Michigan Autism Training Video Treatment Manual:

Treating Habit Disorders

Created December 2015

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Suggested Reference

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Treating Habit Disorders

A. Brief Description of Habit Disorders.

Habit disorders (HDs) involve a broad array of behavioral topographies characterized by repetitive motor or vocal actions that have no clear socially-mediated or communicative function. Various types of habit disorders exist in the psychiatric nomenclature and are fairly common in persons with autism spectrum disorders (ASD). For example, **stereotypies** are apparently non-functional, patterned, repetitive movements (American Psychiatric Association, 2000). Common examples include hand flapping, body rocking, and humming. Stereotypies are quite common, occurring in up to 71% of children with ASD (Goldman, Wang, Salgado, Greene, Kim et al., 2008). Relative to typically developing children, stereotypies are only slightly more common in two year olds with ASD, but over time, children with ASD display relatively greater levels of stereotypy (MacDonald, Green, Mansfield, Geckeler, Gardenier et al., 2007).

A. 1. Compulsive Quality Motor Behaviors

Compulsive quality motor behaviors (sometimes called body-focused repetitive behaviors) are repetitive movements that seem driven and serve to reduce stress or anxiety. Examples include body mouthing, hairpulling, nail biting, etc. Prevalence rates for these behaviors in persons with ASD have not been widely examined, but recent studies suggest they are much more common than in the typical population and occur as often, if not more often than traditional stereotypies in ASD population (Long, Miltenberger & Rapp, 1998; South, Ozonoff, & McMahon, 2005).

A. 2. Motor and Vocal Tics

Tics are recurrent, sudden, stereotyped motor movements or vocalizations (APA, 2000; Leckman, King, & Cohen, 1999). Tic disorders occur in as many as many as .6% of the general population (Khalifia & von Knorring, 2003). Prevalence rates of co-occurring tic disorders in ASD populations are much higher, ranging from 4.8%-48% (Baron-Cohen, Mortimore, Moriarty, Izaguirre, & Robertson, 1999; Baron-Cohen, Scahill, Izaguirre, Hornsey & Robertson, 1999; Cantitano & Vivanti, 2007; Gjevik, Eldevik, Fjaeran-Granum & Sponheim, 2011; Simonoff, Pickles, Charman, Chandler, Loucas et al., 2008; South et al., 2005) and are the third most common psychiatric comorbidity in children with ASD, behind only specific phobia and ADHD-Inattentive type (Baron-Cohen, Mortimore et al., 1999).

A. 3. Evidentiary Support

Evidentiary support for the treatment of HD in typically developing children is strong. However evidence supporting the use of behavior therapy for HD in an ASD population is more mixed. For the treatment of stereotypy, behavioral interventions primarily have been studied using single-subject experimental design or open trials methodology (Ben
Itzchak et al., 2008; Ben Itzchak & Zachor, 2009; Dawson et al., 2009; Miller, Singer, Bridges & Waranch, 2005; Rapp & Vollmer, 2005). In the few randomized trials, that have been conducted, HDs were not the primary focus of treatment (Ben Itzchak et al., 2008; Ben Itzchak & Zachor, 2009; Dawson et al., 2009; Eldevik et al., 2006) studies were limited to younger children, treatment lasted for as long as 12-40 hours per week for up to two years, and outcomes are mixed. Summarizing the findings investigating behavior therapy for stereotypies in ASD, Leekam and colleagues concluded in 2011…”To date, findings indicate that pharmacological interventions provide only limited benefits; and while behavioral interventions are more promising, both types of intervention need more development and evaluation with larger numbers for children.” (Leekam, Prior, & Uljarevic, 2011; p. 587).

For HDs other than stereotypies, strong evidence exists to suggest behavior therapy is effective in typically developing children, but very little is known about its efficacy in children with ASD. In a recent review, habit reversal training was classified as the only well established nonpharmacological intervention for tics (Cook & Blacher, 2007) and other reviews have found HRT to be effective in treating other compulsive quality HDs such as nailbiting, bruxism (Woods & Miltenberger, 1995), skin picking (Snorrason, Belleau, & Woods, 2012), and trichotilllomania (Bloch, Landeros-Weisenberger, Dombrowski, Kelmendi, Wegner et al. (2007). Likewise our team recently completed two large, NIH-funded, multi-site RCTs comparing 8 sessions (over 10 weeks) of and HRT-based treatment called CBIT, to an identical-length psychoeducation and supportive therapy control condition. Results of the child-focused study (N=126) demonstrated that 53% of the CBIT group were treatment responders (CGI-I of 1 or 2) compared to 19% in the control condition (Piacentini, Woods, Scahill, Wilhelm, Peterson et al., 2010). Treatment responder status was generally maintained for the CBIT group at the 6-month follow-up (87% of initial still responders remained responders at the 6-mo follow-up), and treatment responders demonstrated decreases in disruptive behavior, anxiety symptoms and general behavior problems at the 6-month follow-up (Woods, Piacentini, Scahill, Peterson, Wilhelm et al., 2011). Unfortunately, the CBIT studies excluded participants with ASD, and early HRT studies either did not report on their patients comorbid diagnostic status or excluded the participation of those with ASD. Thus, despite the fact that we have an effective treatment for HD and other HDs, it is unclear if this manualized treatment package can be implemented to effectively manage HDs in children with ASD.

**B. Purpose and Appropriate Use of Habit Disorder Treatments**

Behavior therapy for HDs involves a collection of treatment techniques designed to effectively manage the behavior. Typically, these techniques are implemented over weekly sessions in an outpatient setting, but the treatment itself occurs in multiple settings and is delivered by the client, with the aid of the caregivers.
Unfortunately, a manualized, well-tested intervention for habit disorders (HD) in Autism Spectrum Disorders (ASD) does not exist, but numerous clinical reports have suggested that effective behavior therapy for HDs in an ASD population typically includes three primary components (Boyd, McDonough & Bodfish, 2012). The first involves the use of function-based interventions, in which a clinician, client, and /or caregiver completes a functional assessment interview designed to identify various environmental and sensory triggers for, and consequences of the HD. Specific behavioral interventions are then designed to reduce, eliminate, or replace the identified functions of the targeted behavior.

The second primary component in the treatment of HD involves teaching the person with ASD to engage in an action designed to stop the HD. This component is often done in conjunction with the third component, reinforcement for the absence of the HD. A combination of these latter two components is typically referred to as habit reversal training (HRT; Azrin & Nunn, 1973). HRT involves awareness training, competing response training, and social support. These procedures make the client more aware of the HD through awareness enhancement practices, and the client is then taught to do a behavior (called a competing response) that physically prevents the HD from occurring when it starts. A parent or other caregiver is asked to prompt the client to use the competing response when the HD occurs and to verbally praise the client for using the competing response correctly. A final component involves a behavioral reward system that is designed to reinforce compliance with treatment procedures.

Although data on the combination of function-based interventions with HRT in the treatment of HD for children with ASD is scarce, similar components are utilized in the treatment of HDs in typically developing populations and have shown significant promise. Below, we describe how each of these treatment components are implemented.

C. Applicability

C.1. Causes of HD and Relevant Treatment

The causes of all HDs are believed to be the result of two broad factors. At the biological level, most individuals with HDs have demonstrated abnormalities in the basal ganglia, which is a subcortical region in the brain responsible for the formation of habitual behavior (Yin & Knowlton, 2006) and for the inhibition of unwanted movement (Mink, 1996). Similarly, it is believed that excessive dopamine activity yields habitual/stereotypic behavior and because the basal ganglia is rich in dopaminergic neurons, dopamine deficits are believed to be relevant to the biology underlying HDs (e.g., Nakamura, Uramura, Nambu, Yada, Goto et al., 2000). It is also well understood, and perhaps not surprising given the basal ganglia’s role in operant learning, that HDs are highly influenced by both antecedent and consequence variables in the environment. Research has clearly shown that habit disorders can be exacerbated by different settings, emotional states, and other antecedent stimuli (e.g., Conelea, & Woods, 2008). Similarly, research has demonstrated that HDs can be reinforced by social attention, escape from demanding situations, and via the reduction of negative emotional experiences.
Given these etiological factors underlying the expression of HDs, it is perhaps not surprising to see that the most common pharmacotherapeutic approach involves the delivery of a dopamine antagonist and the most common nonpharmacological therapy involves the systematic manipulation of antecedents and consequences maintaining the HD (function-based treatment) along with teaching the client a new method of inhibiting the habitual behavior in context (HRT).

The presence and severity of HDs increase psychosocial burden. Negative effects of HDs have been found in domains of receptive and expressive communication, domestic care, personal care, interpersonal relationships, play and leisure time, daily living skills, socialization (Matson, Kiely & Bamburg, 1997; Long, Woods, Miltenberger, Fuqua, & Boudjouk, 1999), and employability (Erenberg, Cruse, & Rothner, 1987). Repetitive behavior in the form of tics can lead to functional impairment (i.e., decreased social acceptability, peer relationship problems, poor self-concept, and increased difficulty with academic and occupational functioning (Erenberg et al., 1987; Storch, Lack, Simons, Goodman, Murphy et al., 2007; Woods, 2002; Woods, Fuqua & Outman, 1999). Parents of children with these problems experience more family conflict, marital difficulties, higher levels of parenting frustration, and a lowered quality of parent-child interactions than parents of children without such behaviors (Cohen, Ort, Leckman, Riddle, & Harin, 1988). In a study of the impact of tics in children with PDD, Gadow and DeVincent found that persons with a PDD and comorbid tic disorder were at “greater risk of co-occurring psychiatric symptoms and have greater severity of PDD symptoms, more medication use, and experience more environment problems than children without either” (ADHD or tic disorder; Gadow & DeVincent, 2005; p. 487). Combined, these data suggest the presence of HDs yields additional burden beyond that already produced by other symptoms associated with ASD.

D. Treatment Validity and Treatment Matching

D. 1. Function-Based Intervention

It is widely understood that HDs are impacted by contextual variables. Broadly these variables include antecedents and consequences. With respect to antecedents, various categories may be involved in eliciting the HD. Settings, ongoing activities, transitions, emotional states, sensory states, particular people, demands, etc., can all occasion and/or increase the intensity/frequency of an ongoing HD. Likewise, various consequences can serve to reinforce the HD. Consequences can be social (i.e., attention for doing the behavior, escape from a demanding task), tangible (e.g., having a pulled hair to manipulate), or sensori-emotional (e.g., engaging in a tic decreases an internal “urge,” or the act of stereotypy is automatically reinforcing via the visuotactile stimulation produced by the behavior).

Given that such maintaining factors exist and are unique to the individual, behavior analysts have developed a set of procedures designed to identify (i.e., functional assessment) and alter (function-based interventions) HD-exacerbating stimuli in the environment.
Functional assessment, usually conducted in the first session, involves a clinical interview conducted between the behavior analyst, the client and his or her caretakers. Inclusion of additional caretakers in the assessment process will likely result in a more comprehensive assessment of the problem and potentially more effective treatment suggestions. Direct observation is sometimes utilized, as are analog functional analysis procedures (Iwata, Dorsey, Slifer, Bauman, & Richman, 1982), but often these procedures either result in little information (i.e., the client reacts to the observation by not doing the HD) or results in a common “automatic reinforcement” function.

Using standard functional assessment procedures for HD, the clinician asks the interviewees about situations in which the HD is likely to occur. For each of these situations, the clinician asks specific questions about the antecedents present in each of the situations along with the consequences that may be functioning to reinforce the behavior. After assessing multiple occurrence of the behavior, the clinician should look for patterns among both the antecedents and consequences that are associated with exacerbations of the HD. After HD-evoking and HD-reinforcing stimuli are identified, the behavior analyst should work with the caretaker to develop function-based interventions.

Function-based interventions are those changes to antecedent or consequence stimuli that maintain HDs. The interventions recommended should attempt to diminish contact with HD-evoking antecedents, alter the intensity of HD-evoking antecedents, or manipulate motivating operations to decrease the reinforcing strength of automatically reinforced behavior. Function-based interventions involve altering the identified stimuli believed to be reinforce the HD. Typical interventions recommended involve extinction of socially reinforced behavior and sensory extinction procedures for HDs that may be maintained by automatic tactile reinforcement.

As an example, assume the frequency of stereotypic hand-waving increases in environmentally restricted situations and is followed by significant caregiver attention. In addition, the waving always occurs in front of the eyes, raising the possibility that visual stimulation may also be reinforcing the behavior. In such a case, a series of function-based interventions may be implemented that involve creating more enriched environments, eliminating the social attention for the behavior, and providing an alternative means of visual stimulation that mimics that of the hand waving in front of the eyes (e.g., giving the client a socially appropriate visual stimulus to carry with them).

After the function-based interventions are identified, the behavior analyst, client, and caretaker decide how the recommended interventions will be carried out and any training required to do the intervention should be implemented. Following the initial functional assessment and implementation of the relevant function-based interventions, the behavior analyst should be mindful of the possibilities that additional behavioral functions of the
HD may emerge over the course of the treatment. When additional behavioral functions are observed or discovered throughout treatment, additional function-based interventions should be implemented.

**D. 2. Habit Reversal Training**

Habit reversal training is typically implemented with one HD at a time. In some cases, such as trichotillomania, there may be only one target topography involved in the HD (e.g., only the hand is used to pull the hair). In such cases, HRT can be implemented fully in one or more sessions with that specific target behavior. However, in other cases (e.g., Tourette Syndrome), there may be multiple topographies that constitute the HD. In such cases, HRT is implemented separately for each of the specific topographies constituting the HD.

The pace at which HRT is implemented for any specific HD topography depends on the client’s ability to successfully implement the procedures. Clients who quickly demonstrate awareness of their target behavior and are reliably able to implement the CR in session can address one new HD topography for every 60-90 minute session of HRT. Those demonstrating less awareness of their HD or who have more difficulty implementing the CR reliably will require additional sessions.

As a treatment package, HRT involves three primary components: awareness training, competing response training, and social support. The procedure starts with awareness training; which contains three elements; response description, response detection, and early warning training. With response description, the client, the primary caretaker and the clinician develop a very detailed operational definition of the HD. The definition should entail all physical, somatic, and emotional aspects experienced from the onset of the HD until it is completed. The clinician should keep in mind that the purpose of response description is not necessarily to come up with an accurate definition for the purposes of communication, but rather to develop a detailed definition that allows the client to understand and describe in depth and at multiple levels (behavioral, sensory, emotional), the target behavior as it occurs. After developing a response description, the clinician implements response detection.

Response detection involves teaching the client, in real time, to tact the presence of the HD. The clinician tells the client to “raise his or her finger” every time the client notices the HD in the session. When the client successfully acknowledges the HD, the clinician praises him or her. If the client does the HD, but does not acknowledge it, the clinician should stop the session and prompt the client by saying something such as “don’t forget to raise your finger when you do the HD.” This process should continue until the client successfully acknowledges about 80% of the actual occurrences of the HD. During response description and subsequent early warning training, the clinician and client should not simply wait for the HD to occur. Rather, the dyad should be engaging in some
other activity in order to promote generalization of the skills to settings outside of therapy.

After successfully completing response detection, the client and clinician should practice the client tacting the earliest parts of the behavioral chain that create the HD. For example, before a person with trichotillomania actually pulls her hair, the hand will move up toward the head. This early link in the chain is called a “warning sign.” The client and clinician should practice the client tacting these warning signs in session. As in response description, when the client engages in the agreed-upon warning sign, he or she should raise a finger. If done correctly, the clinician should praise the client, and if the warning sign is missed by the client, the clinician should point it out to him or her. This should be continued until the client is accurately detecting approximately 80% of warning signs displayed.

After the client has demonstrated reliable awareness of the target HD and its warning signs, the clinician should implement competing response training. A competing response is a behavior the client is taught to do for one minute immediately contingent on (a) the target behavior occurring, or (b) the occurrence of a warning sign. Competing response training involves two components; selecting the competing response and implementing the competing response.

In selecting a competing response, the clinician and client should follow three rules. First, the competing response should be a behavior that makes it more difficult, if not physically impossible to concurrently do the target HD. For example, a client could not pull hair from her head if she were also making a fist and holding her arms down at her side. Second, the competing response should involve a behavioral topography that is not more noticeable than the target HD, and can be implemented anywhere. Finally, the competing response should be possible to hold for one minute. In selecting the competing response, the clinician should describe these three rules to the client and encourage him or her to come up with a competing response on his or her own. If the client choose a competing response that does not meet all of the rules, then the clinician should point out where the rules are not met and help the client choose something more appropriate.

After a competing response is chosen, the client and clinician should practice implementing the technique in session. The therapist should first model the correct implementation of the competing response. Next, the clinician should ask the client to demonstrate the competing response and provide corrective feedback. The therapist and client should begin in-vivo practice of competing response implementation. During the session, the client should be told to implement the competing response when appropriate. If a tic or warning sign occurs and the client correctly implements the competing response, the therapist should praise him or her. Conversely, if the client engages in a tic or warning sign, but does not do the competing response, the therapist should stop the ongoing activity and remind him or her to do the competing response. This should
continue in-session until the client correctly implements the competing response approximately 80% of the time without prompting.

After the competing response has been taught the therapist should identify the “social support” person. Typically this is the primary caregiver. It is important to understand that the social support person has a very circumscribed responsibility. He or she is asked to do two things. First, he or she is asked to praise the client when the client is seen correctly engaging in the competing response outside of session. Second, he or she is asked to prompt the client to engage in the competing response when the client is seen doing then HD, but not the competing response. In such a case, the support person is asked to remind the client to “don’t forget your exercises.” In session, the therapist should practice with the support person, both in delivering praise and in prompting the correct implementation of the competing response. The therapist should provide corrective feedback to the support person when necessary.

After awareness training, competing response training, and social support has been conducted for a particular HD topography, the client should be instructed to use the competing response outside of session whenever the HD or its warning sign occurs. The support person is expected to prompt the action and praise its implementation when appropriate.

D. 3. Reinforcement and Other Ancillary Treatments

In addition to the function-based interventions and habit reversal training, behavior analysts often incorporate other therapeutic elements, including contingency management and relaxation training. Contingency management is useful in two ways. First, it can be useful in increasing compliance to the function-based intervention and habit reversal treatment components. In such cases, clinicians should identify specific behavioral targets to be reinforced, primary or secondary reinforcers to be delivered, and the schedule of reinforcement on which the reinforcers will be delivered.

Contingency management can also be used to directly reinforce the reduction of the target HD. This is often used when the client exhibits lower functioning and when the self-management elements of habit reversal are more difficult to implement. If used as a direct treatment strategy a differential reinforcement of low-rate behavior (DRL)-based shaping procedure is recommended. Using DRL, the clinicians select a window of time. If the target behavior occurs at a rate below a prespecified level during that window of time, the reinforcer is delivered. With continued success, the clinician continues to lower the criterion rate until the target HD is occurring at a clinical acceptable level. It is important to select reinforcers and schedules of reinforcement that are informed by an effective preference assessment.

Another ancillary treatment strategy used in the treatment of HD involves relaxation training. It is often the case that persons with HD engage in the behavior more frequently
when experiencing anxiety or stress, as the HD is often negatively reinforced via stress reduction. To reduce the reinforcing effects of the HD, relaxation training can be useful. The particular type of relaxation strategy utilized is up to the treating clinician, but progressive muscle relaxation procedures are typically utilized. Often the client is taught the procedures and then instructed to practice them frequently throughout the week between sessions. They client is then prompted to use the procedures during times of heightened stress or anxiety.

E. Recommended Personnel and the Role of Caregivers

Research done on the use of behavior therapy for HD has primarily reported on the use of doctoral or master’s level trained therapists. For this reason, we recommend that only BCBAs implement the treatments described here. Nevertheless, it should be clear that the BCBA will only be able to effectively implement the procedures fully with the assistance of caregivers and perhaps BCABAs who are responsible for implementing the function-based interventions and for providing the social support and reinforcement elements of the HRT intervention.

Caregivers have two primary roles in behavior therapy for HD in children with ASD. First, they are often responsible for implementing many of the elements of the function-based interventions designed for a particular client. In this context, they may be asked to alter the client’s settings, change their own behavior toward the client, or encourage the change of behavior in others that may be eliciting or reinforcing the HD. Caretakers are also asked to serve the social support function in the HRT component. As described above, these responsibilities will include prompting the client to use the competing response when he or she is seen doing the HD, but not using the appropriate competing response. The caretaker will also be asked to reinforce, either through verbal praise or through the delivery of a tangible reinforcer, the correct implementation of the competing response.

F. Challenges and Troubleshooting

A number of challenges exist to the implementation of behavioral procedures to treat HDs in persons with autism and related disorders. The primary concern for clinicians should involve determining whether or not HDs targeted for treatment are important. Persons with autism have numerous difficulties, including many language-based and social difficulties. While HDs are common, the effective behavior analyst must make sure the HD is a clinically valid target of change in the context of the clients other difficulties.

Assuming the HD is a clinically valid target, a number of other barriers to the procedures described in this paper/presentation exist. If the client has low intellectual functioning or diminished verbal abilities, the procedures may require greater involvement of caregivers than what was described. Particular areas in which such clients may exhibit additional difficulties are described below.
F. 1. Ability to provide response description

Individuals with low verbal ability may have a difficult time creating an effective description of their target response. In such cases, it may be helpful to simply skip this step of treatment and move directly into response detection. Although this may extend the duration of treatment, in the long run, it will likely diminish frustration for the client.

F. 2. Ability to do response detection

Sometimes the clients display a diminished ability to accurately detect his or her own HD. In such cases, it can be helpful to have the clinician start by mimicking the client’s HD, while asking the client to watch the therapist and detect the HD in the therapist. Accurate detection should be praised and incorrect detection should be prompted. Another useful strategy prior to implementing traditional response detection involves utilizing a video recording of the client doing the HD and then asking him or her to point out occurrences of the behavior as they happen in the video. Upon successfully completing these tasks, the client should then be exposed to traditional response detection procedures.

F. 3. Ability to implement HRT independently

In some cases, the client does not demonstrate the ability to independently implement the competing response. In such cases, the caretaker should engage in behavioral prompting procedures to enhance compliance. These procedures should then be faded as the patients demonstrate greater and greater success.

F. 4. Lack of interest in change

As with many automatically reinforced behavior, the motivation in place for the client to change his or her behavior is limited. If the client does not display a strong tendency to change his or her behavior, then a back-up reinforcement plan is suggested.

The different classes of HDs have differentially effective treatments. For the treatment of stereotypies, the two most common types of medications include atypical neuroleptics (i.e., risperidone) and SRI medications such as clomipramine (Brodkin, McDougle, Naylor, Cohen, & Price, 1997; Leekam et al., 2011; McCracken, McGough, Shah, Cronin, Hong et al., 2002; Sanchez, Campbell, Small, Cueva, Armenteros et al., 1996). In a recent review of the literature, it was suggested that risperidone may have some short term effectiveness in reducing RBs (McCracken et al., McDougle, Scahill, Aman, McCracken, Tierney et al., 2005; Shea, Turgay, Carroll, Shulz, Orlik et al., 2004), but the effects may not be durable (Research Units of Pediatric Psychopharmacology Autism Network, 2005). SRI medications have also been evaluated. Some results have been promising (Hollander, Phillips, Chaplin, Zagursky, Novovy et al. (2005), whereas others have shown no effects (King, Hollander, Sikich, McCracken, Scahill et al., 2009). Research on the treatment of tics in typically developing populations have focused primarily on the efficacy of traditional (e.g., haloperidol) and atypical (e.g., risperidone) neuroleptics and alpha-adrenergic agonists (e.g., clonidine, guanfacine). Various reviews of pharmacotherapy trials for tics, have concluded that the atypical antipsychotic risperidone, and α-2 adrenergic
agonists clonidine and guanfacine have the greatest degree of empirical support (Pringsheim, Doja, Gorman, McKinlay, Billinghurst et al., 2012; Roessner, Plessen, Rothenberger, Ludolph, Rizzo et al., 2011). These medications have not been tested in children with ASD and tics. Overall, the effectiveness of medication for RBs in children with ASD is unclear. Not only is the effectiveness of pharmacotherapy in question for RBs in children with ASD, but there is concern about side effects (King et al., 2009; Williams, Wheeler, Silove, & Hazell, 2010) and about the possibility of over-medicating children with ASD (Mandell, Morales, Marcus, Stahmer, Doshi et al., 2008). Given these concerns, nonpharmacological treatment options are often considered.

G. Task Analyses and Other Materials

G. 1. Ongoing Assessment

Progress in the treatment of HDs can be measured in numerous ways, but the one most familiar to behavior analysts, direct observation, may be particularly problematic. Often, children with stereotypy or some compulsive quality behaviors exhibit the behavior most frequently when alone, thus making direct observation a potentially unreliable mode of assessment.

Various self-report instruments exist for the different HDs. For example the parent-reported Parent Tic Questionnaire (Chang, Himle, Tucker, Woods, & Piacentini, 2009) can be used to assess tic severity, and the parent-completed Trichotillomania Severity Scale for Children (TSC-C; Tolin, Diefenbach, Flessner, Franklin, Keuthen et al., 2008) is useful in assessing hairpulling.

In addition, a number of other clinician-rated scales exist. For example, the Interview for Repetitive Behaviors (IRB; Bodfish, 2005) is a clinician-rated scale designed to assess the severity of three different domains of repetitive behavior; motor stereotypies, insistence on sameness, and circumscribed interests. Each of these three domains are separately rated on each of five subscales. The subscales assess the frequency (0 to 4 points), intensity (0 to 4 points), interference (0 to 4 points), accommodation (0 to 4 points) and peculiarity (0 to 4 points) of the repetitive action. For each of the three domains a total score ranging from 0-20 is calculated. The three domain totals are then summed to create a 0-60 total RB severity score. Likewise, the Yale Global Tic Severity Scale (YGTSS; Leckman, Riddle, Hardin, Ort, Swartz et al., 1989) is a clinician-rated scale used to assess tic severity in the past week. Motor and phonic tics are rated separately from 0 to 5 on several scales including number, frequency, intensity, complexity, and interference. Total Tic Score ranges from 0 to 50. The YGTSS has demonstrated excellent psychometric properties with solid internal consistency, excellent inter-rater reliability, and excellent convergent and divergent validity.

Finally, the NIMH Trichotillomania Scale (Leonard, Rapoport, Lenane, Goldberger et al., 1989) is a semi-structured clinical interview that consists of two IE-rated scales: NIMH-
TTM Symptom Severity Scale (NIMH-TSS) and the NIMH Trichotillomania Impairment Scale (NIMH-TIS). The NIMH-TSS is comprised of five items assessing time spent pulling, problems thinking about pulling, attempts to resist the urge to pull, general distress about the pulling, and the interference of pulling on one’s life. The NIMH-TIS is a 10 point IE-completed rating scale measuring impairment produced by the time spent pulling or concealing damage, ability to control pulling, severity of alopecia, interference, and incapacitation caused by the pulling. Although little data exist for the psychometric properties of the NIMH-TTM Scales, the interrater reliability scores for the measure have been found to range from .78 to .81 when the scales were administered to the same participants by different raters. In addition, these scales appear to be sensitive to change in symptom severity as a result of treatment (Swedo, Lenane & Leonard, 1993).

H. References


