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## IMPULSE CONTROL DISORDERS

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### OVERVIEW OF IMPULSE CONTROL DISORDERS

Impulse control disorders are characterized by an individual's inability to control impulses that may be harmful to oneself or to others. The lack or loss of control is often distinguished by increased feelings of tension or anxiety prior to engaging in a behavior and feelings of relief or gratification afterward. While many psychological disorders may coexist with feelings of lack of control, such as substance abuse or obsessive compulsive disorder, impulse control disorders are defined mainly by this lack of control. In other words, an individual with another psychological disorder may demonstrate a marked inability to control impulses, but this inability is part of a larger pattern of maladaptive behavior within some other diagnosis.

Impulse Control Disorders Not Elsewhere Classified are listed in the *Diagnostic and Statistical Manual of Mental Disorders (DSM)* under Axis I Clinical Disorders and include intermittent explosive disorder (IED), kleptomania, pathological gambling, pyromania, and trichotillomania. Initially, this wide range of disorders may appear too diverse for a cohesive functional analysis, but upon critical investigation of behavioral functions, many psychologists will see similarities across the disorders.

### INTERMITTENT EXPLOSIVE DISORDER

IED is the inability to control recurring aggressive impulses. Individuals with this disorder demonstrate discrete violent outbursts significantly out of proportion with respect to the given situation. For example, an individual with IED may exhibit destructive aggression toward objects such as mutilating a family pet in response to small psychological stressors like being scolded by a parent for wearing muddy shoes in the house. Following such an outburst, the individual may express feelings of remorse or guilt, but there may also be feelings of tension reduction or release. Physiological sensations such as tingling or built-up pressure have been reported to coincide with such a sense of release. For example, McElroy, Soutullo, Beckman, Taylor, and Keck (1998) questioned 24 subjects with IED regarding such feelings of tension. Eighty-eight percent reported the experience of tension prior to their aggressive impulses, 75% reported experiences of relief following their outbursts, and 46% reported feelings of pleasure connected with the aggressive acts. However, with IED, unlike many of the other impulse control disorders, feelings of tension and relief are not required for a diagnosis.

According to the *DSM-IV*, IED is "characterized by discrete episodes of failure to resist aggressive impulses resulting in serious assaults or destruction of property" (American Psychiatric Association [APA], 1994, p. 609). The specific diagnostic criteria 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 episodes is grossly out of proportion to any precipitating psychosocial stressors (APA, 1994, p. 612). Additionally, other mental disorders should be excluded.

IED was first identified as a disorder in 1980 with its inclusion in the *DSM-III* (APA, 1980). The *DSM-III* and *DSM-III-R* definitions included an additional criterion for diagnosis. Not only did the individual need to exhibit several aggressive outbursts far in excess of the given situation, but the individual should also exhibit "no signs of generalized impulsiveness or aggressiveness between the episodes" (APA, 1987, p. 322). This additional requirement made the true diagnosis of IED extremely infrequent, and the *DSM-IV* broadened the category by excluding this criterion. However, even under the *DSM-IV*, the diagnosis is relatively narrow. Because there cannot be another diagnosis which better explains the aggressive behavior, IED appears to be quite rare. For example, out of 842 cases of episodic violent behavior reviewed for the *DSM-IV*, only 17 met IED criteria (Bradford, Geller, Lesieur, Rosenthal, & Wise, 1994). IED is thought to be predominantly exhibited in males, but it has been associated with menstrual cycles in females (McElroy et al., 1998). There is very

limited research on the life course of intermittent explosive disorder, but age of onset appears to be from late adolescence to the mid-30s (APA, 1994).

Despite *DSM* inclusion, some clinicians feel that IED should be considered a symptom of other psychological disorders (McElroy et al., 1998). Other clinicians feel that the *DSM-IV* criteria are too narrow and therefore preclude diagnosis of patients with impulsive aggression problems (Coccaro, Kavoussi, Berman, & Lish, 1998). In fact, these researchers have suggested a modified diagnostic category, Intermittent Explosive Disorder-Revised. This revision broadens the criteria found in the *DSM-IV*. For example, out of the 76 subjects studied who met the revised criteria, only 19 would have qualified for IED as defined by the *DSM-IV*. The following is the suggested diagnostic criteria for Intermittent Explosive Disorder-Revised (Coccaro et al., 1998):

- A. Recurrent incidents of verbal or physical aggression towards other people, animals, or property.
- B. The degree of aggressive behavior is out of proportion to the provocation.
- C. The aggressive behavior is generally not premeditated (e.g., is impulsive) and is not committed in order to achieve some tangible objective (e.g., money, power etc.).
- D. Aggressive outbursts occur twice a week, on average, for at least a period of 1 month.
- E. Aggressive behavior is not better accounted for by mania, major depression, or psychosis. It is not solely due to the direct physiological effect of a substance (e.g., drug of abuse) or of a general medical condition (e.g., closed head trauma, Alzheimer's).
- F. The aggressive behavior causes either marked distress (in the individual) or impairment in occupational or interpersonal functioning. (p. 369)

Individuals with IED have high rates of comorbidity with other psychiatric disorders, such as mood disorders, substance abuse, anxiety disorders, and eating disorders (McElroy, 1999; Olvera, 2002). The functional significance of this comorbidity is difficult to understand without a case-by-case analysis of which disorder preceded and perhaps caused the other disorder. Studies have suggested that individuals with this disorder may respond to serotonin reuptake inhibitors (SRIs) and mood stabilizers (McElroy, 1999; McElroy et al., 1998, Olvera, 2002). A case study of a young woman with autism, mental retardation, IED, and bipolar mood disorder showed clinically significant reductions in problem behavior while on risperidone (Yoo et al. 2003). However, response rates and time to task completion during a matching task were reduced as well. These undesirable reductions in response rate were lessened in comparison to a nonreinforcement condition by a continuous schedule of tangible reinforcement. This suggests that behavior producing strong reinforcement may be less influenced by

pharmacological treatment. Thus, it appears that clinicians should consider functional consequences for behavioral challenges and not rush toward applying or continuing medications that may have been administered based on nonfunctional assessments.

### KLEPTOMANIA

Kleptomania is characterized by the recurrent inability to resist the impulse to steal items that are not desired for financial gain or individual use. For example, persons with kleptomania may steal a candy bar and simply throw it away afterward, while having enough money in their pocket to pay for the item if they wanted to. According to the *DSM-IV*, kleptomania is “characterized by the recurrent failure to resist impulses to steal objects not needed for personal use or monetary value” (APA, 1994, p. 609). The specific diagnosis criteria are (a) recurrent failure to resist impulses to steal objects that are not needed for personal use or for their monetary value, (b) increasing sense of tension immediately before committing the theft, (c) the stealing is not committed to express anger or vengeance and is not in response to a delusion or a hallucination, and (d) the stealing is not better accounted for by conduct disorder, a manic episode or antisocial personality disorder (APA, 1994, p. 613).

Persons with kleptomania, like other impulse control disorders, will often describe a feeling of tension prior to taking the item, followed by a sense of release or gratification after the act of stealing has been completed. If an individual with kleptomania reports such feelings, automatic reinforcement may be considered as a possible maintaining reinforcer for this individual. Kleptomania is quite separate from shoplifting, in which individuals steal items because of the monetary value or personal gain, and in shoplifting the act is often preplanned. Individuals with kleptomania are aware the act is wrong and often feel guilt following stealing. They also frequently feel anxiety regarding possible apprehension. The *DSM-IV* describes three typical courses of the disorder: (1) “sporadic with brief episodes and long periods of remission;” (2) “episodic with protracted periods of stealing and periods of remission;” and (3) “chronic with some degree of fluctuation” (APA, 1994, p. 613). According to the *DSM-IV*, other disorders are commonly comorbid with kleptomania. These disorders include mood disorders, anxiety disorders, eating disorders, and personality disorders.

Kleptomania is thought to be quite rare and to have a much higher incidence in women (APA, 1994). According to the *DSM-IV*, kleptomania occurs in less than 5% of identified shoplifters. There is little experimental research on psychopharmacology and kleptomania. However, case studies have indicated that SSRIs may be beneficial. In fact, Dannon (2002) reported positive results in 19 out of 30 cases.

### PATHOLOGICAL GAMBLING

Pathological gambling is the recurrent, irrepressible urge to gamble. Individuals with this impulse control disorder persist in gambling despite devastating cost to relationships and employment. The diagnosis is not based on the amount of money spent or lost; it is determined by the exhibited lack of control and the effect on quality of life. It is often characterized by preoccupation with betting and feelings of tension, followed by feelings of excitement and release. Although, as noted with IED, these feelings of tension and relief are not required for a diagnosis.

Pathological gambling was first included in the *DSM-III* in 1980. The *DSM-IV* defines pathological gambling as the inability to resist gambling to such a level that it interrupts major life activities. For example, a pathological gambler may destroy marital relationships by opening lines of credit in the spouse's name in order to raise more money for gambling. The specific diagnosis criteria are as follows:

- A. Persistent and recurrent maladaptive gambling behavior as indicated by five (or more) of the following:
  - 1) Is preoccupied with gambling (e.g., preoccupied with reliving past gambling experiences, handicapping or planning the next venture, or thinking of ways to get money with which to gamble)
  - 2) Needs to gamble with increasing amounts of money in order to achieve the desired excitement
  - 3) Has repeated unsuccessful efforts to control, cut back, or stop gambling
  - 4) Is restless or irritable when attempting to cut down or stop gambling
  - 5) Gambles as a way of escaping from problems or of relieving a dysphoric mood (e.g., feelings of helplessness, guilt, anxiety, depression)
  - 6) After losing money gambling, often returns another day to get even ("chasing" one's losses)
  - 7) Lies to family members, therapist, or others to conceal the extent of involvement with gambling
  - 8) Has committed illegal acts such as forgery, fraud, theft, or embezzlement to finance gambling
  - 9) Has jeopardized or lost a significant relationship, job or educational or career opportunity because of gambling
  - 10) Relies on others to provide money to relieve a desperate financial situation caused by gambling.
- B. The gambling behavior is not better accounted for by a Manic Episode. (APA, 1994, p. 618)

Pathological gamblers have a higher incidence of mood disorders; attention deficit hyperactivity disorder; substance abuse or dependence; and antisocial, narcissistic, and borderline personality disorders (APA, 1994).

The *DSM-IV* reports that pathological gambling may be prevalent in 1–3% of the adult population. Shaffer, Hall, and Vander Bilt (1999) conducted a meta-analysis of 119 studies. They estimated that 3.9% of the population in North America would be considered at-risk gamblers and

that 1.6% would be considered pathological gamblers. Pathological gambling usually begins in early adolescence for men and much later in life for women. The National Research Council (1999) has conceptualized four levels of gambling, which are gaining in popularity as a means by which to examine gambling severity. Level 0 is no gambling. Level 1 describes individuals who gamble socially or recreationally. Level 2 applies to individuals who have developed some gambling-related problems, and Level 3 is used to classify those individuals with pathological gambling. These levels are usually assessed via self-report or interview.

There is very little experimental research on pharmacological approaches to treating pathological gamblers. SSRIs, mood stabilizers, and opioid antagonists have all been used with somewhat promising results, but large, placebo-controlled studies are needed. As of yet, no medication has been approved by the Food and Drug Administration for the treatment of pathological gamblers (Hollander, Kaplan, & Pallanti, 2004; Petry, 2005).

### PYROMANIA

Pyromania is the uncontrollable impulse to set fires in which the gratification results from the fire itself and not for any other motive such as vandalism, hiding a crime, or financial gain. Individuals with pyromania are fascinated by fire and often actively participate in the aftermath of the fires they set by helping the firefighters and talking to victims, etc. As with other impulse disorders, the individual reports feelings of tension prior to setting the fire, followed by a sense of relief or pleasure after the act. However, unlike individuals with other impulse control disorders, individuals with pyromania may prepare for the fire setting in advance. For example, a person with pyromania may scope out an abandoned warehouse weeks before the actual act of setting a fire. Therefore, the clinician should seek to understand not only the functional relations of the fire setting event itself, which may be somewhat too late in terms of intervention, but also the preparatory behaviors such as scoping out the warehouse.

The *DSM-IV* defines pyromania as failure to resist urges to purposely start fires. Such individuals experience preoccupation with fire, the consequences of fire, and activities related to fires. Setting the fires may supply relief or gratification related to tension felt prior to the act. The specific diagnosis criteria are as follows:

- A. Deliberate and purposeful fire setting on more than one occasion.
- B. Tension or affective arousal before the act.
- C. Fascination with, interest in, curiosity about, or attraction to fire and its situational contexts (e.g., paraphernalia, uses, consequences).
- D. Pleasure, gratification, or relief when setting fires, or when witnessing or participating in their aftermath.

- E. The fire setting is not done for monetary gain, as an expression of sociopolitical ideology, to conceal criminal activity, to express anger or vengeance, to improve one's living circumstances, in response to a delusion or a hallucination, or as a result of impaired judgment (e.g., in Dementia, Mental Retardation, Substance Intoxication).
- F. The fire setting is not better accounted for by Conduct Disorder, a Manic Episode, or Antisocial Personality Disorder. (APA, 1994, p. 615)

The *DSM-IV* simply notes that "pyromania is apparently rare" (APA, 1994, p. 614). This lack of prevalence data could be due in part to the little research differentiating pyromania from general fire setting. For example, in 2002, children playing with fire resulted in 13,900 fires, 210 deaths, and \$339 million in damages (Hall, 2005), yet pyromania in childhood is considered to be rare and is usually linked with conduct disorder, attention deficit hyperactivity disorder, or adjustment disorder rather than pyromania (APA, 1994). Pyromania occurs more often in males, and fire-setting incidents may be episodic and infrequent (APA, 1994).

### TRICHOTILLOMANIA

Trichotillomania is the inability to control the impulse to pluck out one's own hair. It is characterized by significant, visible hair loss; feelings of tension prior to the act; and feelings of release or gratification after. Also, the plucked hairs are often repeatedly manipulated. For example, the individual may twist the hair around fingers or rub the hair against the skin. The individual may also eat the hair (trichophagia), which may lead to vomiting, abdominal pain, and constipation. Hair is typically pulled from the head, but eyebrow and eyelash plucking is also common. Hair may also be pulled from the arms, legs, or pubic area. See Chapter 8, "Tic Disorders and Trichotillomania", by Miltenberger, Woods, and Himle for a detailed discussion of hair pulling.

### FUNCTIONAL ASSESSMENT AND ANALYSIS

The understanding of behavioral function of an impulse control disorder should be approached the same way a clinician would attempt to understand the function of any other psychological disorder. Efforts should be made to minimize hypothesizing, speculation, and construction of inferences about the internal causes of behavior. Instead, the clinician should strive for objective definitions of the targeted behavior and look to external events in the environment which may be responsible for the emission of the disorder. Although client-specific personalities, histories, and mental states may play a role in the manifestation of an impulse control disorder, the clinician should look to the external environment as much as possible

when identifying function. Too much emphasis on internal mechanisms that may underlie the behavior will not be useful when attempting to produce behavior change as readily as if external agents are of central focus.

When the clinician seeks to identify external agents or environmental stimuli that may be functionally related to the impulse control disorder of interest, that clinician should examine to what degree the following functional relationships exist. First, does the behavior have an attention or social reinforcement function to it? For example, does the pathological gambler tend to gamble only with a group of friends on Friday night and never by him/herself any other time of the week? If this appears to be the case, perhaps the behavior is maintained by the social reinforcement of the card game itself, and not necessarily the amount of money that is won by the client. Second, does the behavior have an escape or removing oneself from demands placed upon function? If this appears correct, then the clinician may learn that the pathological gambler he/she is treating is only relapsing into gambling episodes upon being given longer hours at work, which result in anxiety and stress, and gambling reduces these feelings. Third, does the behavior have an automatic or sensory function which seems to be maintaining it? Here, a clinician may discover that the pathological gambler finds him/herself very much physiologically aroused when entering into a casino. The gambler speaks of his/her heart racing and enjoying the thrill of the game. Fourth, does the behavior occur to gain access to other items or places? In other words, does the behavior seem to have a tangible component maintaining it? In the case of the problem gambler, the clinician may discover that the behavior occurs in response to seeking out free buffet tickets, offers for drawings for a new car, and in response to wanting to go on vacation to somewhere warm, such as Las Vegas. While the noted functions are often considered independently, and perhaps only one may maintain an impulse control disorder, it is very possible that a combination of more than one type of function could sustain the disorder. In such a case, the clinician will need to identify the various functional relations and design treatment strategies to address each of these functions independently.

The rather infrequent emission of the targeted behaviors described under impulse control disorders results in very difficult means by which the clinician can attempt to understand functional relations. As opposed to other types of psychological disorders, impulse control disorders involving the reoccurrence of severe problem behaviors (i.e., starting a fire, or gambling an entire family estate) may be very destructive even with just one instance. Therefore, the clinician needs to quickly and accurately gain an understanding of the antecedents, contextual stimuli, and consequences which surround the problematic behavior or chains of behavior that lead up to the target behavior. Direct observation of the behavior may or may



not be possible, and thus the clinician often needs to use less objective measures in searching for function.

## INDIRECT ASSESSMENT

### Questionnaires

A fair number of possible techniques and indirect assessments can be used with impulse control disorders. Many questionnaires are designed to help assist the clinician better understand the nature of behavior for their specific client. These questionnaires may take the form of "Yes" or "No" responses (e.g., Lesieur, & Blume, 1987), Likert-type ratings on scales from 1 to *n* (e.g., DeCaria et al., 1998), or open-ended questions regarding severity and potential function (e.g., Kolko & Kazdin, 1989b). For example, the South Oaks Gambling Screen (SOGS; Lesieur & Blume, 1987) is a questionnaire with 20 items based on the *DSM* criteria for pathological gambling. However, if the clinician's primary objective is to assess function of the behavior, most questionnaires will need to be supplemented with additional assessments, as in general, they do more to establish severity or history, and less to shed light on behavioral function.

In addition to the diagnosis-specific questionnaires, a few published items, although initially developed for persons with severe mental retardation, hold promise as potentially useful for persons with impulse control disorders. The *Motivation Assessment Scale* (MAS; Durand & Crimmins, 1988) is a 16-item behavior rating scale scored on a 7-point scale anchored by the options "Never" and "Always." The MAS identifies function in four categories of behavior: attention, tangible, escape, and sensory. The questions involve such inquiries as Does the behavior occur when no one else is around, or does the behavior occur when the person is asked to do something that he/she may not like? Each type of question is designed to address a potential behavior function. In the previous examples, the first type of question may, if answered as "Never," be able to rule out a potential sensory function that the behavior might serve, and the latter type of question would, if answered similarly, potentially rule out an escaping from demand function of the behavior. The MAS may be completed by the therapist, the clients themselves, or by other people who are well acquainted with the behavior in question. The *Questions About Behavior Function* (QABF; Matson & Volmer, 1995) is a questionnaire initially designed for people with mental retardation which evaluates the maintaining effects of attention, escape, tangible, physical discomfort, and nonsocial reinforcement. Questions and response options are similar to that of the MAS, yet the QABF items are scored on a 5-point scale. The QABF has successfully identified the function of self-injurious behavior, aggression, and stereotypic movements in 84% of subjects in a study of nearly 400 people with mental retardation (Matson, Bamburg, Cherry, & Paclawaskyj, 1999).

Questions from both of these scales are rather similar and seek to examine what possible primary function a behavior may serve. For example, "Does the behavior occur while you (or client) are alone?" A response to this question with the extreme of "Always" or "Often" may lead a clinician to deduce that perhaps the target behavior in question is maintained by something other than the social reinforcement it might have if emitted in the presence of peers or loved ones that repeatedly attended to the emission of the behavior.

Additional questionnaires that were designed for various other clinical populations or to assess various personality traits or states may also be useful with persons with impulse control disorders. For example, persons with kleptomania have been noted to score significantly higher on novelty-seeking scores and harm-avoidance scores than matched control subjects on the Tridimensional Personality Questionnaire (Grant & Kim, 2002), and pathological gamblers tend to show higher than normal scores for depression on the Diagnostic Inventory for Depression (Black & Moyer, 1998). Comorbidity within the diagnostic class of impulse control disorders (i.e., pathological gambling and kleptomania [Kim & Grant, 2001]) and across diagnosis classes (i.e., pathological gambling and bipolar disorder [Linden, Pope, & Jonas, 1986]) is common and should be assessed by the clinician as much as possible.

### **Self-Report**

Self-report is one additional means by which function is assessed in impulse control disorders. Often, the secretive and infrequent nature of many of the behaviors associated with impulse control disorders make retrospective self-report a very practical, although limited, way to assess function. It is practical because often the individual is the only person present when the target behavior occurs, but it is limited because there are some concerns regarding the accuracy of self-report. One way to offset this potential limitation is to ensure that self-reports of decreasing levels of the target behavior are not differentially reinforced. Rather, the individual's accurate self-reporting should be reinforced. Furthermore, incorporating self-report-dependent measures into other assessment methods may hold added benefit for the client. As the client begins to learn to discriminate the antecedent conditions which may be responsible for the targeted behavior's emission, he/she may learn to act in ways to potentially minimize those conditions or find functional replacement behaviors.

### **Interviews**

While the clinical interview technique is something that will vary across therapists and will be rooted in each clinician's theoretical orientation, a number of structured or guided interview methods exist and can be helpful in gaining a greater functional understanding of the behavior problem of

interest. It is very common for two therapists to disagree on the occurrence or nonoccurrence of a psychological disorder, in part due to inadequateness of diagnostic criteria and in part to the lack of standardized questions offered to patients (Segal & Falk, 1998). The behavioral interview for gaining a functional assessment of the behavior in question will focus heavily on understanding the antecedents, establishing operations, setting events, and history of the problem, as well as the consequences which the behavior may serve. To do this, the clinician must guide questions to the client along the lines of objective definitions and environmental events. This may require reframing common questions which occur in traditional clinical interviews. For example, instead of asking the client *"How do you feel when starting fires?"* the clinician should seek to discover functional relationships via questioning such as *"What seems to happen immediately before you want to start a fire?"* or *"What happens to you immediately after a fire has been set?"* Questions may also assess the magnitude of the disorder such as *"How long has this behavior occurred?"* *"Has it increased in frequency?"* and so on. Again, the focus of these questions during the interview should be along the lines of objective measures by which to evaluate function.

The structure of the interview, regardless of specific impulse control disorder, should take a general format of a brief introduction, the assessment, and a brief closing. During the introduction, the clinician should recap the problem behavior which has brought the client into treatment. The clinician should summarize all of the information about the client that he/she currently has and ask the client to provide missing pieces to that initial information. Detailed questioning about functional relations should be left until initial rapport has been developed between parties, and reassurance should be given that the clinician is there to help. During the assessment period of the interview, the clinician should seek out means by which the client can describe the antecedents and consequences of his/her behavior of concern. At this time the therapist should explore severity, intensity, history, and triggers of the problem behavior, but also as carefully explore the conditions under which the problem behavior does not occur. In other words, what are some of the places, people, and events that result in the problem not occurring? Such information will be useful when attempting to discover methods and strategies that can be used for treatment. During the closing of the behavioral interview, the clinician should summarize the information gathered during the interview, including initial analyses of the functional relationships that exist for the problem behavior. The clinician should stress the importance of seeing the problem as not an internal flaw of personality of the person, but rather as an example of how situations in that person's life can arise which lend themselves to the problem behavior occurring. The clinician should console the patient and inform him/her that there are others with similar disorders, and while

difficult, behavior change can occur, and this will be the focus of subsequent therapy sessions.

A number of guided behavioral interviews have been developed for the functional assessment of impulse control disorders. With respect to childhood pyromania, Kazdin and Kolko developed a series of interviews that may detect severity and function of the disorder. They include the *Fire Setting History Screen* (Kolko & Kazdin, 1988), whereby the clinician would interview both child and parent or caregiver; the *Fire Setting Risk Interview* (Kolko & Kazdin, 1989a), which is designed primarily for the caregiver; and the *Children's Fire Setting Interview* (Kolko & Kazdin, 1989b), which is targeted directly at the suspected child. Such screening interviews, while designed for children with the disorder, may be worthy of attempts at revising to serve the adult population.

The *Gambling Behavior Interview* (GBI; Stinchfield, Govoni & Frisch, 2005) and the Structured Clinical Interview for Pathological Gambling (SCI-PG; Grant, 2001) both have high inter-rater reliability and content validity with the *South Oaks Gambling Screen*. The latter also has discriminant validity with anxiety and depression. It is also quite common for clinicians to utilize more general psychological interviews, while not specific for impulse control disorders, that may hold insight to eventual diagnosis (e.g., Baylé, Caci, Millet, Richa, & Olié, 2003).

## DIRECT ASSESSMENT

### Direct Observation

Direct observation provides a number of advantages over the more indirect methods of questionnaire and interview-based assessments. First, direct observation allows the clinician to objectively assess the behavior, the events which preceded the emission of the behavior, and the consequences which follow from it. Questionnaires may not be specific enough to target specific incidents of problem behavior emission, and interviews may fail to uncover critical variables that were undetected by the client. Second, any of the indirect assessments require the client to remember what occurred, when it occurred, and hypothesize causes for why it occurred. Such issues are prone to distortion and perhaps even bias from the client. The direct observation method removes such artifacts in the assessment process and allows the clinician to independently assess the critical features of the behavioral episode.

Direct observation may take one of a variety of forms, from the clinician physically traveling with the client to observe the performance of the behavior in question, to videotaping of the client at high-risk times such that upon retrieval of the video, an observation may be made and behavioral functions could be deduced. Self-observation of the behavior may occur whereby the client him/herself records the behavior of interest and

the variables which surround the episode of emission. Potential limitations to direct observation include the rate in which the behavior may occur and the often secretive nature of many impulse control disorders. Before ruling out direct observations, clinicians should attempt to identify the specific features of the disorder for their individual clients. It may be the case that fire setting is frequent enough that a parent may be able to capture multiple events on a video camera in a room or that hair pulling is exhibited in public, although at low rates. Thus, it may be difficult, but not impossible, to assess such behaviors in their natural environment via direct observation.

Direct observation has great utility for the assessment of impulse control disorders. Yet, unstructured direct observation alone cannot yield causality regarding the functional relations for a given behavior. The clinician can only make hypotheses about what antecedents and consequences appear to be sustaining the behavior. For example, upon witnessing a client steal three times over the course of a week, the clinician notes that his/her client appeared physically out of breath prior to the incident and, upon completing the act of stealing, appeared to be visually calmer. That clinician can deduce that perhaps anxiety reduction is the function of the stealing, yet, without an actual manipulation of environmental variables, which is the essence of an experimental analysis, only hypotheses can be made about behavioral function. Given the nature of many impulse control disorders, direct observation may be the closest approximation to identifying behavioral function that a clinician can attain. Such an approximation can be very useful when treating an impulse control disorder, but should be taken only as a tentative function until behavior change is clearly displayed by the client.

### EXPERIMENTAL ANALYSES

There is a general lack of experimental methods for assessing the functions of impulse control disorders. The rarity of the disorders and the ethical and potential dangerous nature of some of the behaviors limit true experimentation. For example, episodes of intermittent explosive aggression may cause harm to the individual or to others. Thus, there are serious ethical concerns regarding the experimental manipulation of such behaviors and situations. There has been some research that addresses the ethical dilemma of experimentally encouraging potentially damaging behavior by having the subject don protective equipment during the functional analysis (Borrero, Vollmer, Wright, Lerman, & Kelley, 2002; Le & Smith, 2002). However, Borrero et al. found that such protective equipment suppressed levels of trichotillomania and head hitting so much that the functions of the behavior could not be determined. (The authors do suggest that such protective equipment could be used as a potential intervention.)

There has been some debate regarding the potential of analogue situations in determining the function of these behaviors. However, it is thought that they may be too different from the location where the behavior takes place to use them to experimentally demonstrate functions of the behavior. There also has been some research on using biofeedback to determine the level of arousal of those with impulse control disorders.

### **Pyromania**

It would be difficult to do a functional analysis of pyromania because of the low frequency and danger of the target behavior. Jackson, Glass, and Hope (1987) attempted to overcome this limitation by reviewing the possible functions of fire setting. These authors identified three antecedent conditions ("psychosocial disadvantage, general dissatisfaction with life and the self, and ineffective social interaction" [p. 176]) as well as the potential classical conditioning pairing of the exciting results of the fire (fire trucks, sirens, etc.) and the stimulation resulting from these consequences with the actual fire. They also emphasized that the infrequent occurrence of the fires may prevent satiation to this stimulation. The authors suggested that simple educational strategies and focusing on the fire-setting behavior itself are not likely to be successful treatment strategies because they discount the influences of antecedents and consequences. They also asserted that punitive approaches may be detrimental because they encourage secretive fire-setting behavior.

Jackson, Glass, and Hope's model suggests that examining social influences and self-control in the fire setter would be beneficial as well as looking at the development of pyromania compared to normal fire play. These authors hoped that their speculative analyses would lead to more empirically driven research. Unfortunately, experimental studies of the function of impulse control disorders are still quite rare.

One such empirical study (Last, Griest, & Kazdin, 1985) looked at heart rate and skin potential as measured by a polygraph on a child who set fires. The study had the child look at slides depicting fire-related stimuli or non-fire-related stimuli. The subject also rated the stimuli on four dimensions (excitation, fearfulness, pleasantness, and ability to attend to slide). Following the presentation of each slide, the subject was asked to write down five words he associated with the slide. He also verbalized his thoughts during the presentation of each slide. The researchers found that the fire stimuli elicited greater skin potential responses that exceeded baseline and nonfire stimuli responses. However, heart rate was lower during the fire stimuli. The word-listing procedure indicated that the fire-related stimuli elicited negative statements such as "it's awful" or "I hate it." The authors suggested that these responses may be due to the subject's history of punishment with fire-setting behavior. Unfortunately, the researchers were not able to implement a treatment based on this assessment because the subject

left the facility. However, they did suggest that an exposure based treatment may have been effective in reducing the physical symptoms of arousal in the presence of the fire-related stimuli.

This type of research may be potentially important because it is a way to objectively measure the *DSM-IV* criteria of feelings of building tension, followed by feelings of relief in kleptomania, pyromania, and trichotillomania.

### **Other Impulse Control Disorders**

Perhaps the most commonly studied impulse control disorder is trichotillomania (see Chapter 8 by Miltenberger, Woods, and Himle for a detailed discussion of experimental functional analysis in trichotillomania). Unfortunately, functional analyses of other impulse control disorders are quite rare in the literature. In one example, Keeney, Fisher, Adelinis, and Wilder (2000) conducted a functional analysis of a woman with intermittent explosive disorder and mental retardation. They found that her aggression and self-injurious behavior were maintained by both negative reinforcement (escape from demands) and positive reinforcement via attention. Such experimental analyses of impulse control disorders have clear implications for treatment (as discussed in the following sections), and it is unfortunate that these examinations are not more prevalent in the literature.

## **FUNCTION-BASED INTERVENTIONS**

The key means by which the clinician should approach intervening on an impulse control disorder is to identify function and then replace the targeted behavior of concern with a more adaptive positive behavior that serves the same function. For example, if it was identified that a child pyromaniac engaged in the behavior of fire setting to gain social attention from his/her parents, perhaps even in the form of negative social attention of being scolded and asked repeatedly "Why are you doing this?" then the clinician should attempt to teach the parents ways in which they can provide the same form of attention to the child for non-fire-setting behaviors. Perhaps with a large number of children, this client gains significant amounts of attention only when setting fires in the home. The challenge for the parents and clinicians is to identify times and behaviors for this child that will yield significant amounts of attention while fire setting yields only the minimal safety precautions. Such an intervention, termed differential reinforcement for alternative or other behaviors, has increased in usage in the behavioral literature. Replacing the reinforcing consequences for the behavior of concern with identical consequences for an alternative behavior is not limited to treatment of impulse control disorders, yet this

being said, such an intervention works appropriately within this syndromal classification.

If the clinician considers that functional intervention that rests on the results of the functional analysis is the key to treatment of impulse control disorders, the wide varying topographical nature of this disorder classification becomes a moot point. Instead, the clinician should seek to target function and treat the behavior based on function, and this should be the underpinning clinical philosophy. What will follow is that the kleptomaniac, pathological gambler, and intermittent explosive person all receive similar treatment on one level—that treatment is going to be based on the nature of the maintaining variables which sustain their disorder.

For example, Keeney et al. (2000) used the information obtained in their functional analysis of a woman with intermittent explosive disorder to develop a response cost contingency. The response cost consisted of the women receiving continuous access to highly preferred stimuli (either attention or music) unless she engaged in aggression or self-injurious behavior. Under these procedures, destructive behavior still produced escape, one of the conditions identified by the functional analysis as increasing the woman's destructive behavior, but it also resulted in the loss of music or attention. This response cost-effectively reduced her escape-maintained behavior. A clinician could use a similar treatment for behavior maintained by both negative reinforcement (escape) and positive reinforcement (attention or tangible) whether that behavior was aggression in the case of an individual with intermittent explosive disorder or fire setting in the case of a pyromaniac.

While functional interventions are approached similarly throughout this diagnosis class of impulse control disorders, the clinician should understand that the treatment from one client to the next within a diagnosis will differ based on function. Treating one pathological gambler with anxiety reduction and guided imagery will not necessarily work for another pathological gambler who may be gambling for increased socialization with peers. Treating all persons within a diagnostic class identically not based on function will yield poor clinical significance and weak treatment utility. A clear example of this is the homogeneous treatment approach of Gamblers Anonymous for pathological gamblers, which yields a mere 8% success rate of nongambling after 1 year (Stewart & Brown, 1988).

Petry (2005) presented a very promising functional intervention approach for the treatment of pathological gambling. The approach involves one-on-one therapy between client and clinician, whereby over the course of an eight-week period the client learns to identify the functional relations which may be maintaining his/her problem behavior. Specifically, the therapist prompts the client to identify the antecedents for gambling and when those antecedents occur most often. Interestingly, the therapist also instructs the client to identify antecedents for not gambling, like getting



busy at work or having a relative visiting from out of town. Teaching the client that there are in fact triggers for both gambling and nongambling behavior is noted as key to learning that gambling, even for the most addicted person, does not happen all the time. Similar techniques for understanding the consequences of gambling are used, whereby the clinician probes the client to describe the immediate consequences of gambling. Sometimes these consequences may be good, such as the person won some money, or bad, such as when they person lost and could not pay his/her bills. Yet, the clinician also probes for the long-term consequences of the gambling event, and often, if not always, those consequences are negative. Once the gambler discovers the functional relations of why gambling behaviors occur along with what happens down the road after gambling, treatment improvements are often reported (Petry, 2005).

### CASE STUDY

The following case study illustrates the need for effective assessment and treatment of an impulse control disorder of a pathological gambler. Excessive gambling can appear on the surface as a problem with money management or a behavioral addiction. In fact, as this case example demonstrates, it can be a problem with self-management of anxiety. Given the heterogeneity of functions across these diagnostic labels, many other interventions may be possible for impulse control disorders.

Pat was a 45-year-old male with a 20-year history of excessive gambling. Pat realized that he had been gambling more than he should occasionally for the past 20 years, but only recently sought out professional treatment. Upon entry into a treatment facility, Pat underwent an intake which consisted of a structured interview and standardized questionnaires. Specifically, Pat was asked to complete the *South Oaks Gambling Screen* (Lesieur & Blume, 1987), the *Yale-Brown Compulsive Scale Modified for Pathological Gambling* (DeCaria et al., 1998), and the MAS (Durand & Crimmins, 1992), which was modified to assess gambling functions (Dixon, 2005). These administrations took approximately 1 hr to complete and were followed with the *Structured Clinical Interview for Pathological Gambling* (SCI-PG; Grant, 2001), which all taken together proceeded to provide a greater understanding of behavior function. The following are excerpts from the initial meeting with the client:

*Clinician:* Thank you for coming in today Pat and beginning the first step towards the treatment of your excessive gambling. As I recall from our phone conversation last week, you are interested in therapy for the treatment of your problem gambling. Before we begin the treatment process let me ask you to walk through

a few questionnaires with me regarding the severity [i.e., as measured by the SOGS], the degree to which you have control of your gambling [i.e., as measured by the Yale-Brown], and possibly the reasons or triggers that make you want to gamble [i.e., as measured by the MAS-revised].

After completion of the questionnaires and the structured interview, this initial session concluded with the therapist stating:

*Clinician:* I will further explore your responses to these questionnaires and interview by the time we get together and meet next week for our first formal therapy session. The reason why we had you complete these instruments Pat was to get a better understanding of you and your gambling, because the reasons why people gamble are all different. We need to get a clear understanding of why you gamble, and customize the treatment for you individually. Over the next week, I would like you to complete the following form [see Figure 20.1] which will allow you to rate on a scale of 1 to 10 your degree of control you had over your gambling for that day, as well as the following form which allows you to place a checkmark in the box each day you did or did not gamble [see Figure 20.2]. Don't worry about days that you gambled or felt like your gambling was out of control.

DATE: _____											
Today it felt like I had											
1	2	3	4	5	6	7	8	9	10		
NONE				SOME							TOTAL
much control over my gambling.											
DATE: _____											
Today it felt like I had											
1	2	3	4	5	6	7	8	9	10		
NONE				SOME							TOTAL
much control over my gambling.											
DATE: _____											
Today it felt like I had											
1	2	3	4	5	6	7	8	9	10		
NONE				SOME							TOTAL
much control over my gambling.											
DATE: _____											
Today it felt like I had											
1	2	3	4	5	6	7	8	9	10		
NONE				SOME							TOTAL
much control over my gambling.											

FIGURE 20.1 Self-recording form for patient with the impulse control disorder of pathological gambling.

DAY	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7
Sun	X	X	X				
Mon	X	X	X				
Tues	!!!!	!!!!	X				
Wed	X	X	X				
Thurs	!!!!	!!!!	!!!!				
Fri	X	X	X				
Sat	X	X	X				

**Instructions:** For each day, place an X in the box for days you did not gamble, and fill the box in with!!!! for days in which you did gamble. Remember, it does not matter how good or bad your sheet looks. Just be honest with yourself.

**FIGURE 20.2** Homework form for recording days gambled and not gambled by a client in treatment for pathological gambling.

It does not matter. What matters instead is that you record these things honestly so that we can get a good idea of what is going on with you each day.

Upon the completion of the 2 hr of initial intake, Pat was scheduled for eight weeks of one-on-one intensive behavioral therapy (Petry, 2005) in which he attempted to gain a greater understanding of the functions to which his excessive gambling behavior served and possible means by which his problems with gambling could be resolved. During the initial weeks in therapy, Pat learned a great deal about some of the environmental events that may have been functionally related to his problem gambling behavior. His gambling behavior appeared to be negatively reinforced by escape from stress and the demands at his job or home life. The clinician presented Pat with homework, which gave him the opportunity to self-record his own gambling behavior and the antecedents and the consequences of that behavior (see Figure 20.3). For example, upon his return to therapy in a subsequent week, Pat discussed his homework with the therapist and was surprised to see that most of his gambling occurred on Tuesdays and Thursdays, which were days at the office requiring stressful meetings. Pat also noted that he felt agitated leaving work those days, but that agitation

Date and Time	Triggers for the urge to gamble	What did you do?	How did you feel and what happened after you did this?
Monday 11/14 9pm	Argument with spouse	Went and worked in the barn	More comfortable and at ease
Tuesday 11/15	Meeting at work went bad	Stopped at the casino	Good at first, then upset about losing money
Thursday 11/17	Board room discussion at work	Bought lotto tickets	Felt better about the day. Did not care about work meeting
Tuesday 11/22	Worked 2 hours late	Played blackjack at casino until morning	Forgot about the time and won 20 dollars

**FIGURE 20.3** Think hard every time you have the urge to gamble. Record the following information each time you had the urge to gamble this week. Whenever possible, complete these entries IMMEDIATELY after the urge sets in.

quickly subsided upon entry into the local casino or when buying lotto tickets. As Pat noted:

*Pat:* I have been keeping a pretty good record of when I gamble and what some of the feelings I have following my gambling are. First, it seems like I feel better, and my stress level goes down. However, once I realize that I just lost my money, and that my wife is going to get mad again, my stress level goes back up. Sometimes this vicious circle of stress–gambling–no stress–stress just keeps repeating itself. I don’t know what to do, and I don’t think I can stop.

*Clinician:* Well Pat, it appears that you seem to be on the right track with understanding the reasons, or the functions, for what your gambling might be caused by. Let’s take a look at your homework. What we can see [from Figures 20.2 and 20.3] is that it appears you are gambling most often on Tuesdays and Thursdays. Is that correct?

- Pat:* Yes it is. I guess I really never thought of that before.
- Clinician:* Now, if we look at this sheet [see Figure 20.3] we can see that many times that you gambled, you noted that you had something troubling at work, a meeting or something at the end of the day. Is this true?
- Pat:* Yes indeed it is. I can't stand my boss John. He drives me crazy with all the demands he puts on me. I feel like I am going to explode. Sometimes I feel he is just like my wife. Always nagging at me. Pat do this, Pat do that. I go crazy.
- Clinician:* That is interesting Pat. Many people don't like their boss. In fact mine is kind of demanding too. It gets to me as well. However, what I noticed on this homework sheet here Pat is that you had an urge to gamble the other day when you had a fight with your wife, but in fact you did not gamble did you?
- Pat:* Boy that was a bad fight. I really wanted to gamble. I went out to the barn to get my keys to the truck, and noticed there were some baseboards I wanted to stain to complete the bathroom remodel. So, I guess I just got busy staining these boards, and forgot to go to the casino. When I was done staining, I really did not feel like going anymore.
- Clinician:* Well Pat, I think we may be on to something here. How did you feel after you were in the barn working on those baseboards?
- Pat:* I felt relaxed, and in my own zone. The time went by fast, and I was rocking out to some classic rock songs on the radio I had not heard in a while. See my wife does not like that kind of music. She is more into country western.
- Clinician:* OK, great. I have an idea. Do you have other projects at home that need to be done, that you seem not to have time to do?
- Pat:* Oh yes. There are many, I just don't seem to finish.
- Clinician:* Great, for the next week I want you to think about what these projects are, and each time before you leave for work on Tuesday and Thursday, I want you to write down one of these projects, and carry that piece of paper with you as you walk out the door. I want you to look at that paper, as you drive home, and I want you to put that paper in the barn as soon as you get home. If you think you are going to gamble or want to gamble, fine. But get home first. Can we make this the deal? No matter what, get home and put that paper in the barn. OK?
- Pat:* Sounds fine. I don't know what this will do for me. But OK.

As the week went by, Pat found himself spending more time than he had in the past in the barn working on home projects. He was surprised,

and reported more control over his gambling (as noted using Figure 20.1). Although he gambled on Thursday, it was after he completed fixing an old toilet and, once at the casino, lost interest quickly and returned home. While meeting with the therapist the following week, Pat had some revelations he shared.

*Pat:* This week I found myself much more in control of my gambling. I really did not find things so crazy as they usually are.

*Clinician:* What do you mean Pat?

*Pat:* Well, I did what you said about putting that piece of paper in the barn on my way home, and you know what, it seemed to distract me from the crap at the office. I mean I surely was pissed off leaving work, but at the same time I really seemed like there was part of me that said screw it I am going home and fixing that back door. I thought, screw these guys, I am going home. When I got there, I started jamming some Lynyrd Skynyrd and work just started to seem like miles away.

*Clinician:* Let me ask you Pat, did it feel as far away as it does while you gamble? I mean when you started playing the music and working on that door, did you feel better, like you do when you are gambling?

*Pat:* As a matter of fact, I did. Wow that is crazy! Am I going to get addicted to working in the barn? My wife will surely like that!

*Clinician:* No, I don't think so. But what I want you to realize Pat is that you seem to be somewhat successfully replacing your gambling behavior with another behavior that has the same outcome for you. You are finding a break from the demands of the day, and those stressful meetings at work, by doing some home projects. In the past work stressed you out, and you gambled. And the stress went away. Now that same stress of work is there, but you found another means to get away from it all. And in fact, it didn't cost you anything like when you gambled.

*Pat:* Interesting, and I even have extra money now, and perhaps I could use some of it to buy a new table saw.

*Clinician:* That is great. Well, let's continue to keep track of your progress as the weeks continue.

What followed for Pat was an understanding that his gambling was maintained by the function of removal of anxiety or stress from his workday. Together with his clinician, Pat identified an alternative behavior which served the same function for him as gambling did. See Figure 20.4 for a cumulative display of Pat's gambling during treatment. The clinician was

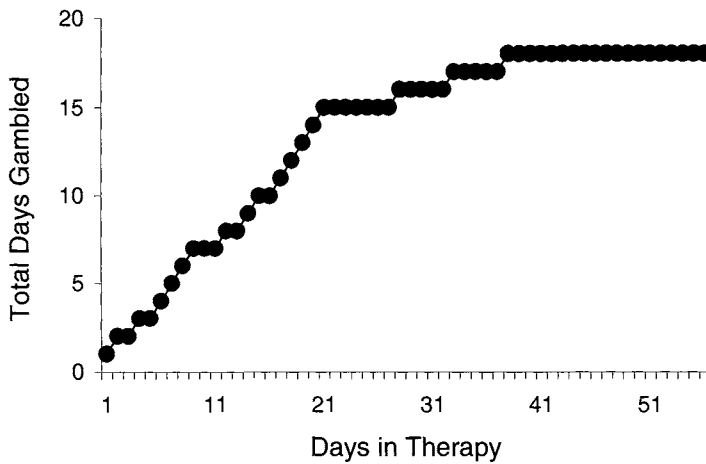


FIGURE 20.4 Data depicting total days gambled during therapy. (Note, no baseline data are displayed here.)

not able to remove the reinforcing functions of gambling. Rather, the clinician helped Pat discriminate and describe the functional relationship between environmental events and his gambling behavior in words and writing (cf. Skinner, 1953). The clinician then instructed Pat to engage in a form of self-management. At times when gambling was more likely, Pat learned to rearrange his environment to make alternate, functionally equivalent forms of behavior more likely than they had been previously. He did this by presenting himself with an antecedent—a written prompt to engage in a hobby—so that he was more likely to engage in these alternate activities that also reduced tension. One might consider gambling and leisure activities are two concurrent operants. Prior to intervention, gambling was a very low effort response with a high probability of negative reinforcement. The probability of leisure was very low. Intervention increased the probability of the second response through prompting, and it competed with problematic gambling (cf. Herrnstein, 1970).

This discovery process did not happen overnight. Pat may need to learn other forms of self-management as he learns to discriminate and describe other problematic behaviors and their antecedents. However, as Pat learns to discriminate stressful behaviors, he learns to redesign his environment again to make alternative healthy behaviors more likely, rather than engage in the historical default of taking a trip to the casino to gamble all his problems away. That gamble often paid off in the short term but never paid

off in the long term. With effective functional treatment, Pat hit the jackpot—the road to recovery from an impulse control disorder through Skinnerian self-management.

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