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Acceptance and Commitment Therapy for Obsessive Compulsive Disorder and Obsessive Compulsive Spectrum Disorders: A Review

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Abstract:

This paper reviews Acceptance and Commitment Therapy (ACT) for Obsessive Compulsive Disorder (OCD) and Obsessive Compulsive (OC) spectrum disorders (e.g., trichotillomania and chronic skin picking). It reviews the philosophy of science that underlies ACT: functional contextualism; the basic research that informs it: learning theory, rule governed behavior and relational frame theory; ACT’s model: psychological flexibility; and the research to date that supports ACT for OCD and OC spectrum disorders. Limitations to this research and future directions are discussed.

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**Current state of treatments and why it is worth examining alternative models**

Successful treatments exist for Obsessive Compulsive Disorder (OCD). Exposure with ritual prevention (ERP) and ERP with cognitive procedures such as cognitive challenging techniques are currently the gold-standard treatments for OCD (1,2). Outcomes are quite strong for ERP with a 50-60% response rate in one review (3), but ERP is also associated with a drop-out rate of approximately 25% (1) and refusal rates that range from 5-22% (4,5). Additionally, the standard ERP protocol is underutilized by practitioners (6). Similar issues exist in the treatment of obsessive compulsive (OC)-spectrum disorders such as trichotillomania and chronic skin picking.

Habit reversal training (HRT), a behavior change procedure, is the most supported procedure for most OC-spectrum disorders (7,8). Habit reversal essentially involves increasing awareness of the pulling or picking and the behaviors that are involved in it such as rubbing the hair and or feeling for skin, as well as internal states and cognitions that precede pulling and picking. HRT trains an individual to engage in an alternative action when the pulling/picking or urges to do so occur. The most common competing response is to make fists with hands for one minute. Like ERP for OCD, HRT is most often used in conjunction with other procedures such as self-monitoring, stimulus control, and cognitive challenging procedures. There is variability in the outcomes found in HRT for trichotillomania with early studies showing 99% reduction in self-reported pulling (9), and more recent studies only showing clinically significant change in 64% of patients (10). Significant differences were found between HRT and waitlist in the treatment of skin picking with 28, 6, and 6 episodes of picking at pretreatment, posttreatment, and three month follow-up in the active treatment group.

 In the hope of finding additional ways to treat these disorders, and just natural developments in cognitive behavior therapy, there has been an increasing interest in mindfulness and acceptance based treatments for anxiety disorders in general and OCD and OC-spectrum disorders specifically. Acceptance and Commitment Therapy (ACT) (11), Dialectical Behavior Therapy (12,13), Mindfulness-Based Stress Reduction (14), Mindfulness-Based Cognitive Therapy (15), and Metacognitive Therapy (16) each have data to support the treatment of anxiety disorders. Relatedly, a recent meta-analysis of mindfulness-based interventions for individuals diagnosed with anxiety disorders found a pretreatment to posttreatment effect size (Hedge’s g) of .97. Metacognitive Therapy has data on its utility with OCD (17–19) and Dialectical Behavior Therapy has recently been integrated with HRT in the treatment of trichotillomania (20,21). A notable amount of work has occurred on the suitability and effectiveness of ACT for OCD and OC-spectrum disorders (22–26) that will be covered in this review.

Hayes and colleagues (27) outlined that while ACT is a therapy that includes a model and techniques, it also has a clearly defined and well-developed philosophy of science. Having a philosophy of science clarifies ones research methods and goals. In addition, ACT is linked to basic behavioral research including work on language and cognition; a clearly defined and tested set of psychological processes; and an empirical focus that deliberately tries to link all these levels. Hayes has recently noted this overall line of work to be “contextual behavioral science.” A brief description of each of these areas will be provided as their general understanding is needed for an appreciation of ACT.

**Contextual Behavioral Science**

 Even though ACT is a therapy with techniques that are well disseminated, the treatment components are only one part of the whole treatment model, and, arguably, not the most important part. The full contextual behavioral approach can be thought of as a pyramid (see Figure 1). The base of the pyramid is the philosophy of science which guides all subsequent work: functional contextualism. That is followed by the basic scientific work. While this includes cognitive sciences, neuroscience, and other forms of science, behavioral research, in general, and on cognition (including rule governed behavior and relational frame theory) have been most influential to ACT’s development. Largely based on this basic research, a psychological construct was created for the focus of treatment: psychological inflexibility/flexibility. Next, treatment techniques to target these processes were created, known as ACT. Finally, as all these levels are important in this process of science, a bidirectional attempt at translating the work between these levels is constantly occurring. Thus, to really understand ACT, it is useful to understand these different levels as they inform many of the subtleties of the therapy.

**The Philosophy Underlying ACT**

The philosophy of science that informs ACT is functional contextualism (28,29). Having a clear philosophical position guides research and therapy and offers a bar against which the work can be judged. This is only the chosen philosophical position of this line of work, it is not argued to be better than other philosophical positions. The two main features of functional contextualism are a *holistic and contextual unit of analysis* and a *pragmatic truth criterion*.

All events can be broken down into smaller pieces such as a compulsion, a particular type of obsession, or pulling hair out. While these events can be analyzed individually, there is a risk in doing so in that larger contextual features can be missed. All actions occur within a particular history, current situation, and are done with purpose. Lack of awareness of these elements may limit the understanding of a particular behavior. For example, the context under which a thought (such as a thought about harming a loved one) occurs can greatly change the meaning and function of that thought. Thus, if a client says, “I am having thoughts about killing my child,” instead of assuming it is a *negative* event, an assessment of the function of that thought should occur. The therapist would want to know when that thought occurs, what else occurs with that thought, how does the person respond to the thought, and what psychological contexts do all these events occur in. These are some reasons why, from a functional contextual approach to science, whole events are studied and the separation of larger events into pieces is done cautiously.

A *truth criterion* is the way in which something is judged or evaluated. The idea is to be explicit, from the beginning, about how a theory or a line of work will be judged. There are a variety of truth criterions. Some researchers are largely interested in the way things work together, such as an engine. Thus, if their models have strong correspondence to the way articles work, and they can predict events, they would indicate their model is true. ACT, and the related science, was developed under a *pragmatic truth criterion*. A pragmatic truth criterion indicates that a “true” theory has utility. The theory must be useful, not just accurate. Therefore, the goal of functional contextualism is often cited as prediction and influence (knowing when actions might occur and being able to affect them in positive ways) with precision, scope, and depth (simply meaning that the findings must be consistent with what is already known within a field of science and other fields of study). Methods to influence behavior are necessary. Because only environmental variables can be manipulated directly, this theoretical orientation aligns with behavior analysis and ACT is called a form of clinical behavior analysis (30). The importance of this view is evident in the way that private events are addressed in ACT and the ultimate goals of therapy. If a client states that a thought, feeling, or bodily sensation is occurring, asking, “How does that affect you and your actions,” is a likely response. Similarly, the utility of a scientific finding is primary over its accuracy. Thus, if the aspects presented in this paper are helpful clinically and scientifically, the model is judged to be true. A great understanding of the workings of psychological events, without useful ways to intervene, would not be sufficient from this model. This philosophical model informs the work covered in this paper.

**Behavior Analysis, Relational Frame Theory, and Rule Governed Behavior**

 The lines of basic research that most strongly inform ACT come from behavioral principles of learning. While all basic behavioral principles inform ACT in ways, the most pertinent principle for the treatment of anxiety disorders is extinction. Originally, the decreases in responding resulting from extinction was believed to be “unlearning” (e.g., 31). Modern research indicates, with good evidence, that extinction involves new learning (e.g., 32, 33). This work has been reviewed by other basic and applied researchers who have offered suggestions for how it informs exposure therapy and clinical work in general (34–37). The key feature of this research is that eliminated responding may reappear quickly when tested under the appropriate circumstances. Specifically, extinguished responses can reappear via such processes as spontaneous recovery (passage of time), disinhibition (presentation of a novel stimulus), reinstatement (presentation of the US in classical conditioning or reinforcer in operant conditioning), renewal (a change in context), and resurgence (when an alternative behavior introduced during extinction is subsequently also placed on extinction). These principles of extinction show that fear responses decrease, but are not unlearned; rather, new learning takes place. This and other works have led researchers to postulate that exposure involves “optimizing learning …. based on increasing tolerance for fear and anxiety” (38). Thus, techniques such as acceptance, which do not aim to decrease or change fear responses, fit nicely in the treatment of OCD and OC-spectrum disorders.

 Research on language and cognition from a behavior analytic standpoint has shown that while the basic principles espoused in behavior analysis are accurate, they are uniquely affected by cognitive abilities (39). Thus, there are discriminative stimuli, reinforcers, and punishers, but these are more transient in cognitive humans than they are with nonhumans. This is because, according to relational frame theory, humans with verbal abilities do not solely respond to the formal properties of stimuli as nonverbal animals do. What a stimulus *is* and its *function* is in some part based on its relations to other stimuli that have been interacted with. Humans respond to stimuli based on mutual relations to other stimuli and in combination, which affects the meaning given to stimuli and their functional properties (39). Responding to stimuli in this way is believed to be a learned ability, the same way any other operant is learned, through multiple exemplars and discriminative reinforcement indicating when and where to respond to stimuli. Relational frames of sameness exist as do many other tested forms including different, better, worse, time, and cause.

The important aspect of relational frame theory, for this work, is that the type of relational framing that occurs is guided by contextual cues, and different contextual cues guide what a stimulus is and its function. Because the type of relation and the functions of the relations are separate, it offers useful therapeutic options in terms of how to address cognitions, emotions, and bodily sensations. Specifically, the therapist can independently address what a thought *is* or what one should do with a thought (i.e., *its functional impact*). Research has shown that relational frames, like other types of responses, can be extinguished, but these responses show resurgence too (40). Therefore, ACT aims to teach a new form of derived responding that involves creating a new context for the inner experiences to occur without needing to address the content of the thought, feeling, or bodily sensation (41). Again, techniques such as stepping back and watching obsessions or urges, thereby decreasing their functional impact, are chosen over addressing what they mean or their accuracy.

 Cognitive abilities, occurring through relational frames, allow individuals to create cognitive contingencies representing the way the world works. A benefit of this ability is that one does not have to interact with every situation to know what contingency is in place. The negative sides of this ability are that the contingencies that are created sometimes do not match the actual contingencies, and once a verbal contingency is developed it can be resistant to change. This leads all individuals to be insensitive to actual environmental contingencies (42). OCD is a prime example of a disorder with verbally derived contingences that do not match the actual environmental contingencies but are heavily influencing behavior. Interestingly, as the individual follows the verbally derived contingency, it is reinforced, thus never allowing for correction of the derived contingency. Therefore, ACT aims to help clients flexibly follow verbally derived contingencies, and come into contact with environmental contingences so that they may learn from what the environment has to offer. This is seen in the heavy use of exercises, metaphors, and other types of learning that are more experiential and less likely to be rule forming.

In summary, the resulting therapy—ACT—is based off multiple lines of basic research, with much of it coming out of behavior analysis. What makes it different than traditional behavior therapy is that it is also informed by basic research on language and cognition, namely relational frame theory and rule governed behavior. The modern research on extinction, findings from relational frame theory showing relational frames cannot be unlearned, and that humans can be highly insensitive to environmental contingencies, offer treatment suggestions: specifically, psychological flexibility.

**Treatment Model**

Most behavioral interventions are grounded in basic principles of learning. For example, time out (and time in) is based on the principles of extinction and differential reinforcement. Time out, as currently used, does not require that the parent or mental health professional be aware of the intricacies of these basic principles. The intervention is easy enough to follow as presented in books and manuals. ACT has aimed to do something similar. Instead of requiring knowledge of basic principles of learning, including knowledge of relational frame theory and rule governed behavior, ACT has developed a set of psychological constructs that are linked to basic principles of learning but are more easily disseminated and followed in therapy. These have been labeled “midlevel terms” to represent that they are between the basic science and the resulting clinical intervention. There are six particular psychological processes of change (acceptance, defusion, being present, self as context, values, and behavioral commitments) and one core psychological construct which contains the previously listed six processes of change (psychological flexibility). Each of these terms has an opposite which represents a lack of this process. It should be noted that presence of either end of the process is not inherently positive; it is always context dependent. Part of the work in ACT is to help clients see when they are engaging a dysfunctional process, notice it, and shift to a more function process. It is a form of discrimination training. Still, low levels of these processes, in general, are related to greater pathology (43).

 **Psychological Flexibility**

 The core process of change in ACT is *psychological flexibility* which is the ability to fully contact the present moment and the inner experiences that are occurring without needless defense, and, depending upon the context, persisting or changing in the pursuit of goals or personal values (43). It is opposite of *psychological inflexibility* which involves not being in contact with the present moment and the related inner experiences, being unclear about what is important in life, and not pursuing one’s values (see Figure 2 for a clinical description of these processes as they relate to OCD). Psychological flexibility is generally supported as a core psychological process in many forms of pathology, as the central process of change in ACT, and all six particular processes of change are supported on their own in component studies (43–45).

 **Acceptance.** *Acceptance* involves actively embracing inner experiences, while they are presently occurring, as ongoing private experiences. Experiential avoidance is generally considered the opposite end of acceptance. *Experiential avoidance* is defined as avoiding or escaping inner experiences when doing so negatively affects one’s quality of life (46). Acceptance, often discussed as “willingness” in therapy, pertains to the way one interacts with particular internal and external stimuli. Acceptance is not an attitude or one’s belief about something; it is the way one behaves towards it. It is useful to contrast acceptance with tolerance. Tolerance, at least as used in other forms of CBT, involves allowing a stimulus to be there until it no longer interferes with one’s functioning. Acceptance is more than that, it involves actively opening oneself up to the stimuli, making room for it in one’s life, and seeking it out. Multiple component studies have shown that training in acceptance procedures aides in the tolerance of painful stimuli (e.g., 47), but the most pertinent studies that illustrate the positive effects of acceptance on tolerance of carbon dioxide challenges (48,49) include increased willingness to engage in additional exposure tasks (50).

**Cognitive Defusion.** *Cognitive defusion* involves altering the context in which inner experiences occur, in an attempt to decrease their automatic impact and importance, allowing them to be seen as an ongoing process. The opposite end of the spectrum is *cognitive fusion* which involves experiencing inner experiences as literal and meaningful and automatically responding to them or otherwise allowing them to impact one’s actions. Being defused from inner experiences allows experiencing thoughts as just words in the head, emotions as just emotions, and bodily sensations as what they are (e.g., sweaty palms, beating heart) and very little more. The utility of this type of approach is that accuracy of the thought is not an issue. For example, an obsession such as “I am unfaithful,” in a client struggling with scrupulosity, would not be dealt with at the content level (e.g., “everyone has doubts,” or finding times when the client was faithful). The focus, instead, would be to practice not taking that thought literally and moving in meaningful directions while that thought is there. The ability of defusion training to decrease the literality and believability of cognition has been shown with intrusive thoughts in general (51,52) and defusion plus acceptance techniques have been shown to be useful in coping with obsessive-like thoughts (53,54).

**Being present.** Being present occurs when inner events and the environment are experienced as they are occurring as opposed to focusing on events in the past or in the future. *Being present* is generally defined as flexible, fluid, and voluntary attention to internal and external events as they are occurring, without attachment to evaluation or judgment. *Not being present* is being cognitively involved in a conceptualized past or future. Again, there are times when it is useful to be present and times when it is useful to focus on the past or the future. Individuals diagnosed with OCD or OC-spectrum disorders will often be focused on one particular stimulus in the external or internal environment. This likely negatively impacts quality of life, but also affects one’s ability to be shaped by the immediate environment. The actual training in being present can be formally similar to other mindfulness trainings, but the focus from ACT is always on being in the present in order to contact direct contingencies. Evidence for the utility of these types of procedures can come from mindfulness research in general or as applied to negative emotional responses (e.g., 55).

**Self as context.** *Self as context* is a form of perspective taking where one can consciously experience internal and external events as occurring from the stance of “I/here/now,” but without being defined by that sense of perspective taking. *Self as content* involves experiencing oneself as one’s inner experiences. Thus, one would not experience anxiety, one would *be* anxious. Similarly, one would not experience an obsession, one would be defined by the obsession. The danger of being aligned with self-evaluations is that people will occasionally base their behavior on that evaluation. If the only sense of self that exists is one of an anxious person, then the person might work to keep or protect it even when other ways of behaving might be more functional. Individuals who experience high amounts of anxiety and obsessions would likely benefit from experiencing these internal experiences as just thoughts, feelings, and bodily sensations regarding one’s self rather than definitions of one’s self. Like all other processes, there are times when it is useful to follow a self as the context where inner experiences occur and times to adhere to those evaluations. This process has never been tested in a laboratory situation, but is supported by basic research on cognition and self-evaluation (39).

**Values.** In ACT, *values* are “freely chosen, verbally constructed consequences of ongoing, dynamic, evolving patterns of activity, which establish pre- dominant reinforcers for that activity that are intrinsic in engagement in the valued behavioral pattern itself” (56). Clarity of one’s values can make the consequences of certain actions more reinforcing and others more punishing. Essentially, values are used to manipulate levels of motivation for behavior change. Therapeutically, ACT can be fairly direct and straightforward when addressing this process. Values are qualities of action that we choose to pursue. Values are often contrasted with goals. Goals are obtainable, such as an educational degree. Values can only be instantiated as an aspect of on-going action, such as being a loving and kind husband, and thus are more like adverbs than nouns. They can be pursued across one’s life, but they cannot be possessed like objects. There is experimental evidence for the ability of a values discussion to increase the likelihood that one will engage in a certain activity (57).

**Behavioral Commitments.** This is the area of ACT where traditional behavior change procedures are incorporated into therapy. One important aspect of behavioral commitments done from an ACT perspective is that they are consistent with the clients values (so as to increase motivation) and are presented as opportunities to practice the other ACT processes (acceptance, defusion, being present, and treating oneself as the context where inner experiences occur). Repeated practice of these behaviors results in larger and larger patterns of flexible and effective action. As pertaining to OCD and OC-spectrum disorders, exposure exercises and behavior change procedures such as habit reversal are the most likely forms of behavioral commitments (11,25).

**Treatment of Psychological Inflexibility: ACT**

 ACT is the process of increasing psychological flexibility. While there are many published manuals that outline particular procedures that can be used to increase psychological flexibility (e.g., 11,58), ACT, in no way, should be limited to or too heavily tied to these particular procedures. Instead, ACT is better viewed functionally, in the same way reinforcers or punishers are conceptualized. ACT is whatever is done that increases psychological flexibility. Fostering psychological flexibility is generally accomplished through creating a therapeutic context where the six previously described processes can be practiced and then engaging in behavioral commitments outside of session. As described in the section on RFT, it is possible to alter the functional context under which inner experiences occur, thus allowing knowledge of what thoughts are and what they mean to maintain, but changing their influence on behavior. Formal exercises in combination with a general therapeutic context help in facilitating these processes.

 Even though ACT for OCD and OC-spectrum research is in development, a particular eight session individual therapy manual has been tested in multiple studies. A brief outline of this manual will be presented (for more detailed accounts see 22–24,59–61). The protocol described here does not contain in session exposure exercises or, in the case OC-spectrum disorders, habit reversal. Treatment begins by informing the participant as to what treatment will entail and securing agreement to participate in treatment. Next, a discussion on how inner experiences (obsession or urges) are only temporally, not causally, related to behavior (compulsions, picking and pulling) occurs. Exercises aimed at helping the participant experience that attempts at regulating or controlling internal experiences are only successful in the short-term not long-term, and often result in long-term decreases in quality of life occur. Thus, the presence of obsessions or other urges may not be the clinical issue but the struggle against them and the resulting interference in functioning may be the target.

 Session two focuses on how attempts to control “unwanted” internal experiences make sense because in most other places in life unwanted things can be controlled. It is highlighted that the world inside the skin does not work the same way that events outside the skin do—that it might work the opposite way. Acceptance (termed “willingness” in therapy) might be a more effective procedure for responding to internal experiences. Sessions three through seven flexibly focus on increasing the willingness to experience obsessions or other urges, and teaching defusion, self as context, and being present. These are usually targeted based on what would be most therapeutically useful to the participant. At the end of session three, behavioral commitments tied to individual values begin occurring on a daily basis. Again, the behavioral commitments are in line with personal values and are used as opportunities to practice the other psychological processes of change. At the end of therapy, a more focused discussion on personal values occurs. Values are offered as a “life compass” to take the place of being guided by obsessions or other urges. Thus, ACT for OCD has a strong focus on quality of life issues and generally targets obsessions and compulsions, urges, and picking/pulling, to the extent to which they interfere with ones functioning. This can create some complexity as OCD symptoms and quality of life are generally related (62) but decreases in OCD symptoms do not always mean increases in quality of life (63). Additionally, this can be at odds with some clinical measures of OCD, or OC-spectrum disorders, as decreases in obsessions and urges are less of a target when teaching skills such as acceptance and defusion (61,64).

**Support for ACT**

Research on ACT has flourished since around 1999 after the first book on its use was published (58). Currently there are over 60 randomized clinical trials on ACT published covering a large number of clinical issues with meta-analyses indicating that ACT is more effective than control conditions, but it has not been shown to be more effective than other empirically supported treatments (65,66); also see (43,45). Specifically, there is evidence for the effectiveness of ACT as a unified protocol across a variety of anxiety disorders (67–69); with discriminative support for the purported process of change (69,70). Effectiveness for ACT, or largely ACT-based protocols, exists with specific anxiety disorders including generalized anxiety disorder (71,72) with support for acceptance and values-based activities being positively related to responder status (73); social phobia (74,75), panic disorder (76), and math (77) and test anxiety (78). The ACT protocol offers an option to therapists and clients for a flexible approach to the treatment of these disorders. ACT may be highly acceptable by clients, ultimately resulting in low drop out rates. It also might be useful for a client who is intimidated and unwilling to approach a feared stimulus, as could occur in ERP. Fostering acceptance and willingness to engage with the stimulus may be a useful first step with this type of client. The following portion of this paper will present the research on ACT for OCD and OC-spectrum disorders that has been published.

**ACT for OCD**

 There are a handful of psychological constructs that have been found to be positively related to OCD severity that are consistent with processes addressed in ACT including thought action fusion (53), thought control (79), and thought suppression (80). Psychological inflexibility, as measured by versions of the AAQ (43), is the purported processes of change in ACT. One issue with the AAQ is that it is a general measure of the way one responds to internal experiences and does not mention obsessions or related experiences directly. Thus far, findings using clinical (81) and nonclinical groups (82) have found greater support for cognitive measures accounting for OCD severity than the AAQ, although support was found for psychological inflexibility in the development of OCD (83). More research has been conducted on the utility of ACT as a treatment for OCD.

##### To date, there are multiple small N studies investigating ACT for OCD (23,84–86) and one large randomized clinical trial (24). Most of these studies, including the RCT, utilized the same eight session protocol presented in the previous section of this paper; the other one was 12 one hour sessions. For experimental reasons, in-session exposure exercises were not included in any of these studies. This was done so that the effects of targeting psychological flexibility, without the concern that already proven techniques (ERP or cognitive challenging), was really responsible for the outcomes. Participants certainly encountered feared stimuli outside of session, but in these situations participants were taught to practice ACT skills rather than focusing on subjective units of discomfort or cognitive change. Sessions were scored and results confirmed that exposure and cognitive challenging where not taught in ACT (23,24).

##### The first specific ACT for OCD (23) study tested the effects of an the eight session protocol with four adults with varying types of OCD (i.e., checking, checking, cleaning, and hoarding) in a multiple-base line design. Self-monitored compulsions were the primary dependent variable. Results showed that participants’ daily self-reported compulsions decreased to very low levels at posttreatment with results maintained at follow-up. Standardized measures taken at pretreatment, posttreatment, and follow-up showed that the Obsessive Compulsive Inventory (87) decreased by 68% from pretreatment to posttreatment and 81% from pretreatment to follow-up with all participants below the nonclinical mean for the measure. In addition, all participants demonstrated a reduction in both anxiety and depression and an increase in psychological flexibility as measured by the AAQ. Treatment acceptability was an average of 31 out of 35 in this study.

The effectiveness of the same eight session protocol, without in-session exposure exercises, was then compared to progressive relaxation training (PRT) in 79 adults diagnosed with OCD. This study utilized assessors who were unaware of treatment condition and the Yale-Brown Obsessive Compulsive Scale (Y-BOCS) (88) for OCD severity. ACT resulted in greater reductions in Y-BOCS severity (pretreatment= 24.22, posttreatment=12.76, follow-up=11.79) than the PRT condition (pretreatment=25.4, posttreatment=18.67, follow-up=16.23). Clinically significant change defined as a score below 14 on the Y-BOCS and at least a 6.39 from pretreatment resulted in a greater clinical response rate for ACT than PRT (first score represents all available data and the second score includes imputed data; ACT posttreatment =46%–56%, follow-up= 46%–66%; PRT posttreatment = 13%–18%, follow-up=16%–18%). Greater change in depression was seen for ACT in those at least mildly depressed at pretreatment. Treatment refusal (2.4% ACT, 7.8% PRT) and dropout (9.8% ACT, 13.2% PRT) were low. Finally, ACT was found to be highly acceptable by participants with a 4.4 out of 5 on acceptability compared to a 3.7 for PRT.

A 12 session protocol was tested and found useful in two clients in an outpatient clinic (84). A slightly modified protocol for adults with primarily scrupulosity type OCD was tested with five adults in a multiple baseline design (85). Results showed a 74% decrease in compulsions from pretreatment to posttreatment and an 80% decrease to follow-up. A 51% and 54% decrease was seen at posttreatment and follow-up respectively on the Y-BOCS. Finally, standardized measures of religious faith showed minimal (4% to posttreatment and 7% to follow-up) decreases in religiosity as a result of treatment; indicating scrupulosity can decrease without major effects on one’s religious beliefs. Acceptability was also high in this study. Finally, another multiple baseline design was used to test the effects of the same protocol modified for adolescents with OCD (86). Again, 40% and 44% reductions in compulsions were seen at posttreatment and follow-up. Child Y-BOCS (89) scores decreased on average 28% and 42% at posttreatment and follow-up. Acceptability was also high.

In summary, these findings suggest that a relatively brief ACT protocol, that does not include in session exposure exercises, can result in clinically significant levels of change that are similar to what are seen in review studies of other supported treatments (3). In all these studies, notable or significant decreases are seen in the AAQ. Additionally, drop-out and treatment refusal is low and treatment acceptability is high.

**ACT for OC-Spectrum disorders**

 ACT targets psychological inflexibility. Because psychological inflexibility appears to be a component in most forms of pathology (43), ACT can be thought of as a unified protocol that can be used across many forms of pathology. Adjustments are made to the techniques to fit the issue being targeted, but maintain the same understanding of human functioning. The adjustments necessary between OCD and OC-spectrum disorders appear to be very small—just a few wording changes.

 Agreement has not been reached as to what is an OC-spectrum disorder and what is not. Trichotillomania and chronic skin picking are usually considered forms of OC-spectrum and there is a fair amount of data on ACT for those disorders (22,25,26,90). Preliminary data exists for ACT for compulsive pornography viewing (91) and ACT plus habit reversal for Tourette’s Disorder (92). Similar to the OCD section, the data on psychological inflexibility and OC-spectrum disorders will be reviewed first.

 In a sample of individuals with trichotillomania, it was found that those that had higher AAQ scores had greater trichotillomania severity, more urges to pull, greater intensity of urges to pull, lower ability to control urges, and had more distress related to pulling (93). However, psychological inflexibility did not play a role in the frequency of hairs pulled. Relatedly, pulling severity is positively related to feelings of shame, dysfunctional beliefs about appearance, and fear of negative evaluation (94), and the AAQ fully mediated the relationship between shame and severity of hair pulling and between fear of negative evaluation and severity of hair pulling. The relationship between dysfunctional beliefs about appearance and severity of hair pulling was only partially mediated by the AAQ. Additionally, it was found that a greater severity of skin picking was related to higher levels of anxiety, depression, and psychological inflexibility, and the AAQ was found to partially mediate the relationship between both anxiety and depression with skin picking severity (95). Finally, psychological inflexibility is positively correlated with pornography viewing (hours per week of viewing), sexual compulsivity, and sexual urges in comparison to those with non-problematic viewing (96), and the way people interact with urges to view pornography affects whether viewing is problematic or not (97). Within treatment studies, experiential avoidance showed moderate to large improvements from pre to post in those with trichotillomania (25,26), skin picking (22), and problematic pornography viewing (98).

One study (22) evaluated ACT alone for chronic skin picking. This was the same eight session protocol as reviewed in the OCD section (23,24). Five adults were treated and self-monitoring of picking was the main dependent variable. The effects of the intervention were evaluated in a multiple baseline design and results showed large reductions in skin picking for four of the five participants from baseline to posttreatment; only one of the four maintained that reduction at the three month follow-up. The same protocol was tested with six adults with compulsive pornography use (98). Again, self-monitoring was the main dependent variable and the effects of the treatment were evaluated in a multiple baseline design. Treatment resulted in an 85% reduction in viewing at posttreatment and an 83% reduction at the three month follow-up.

The combination of fewer ACT sessions and simplified HRT has also been tested in multiple studies (25,26,90,99). Four sessions of ACT and three sessions of simplified HRT were evaluated in a multiple baseline with six adults (25). Self-monitoring showed reductions in pulling for four participants, and results were supported by validated scores and photographs with social validity ranking at posttreatment; results were maintained for three of four participants at follow-up. A similar, but longer (10 sessions and included psychoeducation), protocol was compared to a waitlist with 28 adults with trichotillomania in a randomized controlled trial (26). The ACT+ HRT group showed a 45% reduction in trichotillomania severity at posttreatment with no reduction being seen in the waitlist group. Sixty-six percent of those in the ACT group improve clinically compared to 8% of the control group. This general protocol has been tested with variations in sequencing and length of ACT and HRT in adults with trichotillomania and chronic skin picking (90,99). Finally, new evidence suggests that this same protocol is also effective with adolescents with trichotillomania (100). Finally, a small randomized trial of HRT and ACT+HRT for Tourette Disorder in 13 adolescents/young adults was tested (92). HRT consisted of 8 sessions spread over 10 weeks. ACT + HRT consisted of 10 sessions over 10 weeks. In both conditions, two booster sessions were given at 14 and 18 weeks. There was not a statistically significant difference between the two groups, with both groups showing a reduction in tic severity. The authors noted that a low level of experience in the ACT therapists and the small number of participants may have had an impact on treatment outcomes.

In summary, there is growing support for ACT alone and ACT+HRT in the treatment of trichotillomania and skin picking. The use of these types of procedures with other types of behaviors such as compulsive pornography use and Tourette’s Disorder are in development.

**Discussion**

While there are effective treatments for OCD and OC-spectrum disorders such as ERP and habit reversal, they are not universally effective. Thus, there is utility in developing and investigating alternative methods of treatment. ACT is one alternative intervention that has been in development for over 30 years. Grounded in functional contextualism, ACT is informed by the research of many areas including behavior analysis. Behavioral research on language and cognition, specifically rule governed behavior and relational frame theory, inform the psychological processes that are targeted. Psychological inflexibility is the primary target of ACT. Psychological flexibility is made up of acceptance, defusion, self as context, being present, values, and committed action. There is evidence for the utility of ACT across a variety of applied issues (66) and the evidence for ACT as a treatment for OCD and OC-spectrum disorders is growing. Specifically, ACT without in-session exposures has been found to be effective for adults and adolescents with OCD (23,24,101). Whereas, the support for ACT alone for OC-spectrum disorders is limited (22,98), there is greater support for ACT in combination with habit reversal (25,26). Hopefully, this review illustrates the many levels of research that make up ACT and that to judge ACT simply by the techniques and metaphors used in therapy overlooks many important levels of the development of this therapy and its use for OCD and OC spectrum disorders.

**Limitations and Future Directions**

There are a number of issues or limitations to this work that need to be addressed as it continues. The first one has to do with keeping the traffic flowing between the different levels of scientific development. ACT is more than a set of techniques. It has a particular philosophy, link to basic science, its own processes of change, a particular desired outcome, and its own treatment protocols. This is not an issue that just ACT researchers struggle with, it is an issue most researchers face. Our suggestion is to have everyone take responsibility for maintaining translational research. Basic and applied researchers must ask each other questions; the same goes for individuals who engage in solely applied work and those that are solely researchers. Without this type of communication, researchers in their respective areas can either get way ahead or out of touch with those who might be informed by their data. This research should occur at many levels including more research on how obsessive cognitions and urges to pick and pull function and how they can be targeted. Large trials testing ACT+HRT for trichotillomania, ACT plus exposure exercises for OCD, ACT alone for compulsive pornography use, and ACT alone for trichotillomania are occurring, as are many other studies of which we are not aware. The results of these studies and the ones to follow will ultimately inform the utility of this work.

Another issue that seems to develop as a result of ACT being a unified protocol is that the main measure developed to test psychological inflexibility is very general. Psychological inflexibility positively correlates highly with most forms of pathology including workplace stress, anxiety, depression, health issues, and many others (43). Many researchers have developed specific versions of the AAQ to more accurately address target issues, such as behavioral health issues (45). It appears that when the measure taps into the issues that are pertinent to the disorder, rather than global issues, it functions better and is more useful. Research on OCD and OC-spectrum disorders would benefit from this type of measure development.

One issue that has been raised regarding ACT in general (e.g., 100) and ACT for OCD (103) is whether it is different than existing treatments. This is an important issue. Research is answering this question as it applies to treatments for other psychological disorders (e.g., 70,71), but this work is only in its infancy for OCD and OC-spectrum disorders (84). This issue should not be determined based on what therapies look like, but what processes of change they move, and does that movement affect treatment outcomes. In order to compare treatments based on how they work, their processes of change need to be defined and appropriate, validated measures need to be developed. While admitting that an AAQ for OCD and OC-spectrum disorders needs to be developed, ACT is specific in that its process of change is psychological flexibility. Currently, there is no consensus as to the psychological process of change in ERP (104). Thus, changes in psychological inflexibility would have to be compared to a process of change that represents whatever treatment ACT is being compared to.

One other important thing to consider is the complexity that occurs when defining CBT procedurally. Nowadays, CBT seems to be an umbrella term that represents a number of therapies that share similarities but are generally agreed on as being different therapies; examples include traditional cognitive therapy as presented by Dr. Aaron Beck, Dialectical Behavior Therapy, Schema Therapy, and Mindfulness-Based Stress Reduction, to name a few (105). These treatments have shared aspects and unshared ones. It is important to note that the differences do not just exist at the level of technique, but also in the purported processes of change, as well as desired outcomes. The same case applies to ACT, it is a form of CBT, informed by other forms of CBT, while containing elements that are unique. Finally, all these therapies are changing over time, and this aspect should be considered when comparing these treatments. Importantly, if all these treatments are types of CBT, and in some ways influenced by similar people and research, they will grow in similar ways. Thus, any comparison is only accurate at the time the comparison is made because all therapies and models are in flux.

In conclusion, the research on ACT in general is substantial and has been in development for a long time. Research on ACT for OCD and OC-spectrum disorders is newer, but is also informed by all the philosophical, basic research, and construct research that informs ACT for other disorders. There is a notable body of research on ACT for OCD and OC-spectrum disorders. Even though much of it involves small N designs, there are a few randomized trials and, much work underway. Hopefully, this review helps familiarize people with this line of research and guides future research in this area.

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Figure 1. Levels of Contextual Behavioral Science

Specific Variants:

ACT for OCD and OC Spectrum Disorders

Treatment:

Acceptance and Commitment Therapy

Target Construct:

Psychological Flexibility

Basic science:

Modern Learning Theory

Philosophy:

Functional Contextualism

Figure 2. ACT model illustrated for use with OCD. Based on the ACT ADVISOR by David Chantry and used with permission.

*My obsessions tell me how things really are what I need to do*

*I constantly struggle with my obsessions and anxiety*

*I spend most of my time focused on obsessions or looking for feared stimulus*

*I don’t know what I want from life*

*I don‘t manage to act on the things I care about*

*The person I call me is my thoughts and feelings about myself*

*I flexibly pay attention to what is occurring in the present moment*

*I am clear about what I choose to value in life*

*I identify the actions I need to take to put my values into practice, and I see them through*

*The person I call me knows what I am thinking and feeling but is distinct from that process*

*I see my obsessions as just another event in my head*

*I willingly accept my obsessions and anxiety to occur*

ACCEPTANCE SCALE

ATTENTION TO PRESENT SCALE

VALUES CLARITY SCALE

COMMITMENT & TAKING ACTION SCALE

DEFUSION

SCALE

SELF AS CONTEXT

 SCALE

high

low

low

low

high

high

lowq

low

low

low

high

high

high