or Ellis's (1962, 1994) cognitive-restructuring guidelines.
- *Sessions 4–8.* These sessions focus on the application of cognitive-restructuring and relaxation by having the client visualize difficult situations, depicting anger-provoking scenes. The techniques are used to reduce anger. Problem-solve with clients in preparing for angering events outside of the therapist's office. In vivo homework is also assigned, where clients place themselves in increasingly difficult, though manageable situations. Additionally, always review homework from the previous session. This sends the message that work outside the therapist's office is as important as what transpires in session.

What is Effective Medical Treatment?

The first-line of medical-pharmacological approaches to managing impulsive-aggressive behaviors is selective serotonin reuptake inhibitors (SSRI). In particular, fluoxetine (e.g., prozac) is gaining currency in primary care settings. SSRIs have been show to have an "antiaggressive" effect (i.e., reduction in violent behavior) on impulsive aggressive adults (Coccario & Kavoussi, 1997; Coccaro et al.,

1997). SSRIs typically take several weeks to take effect and remain in the body several weeks after discontinuing use (Silverman, 1998).

Patients who do not respond to an SSRI may respond to a mood stabilizer. An antiaggressive response in impulsive-aggressive adults and children has been reported for antipsychotic medications like lithium and quetiapine (Sheard, Marini, Bridges, & Wapner, 1976; Siassi, 1982), and several anticonvulsants (Barratt, 1993; Barratt, Stanford, Felthous, & Kent, 1997; Cowdry & Gardner, 1988; Donovan et al., 2000; Kavoussi & Coccaro, 1998; Walker, Thomas, & Allen, 2003). To a lesser extent, the β-adrenergic blocking agent, propranolol, has been used to treat episodic sudden outbursts of verbal abuse and physical violence (Jenkins & Maruta, 1987; Mattes, 2003).

Readers should note that alprazolam and amitriptyline are contraindicated in managing impulsive-aggressive behavior, as these have been shown to increase agitation (Gardner & Cowdry, 1985; Soloff, George, Nathan, Schulz, & Perel, 1986).

Many of the results from these and other drug studies should be interpreted with caution, as methodological concerns remain. Given that many experiments are case studies, subjects are not randomized to treatment conditions. Lack of randomized control trials limits internal validity. Moreover, sample sizes are often too small to make reasonable assumptions from the populations from which they were sampled. As such, small sample sizes place limits on external validity.

How Does One Select Among Treatments?

Patients should be well-informed about the extant evidence-based treatment options available, including psychological and medical interventions. Should clinicians elect to use medication treatment, possible side effects and drug interactions should be discussed with patients. If individual treatment is prohibitive, consider anger-management groups or bibliotherapy. In addition to a wealth of self-help books, there are a number of discrete, on-line options readily available. However, readers should not that, while bibliotherapy can be based on empirical principles, none of these has empirical support.

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