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#### ACCEPTANCE AND COMMITMENT THERAPY FOR ADOLESCENT

## **OBSESSIVE-COMPULSIVE DISORDER**

by

Andrew B. Armstrong

## A dissertation proposal submitted in partial fulfillment of the requirements for the degree

of

# DOCTOR OF PHILOSOPHY

in

#### Psychology

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#### ABSTRACT

#### Acceptance and Commitment Therapy for Adolescent

Obsessive-Compulsive Disorder

by

Andrew B. Armstrong, Doctor of Philosophy

Utah State University, 2011

Major Professor: Dr. Michael P. Twohig Department: Psychology

There is growing support for the use of acceptance and commitment therapy (ACT) as a treatment for adults with obsessive-compulsive disorder (OCD). No research has been published to date on the use of ACT as a treatment for adolescent OCD. To begin investigating ACT for youth OCD, a multiple baseline study was conducted. The primary measure was self-monitoring of compulsions and assessor completed (CY-BOCS). Three adolescent participants, ages 12 to 17, were treated with 8 to 10 sessions of ACT (without exposure). Results showed that the intervention was successful for all participants, with a 40% mean reduction in self-reported compulsions. Near absence of compulsions was reported by two of three participants at posttreatment. CY-BOCS ratings decreased by an average of 28.2%. Treatment procedures were rated by participants and parents as highly acceptable. Experimental and clinical implications of

results are discussed. Data suggest that ACT may be a viable treatment as an alternative or an adjunct to exposure-based treatments.

(165 pages)

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Andrew B. Armstrong

# CONTENTS

	vi

Page

ABSTRACT	iii
ACKNOWLEDGMENT	v
LIST OF TABLES	viii
LIST OF FIGURES	ix
CHAPTER	
I. INTRODUCTION	1
II. REVIEW OF LITERATURE	4
Overview of OCD	4
Symptomology Prevalence Comorbidity Course Impairment	4 5 6 7
Current Treatment	8
Cognitive-Behavioral Conceptualization of OCD Current Treatment Recommendations Outcome Studies Limitations of Extant Research and Why Additional Treatment Options Make Sense	8 10 11 12
ACT Approach to OCD Treatment	15
Evidence for ACT with OCD and Related Problems	19 20
III. METHODS	22
Participants Setting Measures	22 25 25

# Page

	Diag	gnostic Screening
	Out	come Measures
	Proc	cesses of Change Measure
	Mea	sure of Treatment Acceptability
	Experi	mental Design
	Proced	
	110000	
	Asse	essment
	Trea	atment
	Sup	ervision
	Trea	atment Integrity
IV.	RESULTS	
	Outcor	ne Measures
	Part	icinant 1
	Part	icipant 7
	Part	icipant 3
	1 41 1	
	Summa	ary of Outcome Results
	Process	s of Change Results
V	DISCUSS	ION
• •	Discoss	
	Outcor	nes
	Experi	mental Implications
	Clinica	I Implications
	Limita	tions
	Future	Directions
	Conclu	ision
REFERE	ENCES	
APPENI	DICES	
Ap	pendix A:	Recruitment Flier
Ap	pendix B:	Children's Yale-Brown Obsessive Compulsive Scale (CY-BOCS)
Ap	pendix C:	Children's Depression Inventory (CDI)
Ap	pendix D:	Multidimensional Anxiety Scale for Children (MASC)

# Page

Appendix E:	Child Obsessive-Compulsive Impact Scale–Revised (COIS-R)	106
Appendix F:	Acceptance and Fusion Questionnaire for Youth (AFQ-Y)	108
Appendix G:	Treatment Evaluation Inventory-Short Form	110
Appendix H:	Informed Consent	113
Appendix I:	Parent Handout	117
Appendix J:	Treatment Manual	119
Appendix K:	Definitions of ACT Processes	144
CURRICULUM VI	ГАЕ	149

# LIST OF TABLES

Table		Page
1	Participants	24
2	Summary of Treatment Sessions	32

# LIST OF FIGURES

Figure		Page
1	Six core ACT processes	17
2	Parcipant flowchart	23
3	Daily compulsion frequencies and weekly ACT process data	39
4	Daily frequency of P1's reassurance seeking	40
5	Length of Pd's bedtime routine in minutes	40
6	Children's Yale-Brown Obsessive Compulsive Scale	40
7	Multidimensional Anxiety Scale for Children ( <i>T</i> scores)	40
8	Child OC Impact Scale–Child Report	41
9	child OC Impact Scale–Parent Report	41
10	Children's Depression Inventory	41
11	Lag correlations: Weekly compulsion averages and weekly process ratings for P1	47
12	Lag correlations: Weekly compulsion averages and weekly process ratings for P2	47
13	Lag correlations: Weekly compulsion averages and weekly process ratings for P3	48

#### CHAPTER I

#### INTRODUCTION

Obsessive-compulsive disorder (OCD) is a debilitating anxiety disorder that affects 2-3% of children and adolescents (Rapoport et al., 2000). *Diagnostic and statistical manual of mental disorders* (4<sup>th</sup> ed.; American Psychiatric Association, 2000; DSM-IV) does not differentiate between adult and childhood OCD; however, developmental differences in content of obsessions, topography of compulsions, and level of insight have been reported (Stekekee & Barlow, 2002; Swedo, Rapoport, Leonard, Lenane, & Cheslow, 1989). Childhood-onset OCD is associated with high rates of comorbidity with other psychiatric disorders (Geller et al., 1997), creates significant disruption for families (March, 1995), and tends to be a persistent diagnosis if not effectively treated (Skoog & Skoog, 1999).

Cognitive behavioral therapy (CBT) that includes exposure and response prevention (ERP) is the recommended first-line treatment, either by itself or in combination with selective serotonin reuptake inhibitor (SSRI) medication (American Psychiatric Association, 2007). CBT and medications have shown moderate levels of effectiveness in reducing OCD symptoms for adolescents and are considered "probably efficacious" treatments (Barrett, Farrell, Pina, Peris, & Piacentini, 2008). However, these treatments are not without their limitations. Many children do not respond to treatment, many drop out or refuse therapy, and others respond minimally (Freeman et al., 2009; Thienemann, Martin, Cregger, Thompson, & Dyer-Friedman, 2001). Treadwell and Tolin (2007) have identified several factors which may limit the effectiveness of ERP for children, namely presence of comorbid conditions, motivational problems, and lack of cooperation from family members. Other approaches are needed to increase effectiveness and acceptability of interventions for patients and families.

Acceptance and commitment therapy (ACT; Hayes, Strosahl, & Wilson, 1999) is an empirically-based psychological intervention that is showing promise in the treatment of adult OCD and may hold promise for treating adolescent OCD. Instead of focusing on first-order change of internal experience (i.e., reduction in obsessions and anxiety) ACT focuses on second-order changes through targeting the function of these internal experiences and promotes behavior change in service of increasing individuals' quality of life (Twohig, 2009). ACT utilizes processes such as acceptance, values, and mindfulness in treatment to foster willingness to experience obsessions and related anxiety (Hayes et al., 1999). Whereas traditional CBT treatments focus on controlling or regulating thoughts and emotions, ACT encourages individuals to accept private events and to act in ways consistent with chosen values (Hannan & Tolin, 2005).

Trials using ACT for adult OCD have shown high levels of effectiveness and acceptability (Twohig, Hayes, & Masuda, 2006a; Twohig et al., 2010). For example, a recent trial ACT (without in session exposure) outperformed progressive relaxation training (PRT) with over a 50% response rate in the ACT condition versus approximately a 15% response rate for PRT (Twohig et al., 2010). Evidence also exists supporting the use of ACT for treating conditions related to OCD, including trichotillomania (Twohig & Woods, 2004; Woods, Wetterneck, & Flessner, 2006), chronic skin picking (Twohig, Hayes, & Masuda, 2006b), and compulsive pornography use (Twohig & Crosby, 2010).

Even though ACT is a cognitive intervention, adaptations to children and adolescents with various diagnoses have been successful (e.g., Murrell & Scherbarth,

2006; Twohig, Hayes, & Berlin, 2008). Theoretically, ACT for adolescent OCD seems appropriate because research suggests children avoid emotions during exposure therapy and these behaviors are supported by their parents and that avoidance of these emotions and fusion with obsessions predicts stronger OCD (Coyne & Burke, 2007).

Based on its success with adults with OCD, and given the limitations of standard OCD treatment approaches with adolescents, the evaluation of ACT for adolescent OCD appears prudent. Yet, no research has been published on the use of ACT as a treatment for adolescent OCD. The purpose of this study is to provide preliminary data on the effectiveness of ACT for adolescent OCD. The following research questions guided this project:

1. Can ACT for adolescent OCD be successfully implemented?

- 2. What clinical outcomes are seen as a result of this intervention?
- 3. How does ACT affect its purported processes of change?

4. What level of treatment acceptability is seen from the adolescents involved in the intervention?

# CHAPTER II

## **REVIEW OF LITERATURE**

## Overview of OCD

## Symptomology

According to DSM-IV, OCD is an Axis I anxiety disorder characterized by recurrent obsessions and/or compulsions that cause interference in one's life (APA, 2000). Obsessions are defined as "recurrent and persistent thoughts, impulses, or images that are experienced...as intrusive and inappropriate and that cause marked anxiety or distress" (APA, 2000, p. 462). Compulsions are "repetitive behaviors or mental acts that the person feels driven to perform in response to an obsession...and the behaviors or mental acts are aimed at reducing distress or preventing some dreaded event or situation" (APA, 2000, p. 462). To meet OCD criteria, it is not necessary for obsessions and compulsions to both be present; however, a large majority of cases have both (APA, 2000; Storch et al., 2004). Compulsions without the presence of obsessions are rare, but are more common for younger children than for adolescents or adults (Hanna, 1995). Finally, the obsessions and compulsions must cause functional interference and not be accounted for by another disorder.

DSM-IV (APA, 2000) criteria do not differ for children and adults; there is no separate category for pediatric OCD. However, some key phenomenological differences have been noted. In children, the most common obsessions are fear of contamination, harm to self, harm to loved ones, and urges about symmetry and/or exactness (Swedo et al., 1989). The most common compulsions for children are washing and cleaning, followed by checking, counting, repeating, touching, and straightening (Swedo et al., 1989). While most adults understand that their obsessions and/or compulsions are unreasonable, children and adolescents may not possess similar insight into their behavior (Steketee & Barlow, 2002). Obsessive compulsive-type behaviors such as ritualized routines and concerns about symmetry are common among children and can be considered adaptive in terms of developing a sense of control and mastery (Carter & Pollock, 2000; King, Leonard, & March, 1998; Moore, Mariaskin, March, & Franklin, 2007). A key difference between normative and disordered childhood rituals is that, for individuals with OCD, rituals are associated with distress and an overestimation of personal responsibility (Moore et al., 2007).

#### Prevalence

Lifetime prevalence rates for OCD estimate that 2-3% of children will meet OCD criteria by late adolescence (Rapoport et al., 2000). Point prevalence rates suggest that 0.5-1% of children meet criteria at any given time (Flament et al., 1988). The average age of diagnosis has been reported as 10.3 years (Swedo et al., 1989). Interestingly, a 13.8% prevalence of OCD has been reported for family members of individuals with early-onset OCD (between age 5 and 17 years); virtually no familial connection has been found with late onset OCD (18 to 41 years; Nestadt et al., 2000). Male predominance has been reported for children and adolescents (3:2 male-female ratio; Geller et al., 1997), owing partly to the fact that males are more likely to have a prepubertal onset, and females are more likely to have an adolescent onset (Tukel et al., 2005). By adulthood, OCD diagnoses are slightly more common for women than for men (Rasmussen & Eisen, 1990).

# Comorbidity

Overall, rates of comorbidity are high for childhood-onset cases of OCD (POTS, 2004). Lifetime comorbidity rates with other psychiatric disorders range from 75% to 84% (Geller et al., 1997). Leonard, Lenane, Swedo, Rettew, and Cheslow (1992) reported up to 80% comorbidity between those diagnosed with a tic disorder and OCD. In cases of Tourette's disorder specifically, OCD symptoms are nearly always present (Leckman & Chittenden, 1990; Steketee & Barlow, 2002). However, only 4-7% of individuals with OCD also meet criteria for Tourette's disorder (Rasmussen & Eisen, 1990). High comorbidity rates have been reported with OCD and other anxiety disorders, particularly Generalized Anxiety Disorder and Separation Anxiety Disorder (50-60%; Geller et al., 2001; Zohar, 1999). Early OCD onset is predictive of comorbid anxiety disorders, including Simple Phobia and Agoraphobia (Geller et al., 2001). Rates as high as 30% have been reported for OCD and comorbid attention-deficit/hyperactivity disorder (ADHD; Geller, Biederman, Griffin, Jones, & Lefkowitz, 1996). Comorbid OCD and ADHD predict lower social and academic outcomes and higher likelihood of depression (Sukhodolsky et al., 2005). Comorbidity between OCD and major depressive disorder is moderate (10-26%) and is more prevalent with adults (Hanna, 1995; Swedo et al., 1989). Further, because of shared characteristics with OCD, trichotillomania, compulsive skin picking, and body dysmorphic disorder have been sometimes been called Obsessive-Compulsive Spectrum Disorders (Shytle & Wilkinson, 2007).

## Course

OCD is typically a stable diagnosis over time (Geller et al., 1997; Skoog & Skoog, 1999). The content of obsessions and the topography of compulsions may change

across time, though little is known about symptom progression due to a lack of long term studies (Stewart et al., 2004). With regard to obsessions, hoarding and obsessions about harm are more common in children and adolescents, and sexual obsessions are more common with adults (Moore et al., 2007). As noted earlier, adults tend to have more insight regarding their condition (Foa & Kozak, 1995); low insight for children may also be related to embarrassment and/or fear of punishment (Moore et al., 2007). Early onset, low social functioning, higher levels of family dysfunction, and persistent symptoms in the first few years following diagnosis are predictive of poorer long-term outcomes (Ackerman, Greenland, Bystritsky, Morgenstern, & Katz, 1994; Barrett, Farrell, Dadds, & Boulter, 2005; Skoog & Skoog, 1999). Without treatment, OCD symptoms typically endure into adulthood; OCD persists into adulthood for 33-50% of untreated children and adolescents (Goodman, Rudorfer, & Maser, 2000). Further, up to 50% of adult cases develop during childhood (Abramowitz, Whiteside, & Deacon, 2005).

#### Impairment

OCD hinders the ability of children and adolescents to "play, socialize, attend school, and function as part of a family" (Helbing & Ficca, 2009, p. 15). For children with OCD, impairment in academic functioning can be related to difficulty concentrating, less time for academics because of engagement in rituals, and failure to complete or turn in school work because it is not "just right" (Ledley & Pasupuleti, 2007).

OCD symptoms are related to negative social outcomes for children and adolescents, including isolation and failure to accomplish psychosocial milestones (Geller et al., 1997; Leonard, Lenane, & Swedo, 1993; Piacentini, Bergman, Keller, McCracken, 2003). For example, children with OCD are victims of bullying at higher rates compared with peers (Storch et al., 2006). Also, anxiety disorder diagnoses in general are predictive of substance and alcohol use (Essau, Conradt, & Petermann, 2002).

Family functioning both contributes to and is affected by childhood OCD (March, 1995). Families of children with OCD may be more critical, less warm, and less supportive of independent decision making (Barrett, Shortt, & Healy, 2002; Hibbs et al., 1991). Families of children with OCD report high stress levels, depression, and marital discord (Barrett, Rasmussen, & Healy, 2001). Parents and families often participate in the child's compulsions (Barrett et al., 2001), highlighting the negative effect of childhood OCD on family functioning.

## Current Treatment

# Cognitive-Behavioral Conceptualization of OCD

A cognitive-behavioral model of OCD has been forwarded that is largely based on research with adults. The Obsessive-Compulsive Cognitions Working Group (OCCWG, 1997) identified several core beliefs held by adults with OCD: inflated responsibility, over-importance of thoughts, cognitive control, overestimation of threat, perfectionism, and intolerance for uncertainty. Cognitive theory holds that anxiety and negative emotions ensuing from intrusive thoughts are caused in part by an inflated sense of responsibility over potential harm (Salkovskis, 1996). Individuals with OCD attribute a higher degree of importance to their intrusive thoughts compared with nondisordered individuals (Moore et al., 2007). Thought-action-fusion (TAF), or the belief that having a thought about an event increases the probability of the occurrence of the event or is equivalent to engaging in the act, is a feature common to individuals with OCD (Barrett & Healy, 2003; Rachman, 1993). TAF has been shown to lead to thought suppression in adults, which triggers increases in intrusive thoughts and distress (Rassin, Muris, Schmidt, & Merckelbach, 2000). The paradoxical nature of attempts to suppress thoughts has been well documented in OCD (e.g., Abramowitz, Tolin, & Street, 2001; Salkovskis & Campbell, 1994; Wegner, 1994). An analysis by Marcks and Woods (2005) identified thought suppression as a mediator between TAF and OC symptoms. A study of nonclinical adolescents found that TAF was associated with OCD and other anxiety disorders, but that TAF remained significantly related with OCD only after controlling for trait anxiety (Muris, Meesters, Rassin, Merckelbach, & Campbell, 2001). The belief that individuals have power over intrusive thoughts has distinguished children with OCD from children with other anxiety diagnoses (McLaren & Crowe, 2003).

Behaviorally, rituals and avoidance behaviors are negatively reinforced by a reduction in distress. That feared consequences do not occur is misattributed to having engaged in a ritual, increasing the probability that rituals will continue to be used. Mistaken appraisals not only maintain the rituals, but cue intrusions, in a cycle of intrusion  $\rightarrow$  misinterpretation  $\rightarrow$  anxiety  $\rightarrow$  rituals  $\rightarrow$  intrusion, and so forth (Moore et al., 2007).

Conditioning models provide the basis for exposure and response prevention (ERP), an effective OCD treatment that begins with creation of fear hierarchies. Individuals are then exposed to fear-inducing stimuli from the hierarchy, in imaginal and/or in vivo formats, until their anxiety diminishes through habituation to the feared stimulus (based on self-ratings of subjective units of distress, SUDS). In some ERP approaches, participants are taught to use relaxation techniques, constructive self-talk, and to challenge cognitions (March & Mulle, 1998). The logic behind the incorporation of cognitive challenging procedures in ERP is to bolster and facilitate the cognitive changes that presumably occur as a result of ERP (Himle & Franklin, 2009). It is assumed that the combination of these procedures will result in better outcomes than ERP alone, but thus far research has not been conducted that supports that notion (Tolin, 2009).

#### **Current Treatment Recommendations**

According to a recent review by Barrett et al. (2008), no therapies for pediatric OCD meet APA criteria for a "well-established" treatment (Chambless et al., 1998). CBT and combined (CBT+SSRI) treatments are widely recommended for treating pediatric OCD, and have been classified as "probably efficacious" (Barrett et al., 2008). As a firstline treatment, the APA and the American Academy of Child and Adolescent Psychiatry recommend CBT, specifically including ERP procedures (APA, 2007; American Academy of Child and Adolescent Psychiatry, 1998). Additionally, family-focused CBT, delivered in group or individual format, is classified as a "possibly efficacious" treatment (Barrett, Healy-Farrell, & March, 2004). Developmental sensitivity is built into several treatment protocols for children in the form of greater emphasis on cognitive restructuring, psychoeducation, reward systems for compliance, and increased family involvement (Albano, March, & Piacentini, 1999; Piacentini, Bergman, Jacobs, McCracken, & Kretchman, 2002).

## **Outcome Studies**

Barrett and colleagues (2004) conducted the first randomized controlled trial for children and adolescents with OCD, using an adaptation of a treatment protocol by March and Mulle (1998). The treatment involved was family-focused CBT, which included additional treatment components for parents and siblings. Seventy-seven children (ages 7 to 17) and their families received treatment in either group or individual format or participated in a waitlist control group. Scores on the Children's Yale-Brown Obsessive Compulsive Scale (CY-BOCS) were used to determine symptom reduction. Individual CBT resulted in a mean symptom reduction of 65%; mean symptom reduction for group CBT was 61% (Barrett et al., 2004). Barrett et al. (2005) collected data at 18-month follow-up and found 70% of individual CBT patients and 84% of group CBT participants, were rated as diagnosis-free based on the Anxiety Disorders Interview Schedule for Children (ADIS; Silverman & Albano, 1996). The authors did not report the percentage of potential participants who were not enrolled, nor did they report dropout rate. Because the analysis included only treatment completers, the results may be atypical if large numbers did not complete therapy.

The Pediatric OCD Treatment Study (POTS; 2004) was a randomized controlled trial in which 112 children (ages 7 to 17) were randomly assigned to individual CBT, SSRI, combined (CBT+SSRI), or placebo conditions. Like the previous study, CBT treatment was adapted from the March and Mulle protocol (1998). Ninety-seven of 112 (87%) participants completed the full 12 weeks of treatment. Each of the treatment conditions outperformed the placebo. Analyses indicated significant differences among the treatment groups. Response rates (based on CY-BOCS scores) were 53% for the combined condition, 39% for CBT, 21% for medication, and 3% for placebo. Because this was an intent-to-treat analysis, data for all individuals who began treatment were included. This may help account for why poorer outcomes were reported in the POTS study compared with the previous trial by Barrett et al. (2004). No follow-up data were reported. The authors concluded that CBT alone or in combination with an SSRI should be the first line of treatment for children and adolescents with OCD (POTS, 2004). A second randomized controlled trial by the POTS team is currently underway, in which patients who had a partial response to medication receive CBT in either a traditional "dual doctor" format, or from one psychiatrist trained in the CBT protocol (Freeman et al., 2009).

In addition, smaller trials of CBT for child and adolescent OCD have been conducted. A study by de Haan, Hoodgum, Buitelaar, and Keijsers (1998) assigned 22 youth to receive CBT or clomipramine and found a 59.9% reduction on the CY-BOCS for CBT compared with 33.4% reduction for the medication condition. March, Mulle, and Herbel (1994) reported 50.2% symptom reduction from an open CBT trial with 15 youth. Another study compared CBT delivered as 18 sessions in 1 month versus 16 sessions over 4 months. The mean symptom reduction for the 14 youth in the study was 67% (Franklin et al.,1998).

# Limitations of Extant Research and Why Additional Treatment Options Make Sense

Regarding outcomes, few randomized controlled CBT trials have been conducted, and they have shown moderate levels of symptom remission: 39% responders in an intent to treat sample (POTS, 2004), and 84% responders in a completer analysis (Barrett et al., 2004). Open trials with small samples have shown similar levels of symptom remission (de Haan et al., 1998; Franklin et al., 1998; March et al., 1994). Although CBT is recommended as a first line treatment, there appears to be a fair portion of patients who do not respond to CBT.

Refusal and dropout rates have historically been high in adult OCD research. Exact rates of refusal and dropout in child and adolescent ERP studies are unknown; most authors do not report these data. Meta-analyses of adult ERP studies report average dropout rates of 17-22% (Foa et al., 2005; Kobak, Greist, Jefferson, Katzelnick, & Henk, 1998; van Oppen et al., 1995). This is in addition to individuals who refuse to participate after hearing what is involved in the study. In the largest OCD trial to date, 22% of participants refused treatment after being randomly assigned to the CBT condition (Foa et al., 2005). Compared with trials for adult OCD, it appears that ERP for child OCD is met with less refusal and dropout; however, a substantial number of families reject CBT treatment because it is "too difficult," and children drop out at higher rates for community-based CBT treatment than for CBT treatment studies (Freeman et al., 2009). Although fewer youth than adults actually drop out or reject treatment, full engagement in ERP in and out of session may be more difficult for youth than for adults (Thienemann et al., 2001). It is commonly reported that exposure-based therapies are particularly difficult to participate in for reasons that include time demands, the need to venture out of the therapy room, and the fact that some feared stimuli are hard to create (Olatunji, Deacon, & Abramowitz, 2009). Exposure with youth may be accompanied by the additional challenges of noncompliance to exposure and/or homework, difficulty using

the SUDS rating scale, disengaged families, and/or families that undermine treatment (Treadwell & Tolin, 2007).

For patients who respond to CBT, it is not clear which treatment components are responsible for positive outcomes. "Psychoeducation, cognitive training, exposure, or other nonspecific or unidentified therapeutic ingredients are all potential causes of therapeutic effect...Overall, we do not know which aspects of which treatment works for which child under what conditions" (Freeman et al., 2007, p. 341). This is problematic for researchers and clinicians seeking to validate therapeutic approaches and for families seeking state-of-the-art treatment. Children with OCD who are not adequately treated are likely to encounter a worsening of obsessions and compulsions and are at increased risk for other psychiatric problems in adulthood (Hanna, 1995). Also, while not experimentally noted, many clinicians report that is more difficult to get a child to engage in therapy for OCD after having a bad experience with exposure based therapies (Hanna, 1995).

The outcome research reviewed here may be of limited external validity. Many studies excluded participants with particular comorbid conditions; as noted previously, a large majority of individuals with OCD have comorbid diagnoses (Geller et al., 1997). Data exist that show poorer treatment prognosis when one or more comorbid conditions are present (e.g., depression, ADHD; Geller, Biederman, & Stewart, 2003). For instance, comorbid diagnoses negatively impact response to treatment with pharmacotherapy and indicate a higher risk of relapse following treatment (Geller, 2007).

Thus, given these limitations, it appears that additional treatment options are warranted that effectively reduce symptoms in a manner acceptable to patients. Because exposure often appears to be an objectionable component of current treatment, acceptance-based approaches with a different view of exposure may have potential to bring together effectiveness and acceptability in the treatment of adolescent OCD.

## ACT Approach to OCD Treatment

ACT and other acceptance and other mindfulness-based therapies, including dialectical behavior therapy (DBT; Linehan, 1993) and mindfulness-based cognitive therapy (MBCT) (Segal, Williams, & Teasdale, 2002), have suggested an approach to addressing difficult inner experiences including anxiety and obsessions that is different from tradition cognitive behavioral approaches. These interventions are also exposurebased, but exposure therapy is approached in a different way in these "third generation behavior therapies." Exposure in ACT is not intended to create first-order change (e.g., anxiety reduction; Hayes, 1987), instead, exposure aims to create willingness to experience these inner experiences in the presence of feared stimuli. This position has been offered by Arch and Craske (2008) who indicate that exposure involves "optimizing learning .... based on increasing tolerance for fear and anxiety" (p. 269), which is consistent with the model presented in ACT for OCD. Exposure as used in ACT aims to broaden the range of possible responses in the face of difficult inner experiences (Hayes, Luoma, Bond, Masuda, & Lillis, 2006). This model of therapy is consistent with modern research on fear extinction that finds that extinction involves new learning rather than unlearning (e.g., Bouton, 2002; Bouton & Moody, 2004). This has implications for exposure therapy (e.g., Bouton, 1988) and clinical relapse in general (e.g., Bouton, 2004; Bouton, Woods, Moody, Sunsay, & Garcia-Gutierrez, 2006). In other words, exposure in

an ACT context is not habituation-driven, but based on trying new responses in the face of anxiety-provoking stimuli.

ACT seeks to help clients increase psychological flexibility and contact direct contingencies (as opposed to indirect, cognitive ones; Twohig, 2009). A core target of ACT is *psychological flexibility*, defined as "the ability to contact the present more fully as a conscious human being, and based on what the situation affords, to change or persist in behavior in order to serve valued ends" (Luoma et al., 2007, p. 17). Six core processes contribute to the development of psychological flexibility in ACT (see Figure 1). These are acceptance (embracing thoughts and feelings without trying to change their form), defusion (deliteralization, or seeing thoughts as thoughts), self as context (an I/here/now orientation, viewing oneself as the context where events are experienced), being present (nonjudgmental attention to events as they occur), values (chosen directions that guide one's actions), and committed action (flexible behavior in valued directions; Bach & Moran, 2008; Hayes et al., 1999; Twohig & Hayes, 2008).

A growing number of studies show support for the ACT model and its processes. Component studies demonstrate the clinical utility of focusing on psychological flexibility in general (e.g., Hayes et al., 2006), defusion (e.g., Marcks & Woods, 2005, 2007; Masuda et al., 2009), acceptance (e.g., Eifert & Heffner, 2004; Hofmann, Heering, Sawyer, & Asnaani, 2009; Levitt, Brown, Orsillo, & Barlow, 2004), being present (e.g., Arch & Craske, 2006), values (e.g., Dahl, Wilson, & Nilsson, 2004), and experiential avoidance (e.g., Kashdan, Barrios, Forsyth, & Steger, 2006).



Figure 1. Six core ACT processes.

In ACT theory, attempts to alter the form or frequency of inner experiences is known as experiential avoidance (EA; Hayes, Wilson, Gifford, Follette, & Strosahl, 1996). This may take the form of passive avoidance, in which certain stimuli and situations are avoided altogether, or active avoidance, in which individuals engage in ritualistic behaviors to lessen distress (Hannan & Tolin, 2005). A study by Purdon (1999) showed that individuals with symptoms of OCD were more likely to try to suppress intrusive thoughts. Thought suppression is related to increased levels of anxiety, intrusions, and negative appraisals (Marcks & Woods, 2007). Thus, acceptance-based approaches may be warranted. Marcks and Woods (2005) asked a group of undergraduate students to suppress unwanted intrusive thoughts, and another group to "watch" their intrusive thoughts go by—a common ACT technique. Individuals in the acceptance condition experienced no reduction in frequency of intrusive thoughts, but reported significantly less distress relative to individuals in the suppression condition (Marcks & Woods, 2005). A replication conducted with OCD patients also reported significant decreases in distress for the acceptance condition, while individuals in the suppression condition experienced significant increases in distress (Najmi, Riemann, & Wegner, 2009).

According to an EA-based conceptualization of OCD, individuals' efforts to change inner experiences result in increased struggle, occasioning greater likelihood of ritualizing (Eifert & Forsyth, 2005; Hannan & Tolin, 2005). Recent research has found significantly higher levels of experiential avoidance in groups with high levels of OCD symptoms compared with participants with lower levels of OCD symptoms (Abramowitz, Lackey, & Wheaton, 2009).

The dysfunctional beliefs thought to underlie OCD according to a CBT model (e.g., inflated responsibility, over-importance of thoughts, cognitive control, perfectionism, intolerance for uncertainty; OCCWG, 1997) can potentially be well addressed with acceptance and mindfulness approaches (Hannan & Tolin, 2005; Tolin, 2009). Practices such as acceptance, defusion, and being present-focused promote contact with, not avoidance of, obsessions and associated distress. It may be that such processes increase the acceptability, and perhaps the effectiveness, of exposure (Hannan & Tolin, 2005; Levitt et al., 2004). Instead of addressing maladaptive cognitions head-on, acceptance and mindfulness approaches aim to alter the function of these inner experiences rather than their form, frequency, or how likely they are to occur in certain situations. ACT teaches a way to continue to experience these internal experiences, but not be overly affected by them (Twohig, 2009). Once individuals learn nonjudgmental acceptance of private experiences, ACT processes of values and committed action are used to decrease compulsive behaviors. As individuals begin to pursue values rather than focusing on obsessions, new patterns of behavior may be reinforced by increased quality of life.

# Evidence for ACT with OCD and Related Problems

There is growing support for the use of ACT for adult OCD in the form of a multiple baseline design (Twohig et al., 2006a) and a recently completed NIMH-funded randomized clinical trial (N = 79) comparing 8 one hour sessions of ACT (without in session exposure) to progressive relaxation training (PRT; Twohig et al., 2010). Intent to treat analyses showed that ACT was more effective than PRT on the Y-BOCS at postand follow-up (ACT Y-BOCS scores pre = 24, post = 13, follow-up = 12; PRT Y-BOCS scores pre = 25, post = 19, follow-up = 16). Clinical response rates were 46-66% at follow-up for the ACT condition compared to 16-18% for the PRT condition. One participant refused ACT and 5 of 41 (12%) of the ACT condition dropped out of the study. Additionally, all participants in the ACT condition rated the treatment acceptability as a 4 or greater on a 5-point scale, with 5 being the most positive score (M = 4.38 in the ACT condition compared to M = 3.68 in the PRT condition). Further, exposure with response prevention was not present in any session, based on coding with a scoring manual (Twohig et al., 2010). There is also evidence supporting ACT plus habit reversal for OC-spectrum disorders such as trichotillomania (Twohig & Woods, 2004;

Woods et al., 2006), ACT alone for chronic skin picking (Twohig et al., 2006b) and compulsive pornography use (Twohig & Crosby, 2010).

#### ACT with Youth

Because ACT is a values-based intervention that draws heavily on use of metaphors; it may be a good fit for youth because adolescence is a developmental period marked by values exploration and an increased capacity for abstract thinking (Greco, Blackledge, Coyne, & Ehrenreich, 2005). Further, metaphorical interventions are "less instructive and consequently more difficult to obey (or disobey)" (Greco et al., 2005, p. 309). Tolin (2009) emphasized the importance of providing OCD patients with a sensible way of understanding their condition, emphasizing that ACT interventions such as metaphors and experiential exercises can be a "highly effective form of psychoeducation" (p. 46). Providing such an explanation may be especially important for youth clients, some of whom may lack motivation for treatment. Adaptations of metaphors and exercises by Hayes et al. (1999) can be employed, such as the Chocolate Cake exercise or the *Tug of War* metaphor (Murrell, Coyne, & Wilson, 2005). The *Chocolate Cake* exercise, in which clients are asked *not* to think about a chocolate cake, can be used to highlight the futility of attempts to control private events. The *Tug of War* metaphor illustrates acceptance; individuals are encouraged to "drop the rope" in struggles with uncomfortable thoughts and emotions. Further recommendations for using ACT with youth include incorporating age-appropriate activities into sessions and avoiding dictating the form of behavioral goals (Murrell et al., 2005). It may also be helpful to use diagrams or drawings to help adolescent clients discriminate between internal and external events (Greco et al., 2005).

ACT has been used successfully with adolescents across a variety of presenting concerns including depression (Hayes, Boyd, & Sewell, 2011), chronic pain (Wicksell, Melin, & Olsson, 2007), anxiety-based school refusal (Wilson & Coyne, 2003), anorexia nervosa (Heffner, Sperry, & Eifert, 2002), and social phobia and generalized anxiety disorder (Greco, 2002).

# CHAPTER III METHODS

#### Participants

Adolescents between the ages of 12 and 17 who met diagnostic criteria for OCD were sought as participants. Efforts were made to recruit participants through multiple methods. Fliers were posted throughout USU's campus and the local community (Appendix A). Paid newspaper advertisements appeared in the local newspaper. Stories were published in the community newspaper and campus newspaper based on interviews conducted by staff writers for both papers. Referral materials were mailed to local psychologists and medical providers. Counseling staff at area middle and high schools were contacted by telephone and email. Dr. Twohig was interviewed on Access Utah, a radio program on USU's NPR Affiliate, KUSU.

To be included in the study, participants were required to meet criteria for OCD as measured by the Anxiety Disorders Interview Schedule for Children-Fourth Edition (ADIS-IV; Silverman & Albano, 1996). The following exclusion criteria applied: concurrently participating in other psychotherapies; starting a new psychotropic medication within the last 30 days, or planning on starting or changing psychotropic medication during the course of the investigation; experiencing a psychotic disorder (as defined by the ADIS-IV); or having a cognitive disability that would have precluded their ability to participate in the study.

Thirteen parents contacted the research office to express interest in having their child participate. Five were too young to participate, and 2 had concerns other than OCD.

Six prospective participants passed the initial telephone screening and were scheduled for intake sessions. Of these, 3 youth met criteria and were enrolled. For those not enrolled, 1 was planning to move out of state before study completion, and 1 did not meet criteria for OCD. The third was invited to enroll but the family said they wanted to think about it then did not return the researcher's phone calls. All who did not qualify or chose not to participate were given referrals for other services. See Figure 2 for the participant flowchart.

A summary of participants is provided in Table 1. Participant1 (P1) reported obsessions about illness and death from contamination. She reported frequent worry about her physical well-being, including concerns that her heart would stop or that she would stop breathing. She frequently worried that her food contained mouse droppings (mouse feces had been found in the kitchen on a few occasions, but over a year had passed since any evidence of mice was seen). Her associated compulsions were frequent hand washing (average approximately 15 to 20 times per day) and seeking reassurance



Figure 2. Participant flowchart.

Table 1

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					Comorbid
Participant	Sex	Age	Compulsion(s)	Medication	Cendition
1	Female	12	Hand washing,	Fluoxetine	ADHD
			Reassurance seeking		
2	Male	13	Hand washing	None	None
3	Male	12	"Keep safe" behaviors,	None	None
			Lengthy bedtime		
			routine		

from her mother (average approximately 20 times per day). She sought daily reassurance about her physical well-being (e.g., "Am I breathing?", "Will my heart stop?", "Am I dying?") and about her washing rituals (e.g., "Should I wash my hands?", "Should I keep washing?). P1's mother usually replied to these questions by providing reassurance.

Participant 2 (P2) also experienced contamination obsessions. Because he feared becoming ill, P2 disliked contact with "germy" items such as money, Red Box movies, and items from the thrift store. He also avoided sticky substances (e.g., honey, syrup, glue) because he did not like his hands to feel sticky or clammy. He frequently washed hands (average approximately 20 to 25 times a day) to avoid illness and to rid his hands of feeling clammy.

Participant 3 (P3) reported obsessions about dying, especially fear of dying in his sleep. Fear of dying took on many forms. For example, he worried that dirt or poison would enter his body through his mouth or through small cuts on his skin; he was convinced that contamination would be fatal. He frequently worried that household electronics would cause a deadly fire. He engaged in a variety of compulsions aimed at keeping himself and others safe (average approximately 60 times per day). For example,

he frequently checked to be sure sinks were turned off for fear that they could overflow and flood the house. He engaged in many "keep safe" behaviors just before bedtime, as part of a nightly ritual. For example, fears of suffocating led him to fluff his pillow until it "felt right." P3 explained that the purpose of the entire bedtime routine was to keep him safe; however, many ritualistic elements of his bedtime routine did not have a clear connection to staying safe. As part of the bedtime routine he would walk to bed with his eyes closed after turning off the light, cough three times, lie down then sit back up repeatedly, and stare out the window in a particular way. The main feature of his bedtime ritual was nightly praying. Prayers were said aloud; he would ask to be kept safe while sleeping. While praying, he repeated phrases until the words "felt right." After getting into bed, he engaged in a lengthy process of tucking himself into his blanket in a way that would neither cause him to suffocate or catch hypothermia. Frequently he would leave his bed to repeat his entire prayer ritual. At intake, P3's bedtime routine lasted an average of approximately one hour each night.

#### Setting

All assessment and treatment sessions took place on the USU campus in research offices. These offices contain two 10'x15' therapy rooms that are equipped with video monitoring equipment connected to DVD recorders.

#### Measures

## **Diagnostic Screening**

The Anxiety Disorders Interview Schedule for Children-Fourth Edition (ADIS-
IV; Silverman & Albano, 1996). ADIS-IV is a clinician administered structured interview based on DSM-IV (APA, 2000) criteria that has been used widely to establish a diagnosis of OCD and comorbid disorders (Barrett et al., 2004; Storch et al., 2007; Waters, Barrett, & March, 2001). Excellent test-retest reliability has been reported, with kappas ranging from .80-.92 (Silverman, Saavedra, & Pina, 2001). Evidence for concurrent validity has been demonstrated in the strong correspondence between individual ADIS-IV anxiety diagnoses and subscales from the Multidimensional Anxiety Scale for Children (March, Parker, Sullivan, Stallings, & Conners, 1997).

#### Outcome Measures

The primary outcome measure was *self-reported daily frequency of compulsions*. Self-monitoring of anxiety symptoms has been used routinely in single-subject research with adolescents (Eisen & Silverman, 1998; Ollendick, 1995). Further, self-monitoring of compulsions has been used effectively in other OCD and OCD-spectrum work (Twohig & Crosby, 2010; Twohig et al., 2006a; Twohig & Woods, 2004). In a study of treatment compliance, Abramowitz, Franklin, Zoellner, and Di Bernardo (2002) found adult participants complied with instructions to self-monitor compulsions, and did so with sufficient accuracy.

In this investigation, participants reported daily data to the researcher via the internet. Every evening, participants were sent an automated email reminder that contained a link to a form in which they entered their ID number and the number of compulsions for that day. These data were automatically compiled in a Google excel document viewable by the researcher.

For P1, frequency of hand washing was the primary compulsion being tracked; because of P1's frequent reassurance seeking, her mother was also asked to tally the daily number of questions asked. P2 reported daily frequency of hand washing. P3 tracked "keep safe" behaviors, defined as any compulsion in which he engaged in effort to keep himself or others safe. His mother was also asked to time the duration of P3's bedtime routine, starting when P3 entered his room to go to bed, and ending when his mother could no longer hear any sound coming from the bedroom.

The Children's Yale-Brown Obsessive Compulsive Scale (CY-BOCS; Scahill et al., 1997) is a commonly used measure of obsession and compulsion severity (see Appendix B). Severity of obsessions and compulsions are measured separately (scores range from 0 to 20) for a total severity score (0 to 40). A cutoff point system based on the adult version (Y-BOCS) is commonly used to determine whether symptoms are subclinical (0 to 7), mild (8 to 15), moderate (16 to 23), severe (24 to 31), or extreme (32 to 40). A CY-BOCS cutoff score of 14 has been found to be 90% sensitive as an indicator of the presence of OCD (Stewart, Ceranoglu, O'Hanley, & Geller, 2005). Empirical studies have demonstrated the reliability and validity of the CY-BOCS for assessing child and adolescent OCD symptoms. Strong internal consistency reliability has reported for the CY-BOCS total score ( $\alpha = 0.87$ , Scahill et al., 1997;  $\alpha = 0.90$ , Storch et al., 2004) and also for the obsession ( $\alpha = 0.80$ ) and compulsion ( $\alpha = 0.82$ ) severity scores (Storch et al., 2004). The CY-BOCS has been found to have high convergent validity with other measures, with higher correlations to other measures of obsessions and compulsions than to measures of general anxiety (Scahill et al., 1997; Storch et al., 2004).

The *Children's Depression Inventory* (CDI; Kovacs, 1985) assesses cognitive, affective, and behavioral symptoms of depression in youth (see Appendix C). The measure consists of 27 self-report items in which the subject chooses one sentence from a group of three. Items are given a severity rating of 0, 1, or 2, which are summed to a total score. A cutoff score of 19 has been found to identify depressed children (Doerfler, Felner, Rawlinson, Raley, & Evans, 1988). Adequate test-retest reliability has been demonstrated (ICC = .82; Finch, Saylor, Edwards, & McIntosh, 1987).

The *Multidemisional Anxiety Scale for Children* (MASC; March et al., 1997) contains 39 self-report items that assess anxiety across four domains (physical symptoms, social anxiety, harm avoidance, and separation anxiety; see Appendix D). Superior testretest reliability has been demonstrated (ICC = .93 at 3 months; March et al., 1997). MASC total score significantly correlated with Revised Children's Manifest Anxiety Scale (RCMAS; r = .63, p < .01), demonstrating convergent validity (March et al., 1997).

The *Child Obsessive-Compulsive Impact Scale-Revised* (COIS-R; Piacentini & Jaffer, 1999) is a 33-item youth self-report measure of the impact of OCD symptoms on three areas of daily functioning (school, social, family/activities; see Appendix E). Subjects rate the amount of impairment caused by symptoms in each area on a 4-point likert scale. The measure has demonstrated good internal consistency ( $\alpha$  = .78-.92) and test–retest reliability (ICC = .79-.89; Piacentini, Peris, Bergman, Chang, & Jaffer, 2007). Concurrent validity was demonstrated in that COIS-R total scores were significantly associated with ADIS-IV severity scores and CBCL internalizing, externalizing, and total scores (Piacentini et al., 2007).

### Processes of Change Measure

The *Avoidance and Fusion Questionnaire for Youth* (AFQ-Y; Greco, Murrell, & Coyne, 2005) is a 17-item measure of experiential avoidance and cognitive fusion in youth modeled after the Acceptance and Action Questionnaire (AAQ; Hayes et al., 2004; see Appendix F). Internal consistency of the AFQ-Y is high ( $\alpha = .90$ ; Greco, Lambert, & Baer, 2008). Moderate correlations in expected directions were found between the AFQ-Y and measures of related constructs such as acceptance and mindfulness, thought suppression, anxiety, problem behavior, and quality of life. Although change with treatment in AFQ-Y scores has not been assessed, available findings support convergent and construct validity of the measure (Greco et al., 2008).

### Measure of Treatment Acceptability

The *Treatment Evaluation Inventory–Short Form* (TEI-SF; Kelley, Heffer, Gresham, & Elliot, 1989) is a 9-item self-report measure of treatment acceptability (see Appendix G). Two items regarding developmental disabilities do not apply to the population in question and will be omitted. The 7-item modified version has been used previously (Twohig & Woods, 2004; Twohig et al., 2006). The original TEI-SF instrument has high internal consistency ( $\alpha$  = .85) and a reliable factor structure (Kelly et al., 1989). Participants rate each item on a 5-point Likert scale with higher scores indicating greater treatment acceptability.

### Experimental Design

A nonconcurrent multiple baseline design across participants was used to evaluate the effects of ACT and to control for the effects of the passage of time, testing, and contact with the researcher (Cooper, Heron, & Heward, 2007; Kazdin, 1992). In nonconcurrent designs, phase changes occur at different real times and are preceded by variable lengths of time in the baseline phase. Baseline durations were combined in groups of two participants to minimize the baseline duration for the final participants; P1 and P2 began treatment after 9 and 11 days of baseline, respectively. Treatment began for P3 after 26 days of baseline, corresponding to a significant reduction in P1 and P2's compulsion frequencies.

### Procedure

#### Assessment

At an initial pretreatment assessment session attended by parents and children, interested individuals signed an Institutional Review Board approved consent form (see Appendix H). The ADIS-IV and CY-BOCS were administered via interview by the clinician, and participants completed the CDI, MASC, COIS-R, and AFQ-Y. Parents were given a 1-page summary of ACT, including a brief explanation of the methods involved in the therapy (see Appendix I). During this initial assessment session, participants were given instructions for how to report totals to the research nightly via Google Forms. The AFQ-Y was completed weekly for all participants throughout the baseline phase via Google Forms, and it was administered in person at the start of each treatment session as an ongoing process measure. One week after the final treatment session, participants completed all the pretreatment measures (minus the ADIS-IV) with the addition of the TEI-SF. Postassessments were administered in the same manner as during the intake session. For pretreatment to posttreatment comparisons on selfmonitoring, pretreatment means were calculated using all baseline data and posttreatment were the final seven days of monitoring after the final session.

### Treatment

An 8-week ACT protocol for treating childhood OCD developed by Coyne, Garcia, and Twohig (2004) as well as the previously tested adult protocol (Twohig et al., 2006a; Twohig et al., 2010) guided the development of the adolescent protocol. Eight treatment sessions were planned; if sufficient reductions in compulsions were not observed at session 8, participants were to be given one to two additional sessions. This flexible approach was taken because 8 sessions have been shown to be sufficient for adult populations; we wanted the flexibility to provide extra therapeutic time if necessary to assist adolescent participants. P1 and P2 each attended 8 sessions; based on compulsion data and participant input, 10 sessions were conducted with P3.

Sessions were held weekly and lasted 50 minutes. Sessions were conducted by the first author, one-on-one with adolescents. Parents were invited to join the final 5 minutes of each session (with the child present) to discuss progress and ask questions regarding the child's condition and therapeutic practices. Parents were not asked to play a large role in helping their child implement the therapy outside of sessions. If necessary, parents reminded children to report their data online.

A summary of treatment sessions is provided in Table 2; the full treatment protocol is included in Appendix J. Each of the six ACT processes was targeted during the course of therapy. Following is a description of interventions used to target each process.

### Table 2

## Summary of Treatment Sessions

Session	Treatment components
1	Assess contexts in which OC symptoms occur
	<ul> <li>Discuss differences between obsessions and compulsions</li> </ul>
	• Homework: Record obsessions and what was done in response; Write about
	what OCD is costing
2	• Draw picture of self, label location of obsessions and compulsions
	<ul> <li>"Creative hopelessness" – list efforts to control obsessions and discuss</li> </ul>
	workability of those efforts
	• <i>Tug of war</i> metaphor
	• Homework: Practice dropping the rope (let go of unworkable control agenda)
3	• "Control as the problem" – <i>Polygraph</i> , <i>Fall in love</i> , and <i>Chocolate cake</i>
	• Introduce acceptance – <i>Finger trap</i> exercise
	Homework: Behavioral commitment
4	• Defusion – <i>Milk, milk, milk</i> exercise (in vivo and text-to-speech on computer);
	Grocery store metaphor
	• Acceptance – <i>Passengers on the bus</i> metaphor
	• Homework: <i>Milk</i> exercise; Behavioral commitment
5	• Defusion – <i>Take your mind for a walk</i> exercise
	• Acceptance – <i>Two scales</i> metaphor, <i>Obsessions on paper</i> exercise
	Homework: Behavioral commitment
6	• Values – <i>Heart shaped box</i> and <i>Bull's eye</i> exercises
	• Acceptance – Annoying party guest metaphor
	Revisit committed action
	• Homework: <i>Epitaph</i> exercise; Behavioral commitment
1	• Present moment – <i>Counting breaths, visualizing thoughts on a screen</i>
	mindfulness exercises, Kindergarten teacher metaphor
0	• Self-as-context – <i>IV sel</i> , <i>Unessboard</i> metaphors
8	• Present moment – <i>Soldiers on parade</i> mindfulness exercise
	• Review all processes using <i>Passengers on the bus</i> metaphor
	• Discuss end of treatment
0 0 10	Plan for posttreatment data collection
9 & 10	• Further in-session practice with acceptance and mindfulness
(II needed)	• Review all processes
needed)	Relapse prevention
	Plan for posttreatment data collection

Acceptance. Acceptance (framed for participants as "willingness") was targeted during every treatment session. Early in therapy, participants were asked for examples of efforts to manage obsessions. To examine these efforts in terms of their workability, participants reflected on their own experiences. Though some strategies (e.g., rituals) may have been useful in reducing obsessions temporarily, control efforts had not been effective in bringing about long-term reduction of obsessions. Participants were encouraged to "drop the rope" in the tug of war with their unworkable control agenda. Acceptance was targeted repeatedly with metaphors and exercises. For example, in the *kindergarten teacher* metaphor, participants imagined a kindergarten teacher dealing with an interrupting student. Similar to "dealing with" intrusive thoughts, the teacher smiles, acknowledges the student, and returns to teaching the lesson. In the *finger trap* exercise, participants placed their index fingers in a toy finger trap (a woven tube of straw). When participants attempted to pull their fingers out, the tube constricted, "trapping" their fingers. Participants then made the counterintuitive move of pushing their fingers toward each other, which loosened the tube, allowing them to remove their fingers. In the case of the finger trap, willingness to experience discomfort is an alternative to the "stuckness" that results from fighting obsessions. A key ACT metaphor, *passengers on the bus*, was introduced during session 4, and reference was made to it often throughout the course of treatment. In the bus metaphor, participants envision themselves as the driver of a bus filled with disruptive passengers who attempt to convince the driver to steer off-course. Instead of making efforts to manage the unruly passengers, participants are encouraged to drive toward their destinations "along with" the noisy passengers.

Cognitive defusion. Participants were asked to practice "stepping back" from obsessive thoughts and to view them as "just thoughts." During the second session, each participant drew a picture of him- or herself, then wrote specific obsessions and compulsions on the part of the body where the "O" or "C" occurs (e.g., "contamination fears" inside the head, "washing" on the hands). The drawings facilitated discussions about tasks minds are good at (e.g., solving problems in the external world) versus tasks at which minds are often not helpful (e.g., controlling inner events). Personalized metaphors were offered to illustrate ways in which minds can get in the way. For P2, who was passionate about playing guitar, internal events were compared to music in that they often do their "own thing," sometimes playing in the background, sometimes playing in the foreground. P3 compared his obsessions to a ghost who made a lot of noise but could not actually hurt him. For each participant, session 4 included the *milk*, *milk*, *milk* exercise, in which words (e.g., "milk") are said aloud repeatedly, weakening the participant's attachment to the word's literal meaning. We repeated the exercise several times, using personalized terms with each participant (i.e., "am I breathing?" for P1, "sticky" for P2, "dying" for P3). We also typed words and phrases into a text-to-speech computer program, which "spoke" the words repeatedly in various silly voices, which served to decrease participants' literal attachment to obsessions.

Self as context. Work on *self as context* is meant to help participants notice that one's self is not the same as the obsessions. If participants can see their thoughts as separate from them ("I am not my obsessions"), attachment to internal events can diminish. For example, P3 decided to refer to his "OCD mind" as "Bob the Bossy Brain." When obsessive thoughts showed up, P3 would think or say aloud "there goes Bob again." A *television set* metaphor was useful in illustrating self as context. The participant was invited to envision her- or himself as a TV set—the *location* where shows are viewed—not as the channels or the *content* of the shows that appear on the TV.

Present moment awareness. To help participants be present with obsessions and associated anxiety, mindfulness skills were taught and practiced. For example, watching thoughts as images on a movie screen was practiced during session 7 and assigned as homework. A breathing exercise in which participants were asked to count breaths was another mindfulness technique employed.

Values. Participants were asked to reflect on personal core values. Values were explained as "compass points" and as "big picture goals." Connecting to the discussion from an earlier session about "what minds do," participants reflected on "what hearts do" (i.e., keep you alive, literally and metaphorically). To help them generate their own values, participants were asked specific questions written on cards (e.g., "What does freedom mean to you?" and "What makes a good life?"; Hayes, 2010). Participants wrote responses on slips of paper, and placed the slips in a heart-shaped box. Next, participants drew a bulls-eye on the board. As the therapist read each value from the box aloud, the participant made a mark on the bulls-eye--the closer to the middle, the more consistent the participant's behavior with that specific value. With each value, the participant was asked to consider how OCD tries to block the pursuit of that value. For example, P3 had written "doing what I want" on one of his slips. He said he would like to be able to go to sleepovers with friends but fear of ritualizing had kept him from the activity. As homework, participants wrote brief epitaphs, for example, P2 wrote "he was a kind

person who liked to play guitar." A discussion about pursuing these values over focusing on obsessions and compulsions occurred during the following sessions.

Committed action. Beginning in session 3, participants were asked to make behavioral commitments to accomplish during the week. With guidance from the therapist, participants chose to target the duration, frequency, and/or time of day of specific compulsive behaviors. Reducing compulsions was not to be accomplished in an avoidant "tough it out" manner. Rather, behavioral changes were to be opportunities to engage values and practice therapy skills (e.g., noticing urges to ritualize as "just thoughts"). In selecting behavioral targets, it was important to take contextual factors into account. For example, in the case of participants 1 and 2, not all instances of hand washing were problematic compulsions (e.g., before eating or after using the restroom). The question "when does hand washing *work* and when does it not?" became crucial in creating behavioral targets. Behavioral goals were generally formulated collaboratively. At times the therapist was more directive, as in P3's case. During the sixth session, P3 revealed that a key phrase in his nightly prayers was "help the bad [obsessive] thoughts go away." The therapist asked him to replace the phrase with something like "help me control my muscles," to which P3 agreed.

In two cases, P1 and P3, parents were encouraged to take on small behavioral commitments to change their responses to their child's reassurance seeking. When P1 asked for a reassurance (e.g., "Are there mouse droppings in my food?"), her mother was not to answer the question, but to simply remind P1 of the goal to ask for fewer reassurances. In the case of P3, who frequently asked his mother for safety reassurances at bedtime, a therapy-consistent response was established with P3's input. Each time P3

asked for a reassurance, his mother reminded him about the annoying passengers on the bus.

#### Supervision

Treatment was supervised by Dr. Twohig in 1-hour weekly supervision sessions. During supervision, compulsion frequency data were reviewed, each participant's progress was discussed, and footage of treatment sessions was viewed. Committee member, Dr. Clint Field, a clinical child psychologist and assistant professor of psychology, served as a consultant and attended most supervision sessions.

### Treatment Integrity

The therapist's adherence to the ACT intervention was assessed by an independent graduate student researcher who was trained to competence in coding procedures and ACT processes (Twohig et al., 2010). As session footage was viewed, operational definitions of ACT processes guided the coder's assessment of therapist verbalizations (see Appendix K). Three sessions per participant, or approximately 35% of total sessions, were coded (P1: sessions 1, 4, and 7; P2: sessions 2, 5, and 8; P3: sessions 3, 6, and 9). Sessions were scored in 1-minute intervals, and processes were coded according to a partial-interval recording procedure. A process was endorsed for a given interval if the therapist targeted that process at any time within the minute. "General assessment" was coded when the therapist asked about participants' obsessions and/or compulsions, assessed progress, or inquired about participants' implementation of treatment components. Participant verbalizations were not coded. ACT-inconsistent treatment elements (i.e., cognitive challenging and stimulus management) were included as coding categories for ACT-inconsistent actions. At the conclusions of each session, the

rater gave the therapist a score for "adherence to the ACT model" and "overall therapist competency" (scores were based on a scale of 1 to 5, with 5 indicating the highest level).

Across all intervals coded, processes were targeted as follows, demonstrating adherence to ACT processes: acceptance/willingness = 23%, defusion = 17%, self-ascontext = 2%, present moment awareness = 9%, values = 10%, committed action = 17%. General assessment was coded in 31% of intervals. ACT-inconsistent elements were not endorsed in any session. Averaged across all coded sessions, "therapist competency" was rated as M = 4.2 and "adherence to the ACT model" was rated as M = 4.3. These means are comparable to mean ratings from previous studies in which the same treatment integrity procedure was used (competence = 4.31, adherence = 4.94, Twohig & Crosby, 2010; competence = 4.4, adherence = 4.9, Twohig et al., 2006a; competence = 4.4, adherence = 3.9, Twohig et al., 2006b; competence = 4.67, adherence = 4.56, Twohig et al., 2010).

# CHAPTER IV

### RESULTS

### **Outcome Measures**

Daily compulsion frequencies for all participants are presented in Figure 3. P1's frequency of daily reassurance seeking is presented in Figure 4. Figure 5 displays the length of P3's nightly bedtime routine. Pre- and posttreatment results from the CY-BOCS, COIS-R, MASC, and CDI are displayed respectively in Figures 6, 7, 8, 9, and 10.



*Figure 3.* Daily compulsion frequencies (solid line) and weekly ACT process data (dotted line).



Figure 4. Daily frequency of P1's reassurance seeking.



Figure 5. Length of P3's bedtime routine in minutes.





*Figure 6.* Children's Yale-Brown Obsessive Compulsive Scale.

*Figure 7.* Multidimensional Anxiety Scale for Children (*T* scores).





*Figure 8.* Child OC Impact Scale--Child Report.





Figure 10. Children's Depression Inventory.

### Participant 1

During her 9 days of baseline, P1 had a mean rate of hand washing of 13.4 (*SD* = 4.4). Baseline levels of hand washing ranged from 6-21. P1's frequency of hand washing declined sharply once treatment began, followed by a pattern of slight improvement and moderate variability throughout treatment. During treatment we examined each instance of hand washing in a typical day and determined which times were compulsive and which were reasonable. Behavioral homework assignments included discontinuing "OCD" hand washing at specific times (e.g., after dinner, before bed). It is notable that we decided there were approximately six to eight occasions during a typical day in which it was reasonable for P1 to wash her hands. All instances of hand washing were recorded, but 6

to 8 of these per day were not compulsions. P1's hand washing decreased by 45.5%, for a mean of 7.3 (SD = 1.1) at posttreatment.

Following baseline, large decreases in reassurance seeking were reported. P1's baseline mean for reassurance seeking was 17.5 (SD = 6.7). Reassurance seeking declined by 71.4%, for a posttreatment mean of 5.0 (SD = 0.82). During session four, P1's mother was encouraged to respond to reassurance seeking by reminding P1 of her goal to ask fewer questions. During days 61 to 67 P1 was away from home visiting relatives; P1 did not seek any reassurances from her mother over the phone during this time.

Improvements in P1's daily compulsion rates were also reflected by her 50% improvement in CY-BOCS scores from pre- to posttreatment. Her pretreatment CY-BOCS score (raw score = 26) indicates considerable impairment, whereas her score at posttreatment (raw score = 13) fell below the clinical range.

P1's MASC score for total anxiety was T = 66 at pre- and T = 40 at posttreatment. P1's COIS-CR self-report ratings were below the clinical mean of 21.95 (SD = 17.20) at pre- and posttreatment. COIS-CR scores dropped from pre- (raw score = 14) to posttreatment (raw score = 6), indicating a perception that OC symptoms had less impact on overall functioning. In contrast, COIS-PR parent ratings rose slightly from pre- (raw score = 30) to posttreatment (raw score = 32; COIS-PR clinical mean = 30.24). P1's CDI scores at pre- (raw score = 10) and posttreatment (raw score = 13) were below the clinical depression cutoff of 19.

P1's total TEI-SF score of 25 (out of 30) and her mother's total of 27 (out of 35) indicate a high level of treatment acceptability. P1 and her mother both marked "agree"

in response to the items "I liked the procedures used in this treatment" and "Overall, I have a positive reaction to this treatment." On the item "I find this treatment to be an acceptable way of dealing with OCD" P1 marked "strongly agree" and her mother marked "agree."

### Participant 2

Baseline lasted 11 days for P2. Levels of hand washing during baseline ranged from 19 to 26 (M= 22.3, SD = 2.6). P2's compulsion frequency on the day of session 1 represented an increase compared to his final day of baseline, but was commensurate with his baseline mean. Hand washing levels decreased gradually and steadily after treatment began. As during baseline, P2's data during the treatment phase showed a low degree of variability. Like P1, all hand washing was recorded, but several instances of hand washing per day were not compulsions; P2 determined that approximately 10 times per day would be reasonable. P2's posttreatment mean rate of hand washing was 12.6 (SD = 2.5), a 43.5% decrease from baseline.

P2's posttreatment CY-BOCS score (raw score = 14) represented a 12.5% improvement compared to his pretreatment score (raw score = 16). While this is a relatively small decrease, this participant moved from just greater than the clinical range to just below it (the clinical cutoff is generally considered a 14). Overall, these are low scores on the CY-BOCS indicating relatively low impairment.

P2's MASC score for total anxiety was T = 65 at pre- and T = 60 at posttreatment. P2's COIS-CR pre- (raw score = 7) and posttreatment (raw score = 7) self-report ratings were both well below the clinical mean of 21.95 (SD = 17.2). COIS-CR scores dropped from pre- (raw score = 7) to posttreatment (raw score = 3). COIS-PR parent ratings were the same at pre- and posttreatment (raw score = 5). P2's CDI scores at pre- (raw score = 3) and posttreatment (raw score = 3) were well below the clinical depression cutoff of 19.

P2's total TEI-SF score of 24 (out of 30) and his mother's total of 30 (out of 35) indicate a high level of treatment acceptability. P2 and his mother marked "agree" or "strongly agree" on all items, including "agree" in response to the statement "I believe this treatment is likely to result in permanent improvement."

### Participant 3

During his 26 days of baseline, P3 had a mean rate of "keep safe" behaviors of 55.5 (*SD* = 17.4). Compulsion rates climbed fairly steadily during baseline, and ranged from 20 to 88. After treatment began, there was an initial drop in compulsion frequency. Compulsions then began a gradually climb until midway through treatment. Following session 5, compulsions began to decrease steadily. Throughout baseline and treatment phases, P3's data displayed a moderate degree of variability. Beginning with session 3, P3 made specific behavioral commitments to reduce compulsions. For example, he would focus on reducing particular elements of his bedtime ritual (e.g., fluffing his pillow, checking the sink). Session6x included in-session mindfulness exercises (i.e., breathing, visualizing thoughts as if on a screen); practicing these exercises at home, especially when experiencing obsessions, was a part of assigned homework thereafter. Between sessions 8 and 9 P3 spent one night at his grandparent's home, something he had been unwilling to do for over a year because of his OCD. At the end of treatment, P3's mean rate of compulsions had dropped to 37.6 (*SD* = 13.6), a 32.2% decrease from baseline.

During baseline, P3's bedtime duration mean was 51.0 minutes (SD = 22.2). Baseline durations were moderately variable and ranged from 30 minutes to nearly two hours. Bedtime duration peaked (at 125 minutes) one week after treatment began, then decreased and remained fairly stable after that time. At session 3, P3's mother was encouraged to respond to reassurance seeking by reminding him of the *bus metaphor*. The posttreatment mean for bedtime routine duration was a more reasonable 26.4 minutes (SD = 4.8), a 48.2% reduction from baseline.

P3's CY-BOCS score improved 22% from pre- to posttreatment. His pretreatment CY-BOCS score (raw score = 23) and his posttreatment score (raw score = 18) were both in the clinical range.

P3's COIS-CR rating of OCD impact (raw score = 35) exceeded the clinical mean of 21.95 (SD = 17.2) and did not change from pre- to posttreatment. COIS-PR parent ratings rose from pre- (raw score = 27) to posttreatment (raw score = 40; COIS-PR clinical mean = 30.24). P3's CDI scores at pre- (raw score = 11) and posttreatment (raw score = 8) were below the clinical depression cutoff of 19.

P3's total TEI-SF score of 24 (out of 30) and his mother's total of 27 (out of 35) indicate a high level of treatment acceptability. Both P3 and his mother marked "agree" in response to "Overall, I have a positive reaction to this treatment." P3 and his mother both marked "neutral" in response to the statement "I believe this treatment is likely to result in permanent improvement."

### Summary of Outcome Results

Taken together, the percent reduction in frequency of primary compulsions was 40.4%. Mean percent reduction in secondary compulsions (for P1 and P3) was 64.5%. Reductions in CY-BOCS scores were observed for all participants; two were below the

clinical range at posttreatment, one was just above the clinical range. Average CY-BOCS reduction was 28.2%.

### Process of Change Results

Figure 2 shows weekly ratings on the measure of ACT processes (AFQ-Y) alongside changes in compulsion frequency. P1's AFQ-Y scores declined during the treatment process. Her AFQ-Y score was 31 at pretreatment and 14 at posttreatment. P2's AFQ-Y process ratings were 18 at pretreatment and 18 at posttreatment, with little fluctuation (+/- 3) throughout the treatment process. P3's AFQ-Y process ratings were 26 at pretreatment and 23 at posttreatment, with little fluctuation throughout the treatment process.

Lag analyses were performed between weekly compulsion averages (OCD) and weekly AFQ-Y scores. First, correlations were calculated between same-week OCD and AFQ-Y scores (zero lag). Next, OCD and AFQ-Y were correlated with AFQ-Y scores offset by one week (lag 1), then offset by two weeks (lag 2), etc. The same analysis was then conducted between AFQ-Y and OCD at the following lags. Results of lag analyses are displayed for each participant in Figures 11, 12, and 13.

Lag analyses for P1 and P2 showed that ACT processes changed prior to changes in OCD severity. For P1 and P2 the ACT $\rightarrow$ OCD correlations were stronger than OCD $\rightarrow$ ACT correlations for every lag after lag 1. For P3, lag analysis indicated negative ACT $\rightarrow$ OCD correlations and positive OCD $\rightarrow$ ACT correlations for lags 1 through 4. In other words, improvements in P3's AFQ-Y scores were not witnessed until after improvements in his OCD severity scores.



*Figure 11.* Lag correlations: Weekly compulsion averages (OCD) and weekly process ratings (ACT) for P1.



*Figure 12.* Lag correlations: Weekly compulsion averages (OCD) and weekly process ratings (ACT) for P2.



*Figure 13.* Lag correlations: Weekly compulsion averages (OCD) and weekly process ratings (ACT) for P3.

## CHAPTER V DISCUSSION

### Outcomes

This study provides preliminary evidence for the effectiveness of an 8-10 session ACT protocol in treating adolescent OCD. In the context of a multiple-baseline across participants design, three youth showed large decreases on the main dependent variable, frequency of primary compulsions (M = 40.4% reduction). For the two participants whose parents tracked a secondary behavior, large decreases were also observed (M =59.8% reduction). In terms of trend, pre- and posttreatment assessment mirrored selfmonitoring data, with few exceptions. Reductions in CY-BOCS scores were observed for all participants, indicating lowering of frequency and severity of OC symptoms; two were below the clinical range at posttreatment, one was just above the clinical range. MASC ratings of total anxiety improved for each participant. None of the participants were near the clinical range for depression at pre- or posttreatment according to the CDI. For each participant, self-report ratings of the impact of OCD symptoms, as measured by the COIS-R, improved or remained the same from pre- to posttreatment. Parent COIS-R ratings were stable for P1 and P2, but worsened from pre- to posttreatment for P3. Each participant's AFQ-Y process scores decreased from pre- to posttreatment.

It is notable that participants tracked *total* daily instances of behaviors, not just instances that were considered compulsions. Therefore, "zero" was not the treatment target for any of the behaviors, except for in the case of P1's reassurance seeking. Though it did not quite reach zero, P1's 71.4% decrease in reassurance seeking was the most dramatic improvement in compulsion frequency observed in the study. Compared to a daily average of 17.5 questions per day during baseline, an average of 5.0 questions per day at posttreatment was considered by P1 and her mother to be much more reasonable. For P1 and P2, who both tracked hand washing, posttreatment frequencies indicated near absence of compulsions. P1's posttreatment hand washing mean (7.3) was within in the range that P1 had decided was reasonable (6 to 8 times per day). P2's hand washing mean at posttreatment was 12.3, also a level P2 and his mother deemed acceptable. P3 did not intend "keep safe" behaviors to reach zero either; a major part of his routine was prayer, a behavior P3 wanted to decrease but not eliminate. His posttreatment mean frequency of "keep safe" behaviors (37.6) was associated with an average bedtime routine of 26.4 minutes, a major improvement from the average bedtime length during baseline (51.0 minutes). Thus, even though some level of compulsive behavior was present for all participants, these findings are quite meaningful.

Compared to baseline compulsion levels, P1 and P3 reported pronounced reductions in compulsions on the day of session 1. The material presented in session 1 (e.g., discussion of obsessions and compulsions and the contexts in which they occur) was mostly coded as "general assessment," not as any of the core ACT processes. ACT processes were introduced first during session 2. Homework at session 1--to track of obsessions and compulsions and to notice how they work together--did not contain a behavioral commitment to reduce compulsions. Therefore, early compulsion reductions may have been a function of nonspecific factors (e.g., positive expectancies for treatment gains). It is notable that the last day of baseline for P1 and P3 represented a spike in compulsion frequency, causing the decline at session 1 to appear more pronounced.

Actually, P3's compulsion level on the day of session 1 (55) was almost identical to his baseline mean (55.5). Parental reports of compulsions were commensurate with baseline means for both P1 and P3, and showed slight increases at session 1 compared with the final day of baseline. In any child treatment study, parents' influence on treatment is an important variable. To study the effectiveness and acceptability of ACT delivered oneon-one, the current study was designed to minimize parental impact to the extent possible. Originally, parent participation was to be limited to joining the final 5 minutes of each treatment session to be given a summary of that session's content. However, parents became involved in the treatment process to a greater degree than planned. Because the parents of P1 and P3 were enlisted to track compulsions separately from their children, they engaged in daily conversations about compulsion levels. For example, P3, who engaged in most of his "keep safe" behaviors around bedtime, discussed the previous day's compulsions with his mother every morning during breakfast. Because P1 and P3 engaged in frequent reassurance seeking, parents were given guidance on how to respond when their child sought reassurance. Both parents reported that they observed improvement after following the advice they were given. Parents may have helped by playing a "cheerleading" role, augmenting each participant's substantial self-motivation. It is likely that parental involvement, albeit minimal, contributed to the positive response treatment, though specific effects are difficult to determine.

Results on all outcome measures changed in expected directions, with the exception of the COIS-R, a measure of OCD symptoms' impact on school, social, and family functioning. In two cases, COIS-R scores moved in a surprising direction given that all other measures indicated improvement. P1's self-report COIS-R ratings improved

from pre- to posttreatment (both ratings were below clinical levels), whereas her mother's ratings slightly worsened from pre-to posttreatment and were around the clinical mean. P1's ratings may carry more weight, given that she would have a better idea of school and social functioning than would her mother. The COIS-R is a relatively new instrument; no measure-specific data are available regarding mean differences between child and parent reporting. However, on standard behavior inventories, parental reports of youth behavior problems often significantly exceed youth reports, particularly in regards to relationships with friends, peers' delinquent behaviors, and leisure activities (Handwerk, Larzelere, Soper, & Friman, 1999; Kramer, Phillips, Hargis, Miller, Burns, & Robbins, 2004). In P1's case, P3's COIS-R self-rating was above the clinical mean, and was unchanged from pre- to posttreatment. His mother's COIS-R rating climbed from pre- to posttreatment, and was above the clinical mean at posttreatment. The COIS-R ratings of P1's mother, P3, and P3's mother were at odds with improvement in compulsion frequency and CY-BOCS scores—presumably, lower compulsion levels would lessen OCD's functional interference. Further, COIS-R ratings contradicted the fact that each rater indicated "agree" in response to the TEI-SF item regarding a positive reaction to treatment.

Improvement in AFQ-Y scores indicated increased levels of acceptance, lowered levels of cognitive fusion, and a greater degree of values-consistent behavior. Changes in process were observed alongside improvements in compulsion frequency. The purpose of lag correlation analyses was to examine the temporal connections between changes in process and change in outcome. Because P3's compulsion frequency increased slightly during the first half of treatment, lag analyses did not show that later compulsion reductions were predicted by subjective changes in ACT processes. For P1 and P2, the fact that lag correlations for ACT $\rightarrow$ OCD were stronger than for OCD $\rightarrow$ ACT (for every lag after lag 1) suggests that change in process was driving symptom change rather than symptom change driving change in the process. In other words, for two of three participants, process change and symptom change were temporally related in the manner that was expected. The fact that movement in ACT processes preceded compulsion reductions is consistent with ACT's model of change.

### Experimental Implications

These encouraging results are significant for their implications for future experimentation. Experimental investigation of ACT for youth is in an early stage of development compared with adult ACT work. Successful randomized trials of ACT for adults have been published for a variety of problems, including generalized anxiety disorder (Roemer, Orsillo, & Salters-Pedneault, 2008), epilepsy (Lundgren, Dahl, Yardi, & Melin, 2008), and OCD (Twohig et al., 2010). Just one randomized controlled trial with children has been published—ACT versus multidisciplinary treatment for chronic pain (Wicksell, Melin, Lekander, & Olsson, 2009). Pilot data supporting ACT's effectiveness versus treatment as usual in treating adolescent depression have been published (Hayes & Sewell, 2011). Thirty depressed youth were randomly assigned to receive ACT or manualized CBT; participants in the ACT condition had better outcomes at posttreatment and 3-month follow-up. Case studies with data favorable to ACT have been published in the areas of chronic pain (Wicksell et al., 2007) and anorexia nervosa (Heffner et al., 2002). Little has been done in the area of ACT for youth anxiety, and this study is the first in the area of ACT for youth OCD. Some reluctance to study ACT with children may arise from concerns that the ACT model may be too difficult for children, although coherent arguments in favor of its use with children have been published in conceptual papers (Greco et al., 2005; Murrell et al., 2005).

As the first foray into this research area, data from this study provide the foundation upon which to build a robust program of research. Notably, this study developed a unique and effective way to treat adolescent OCD that is not exposure based. Results were comparable to those found in ERP trials; results were achieved in a short amount of time and with minimal parental involvement; also, treatment acceptability was high.

Treatment gains were achieved without in-session exposure exercises and through the use of somewhat different psychological processes than are usually targeted in the treatment of OCD. Behavioral commitments outside of sessions placed clients in contact with feared stimuli; however, these situations were to be opportunities to practice mindfulness, defusion, and acceptance, not occasions to work to reduce anxiety. Because exposure often appears to be an objectionable component of ERP, acceptance-based approaches with a different view of exposure may bring together effectiveness and acceptability because individuals can be expected to be less avoidant of feared stimuli (Hannan & Tolin, 2005; Levitt et al., 2004). However, to apply the individual's newlyimproved level of acceptance to a habituation-based exposure approach would be inconsistent with ACT because the aim of habituation is first-order anxiety reduction. Instead, exposures, topographically the same as in ERP, could function in the context of an ACT intervention as occasions to practice acceptance and mindfulness processes, an approach called "value-directed exposure" by Wicksell et al., (2007). Therefore, if ACT+ERP conditions are to be features of future research, ERP components (e.g., imaginal and in vivo exposure) should be included within the context of an ACT intervention, not the other way around.

### Clinical Implications

Related to the experimental implications are significant implications for clinical practice. As in previous ACT for OCD work (Twohig et al., 2010), participants and parents indicated a high degree of acceptability of the ACT protocol. Each parent and adolescent denied that treatment procedures caused discomfort. Each parent and adolescent marked "agree" or "strongly agree" in response to all TEI-SF statements regarding the acceptability of treatment procedures.

Treatment acceptability is a key issue for all therapy approaches with children and families, and perhaps more so in OCD treatment than in other contexts. In general, challenges in youth OCD treatment include noncompliance to treatment demands (in and out of sessions), disengaged families, and/or families that undermine treatment (Treadwell & Tolin, 2007). The fact that parents and adolescents found ACT acceptable provides some hope for addressing these concerns. It may be that high acceptability is due in part to the exclusion of exposure techniques. Another reason for ACT's perceived acceptability may the emphasis on metaphorical and experiential techniques, which are "less instructive and consequently more difficult to obey (or disobey)" (Greco et al., 2005, p. 309).

That ACT was found highly acceptable in the context of youth OCD contributes to our understanding of ACT's applicability for treating adolescents with other presenting concerns. Taken together with the preliminary support of ACT for youth with depression (Hayes & Sewell, 2011), chronic pain (Wicksell et al., 2007), anorexia nervosa (Heffner et al., 2002), and social phobia and generalized anxiety disorder (Greco, 2002), these data provide early indications that ACT's processes and procedures are appropriate for youth. Because ACT helps individuals become less avoidant of unpleasant cues (and contexts associated with cues), ACT holds promise as a treatment for youth across a variety of concerns, as a stand-alone approach or as an adjunct to other treatments.

The fact that ACT for adolescent OCD was successful in an *individual* format suggests that ACT may also be useful treatment for youth with OCD in other contexts. For example, in a conceptual paper, Greco and Eifert (2004) suggested that ACT may be applicable to parent-adolescent conflicts in a context of integrative family therapy. Such an approach may be especially useful given that OCD is associated with familial conflicts (Barrett et al., 2002; Hibbs et al., 1991) and that families often participate in the child's compulsions (Barrett et al., 2001).

This study provides early indications that an ACT for OCD protocol can be effectively adapted for youth while maintaining fidelity to the ACT model. Ratings of treatment integrity indicated a high level of adherence to the ACT model and a complete absence of ACT-inconsistent elements (i.e., cognitive challenging and stimulus management). As treatment components were presented in an ACT-consistent and developmentally sensitive way, youth in the study experienced reductions in problem behaviors and gains in quality of life.

### Limitations

In addition to the positive aspects of this investigation there are limitations. Varied efforts to recruit participants were less successful than hoped. Though three participants is a sufficient number for multiple baseline across participants research, additional participants would have strengthened the conclusion that improvements were related to the independent variable. Also, the participants in the study were at the younger end of the 12 to 17 range that was sought (P1 and P3 were 12, P2 was 13). Additional participants in the higher end of the age range would have provided useful information not only about older adolescents' response to treatment, but about developmentallysensitive delivery of the treatment.

The inclusion of follow-up data would shed light on maintenance of treatment gains. If, as encouraged, participants continue to practice ACT processes following the final treatment session, it is likely they would experience continued lessening of compulsions and increases in quality of life. After a period of 3 months, participants would be asked to provide the same data they reported at pre- and posttreatment (e.g., daily compulsions, AFQY, CY-BOCS). If follow-up data do not reflect maintenance or improvement, efforts to plan for relapse and make behavioral commitments during the final sessions could be modified to better promote maintenance.

For logistical reasons, pre- and posttreatment assessments were conducted by the therapist instead of another researcher. Most of the assessment tools used in the study were self-report or parent-report measures (COIS, CDI, MASC, AFQ-Y); however, the ADIS and CY-BOCS were completed in an interview format by the assessor. Efforts were made to conduct these interviews according to the instruments' guidelines, and, in

the case of the CY-BOCS, in the same way as during the pretreatment assessment. Still, interviewer bias and socially desirable responding on the part of the participant seem more likely if the interviewer is also the therapist. In future studies, the assessments should not be administered by the therapist, but rather by another researcher who has been trained to competency.

The intervention in the study was limited to a maximum of 10 sessions. Presumably, if the treatment was to be delivered in a longer-term format, including maintenance sessions, additional gains may be expected. Values assessment was done in a fairly terse and informal manner in this study. Whether outcomes would improve with more extensive values work is an empirical question. Future ACT for youth OCD protocols may benefit from more formal measurement of values in different categories (e.g., spirituality, education, friendships, family). Also, treatment may benefit from the inclusion of more experiential elements (e.g., mindfulness exercises that practice noticing breath, body, eating, listening, seeing, smelling). In this protocol, "self as context" was targeted less than the other ACT processes of change, consistent with recommendations found in conceptual writings about ACT for youth (Murrell & Wilson, 2002). Future protocols may feature enriched coverage of "self as context," presented in a creative and developmentally-sensitive manner.

### Future Directions

Results of this multiple baseline study across three participants provide preliminary support for effectiveness and acceptability of the ACT intervention. A multiple baseline ABC design could be employed to further test the impact of the intervention. After baseline (A), the B phase would consist of a number of treatment sessions devoted to nonspecific factors, followed by ACT (C). Such a design would provide useful information about the presumed beneficial effects of "nonactive" ingredients such as contact with the therapist and client expectancy for change. Based on the current study, it is reasonable to predict that some improvement would be observed during the B phase, followed by additional improvement during the ACT phase.

A randomized clinical trial would be a logical next step that would help confirm these findings and allow for greater claims to be made regarding external validity. Randomly assigning participants to ACT, ERP, or ACT+ERP would be especially helpful in answering important experimental and clinical questions.

This work would also benefit from the development of a measure specifically designed to assess ACT processes for adolescents with OCD. The only existing measurement tool that targets ACT processes for youth *with a specific presenting problem* is the Diabetes Acceptance and Action Scale for Children and Adolescents (DAAS; Greco & Hart, 2005). Like the DAAS, a process measure for OCD would provide information about youths' acceptance and experiential avoidance, using constructs specific to the problem. If validated and found reliable, an OCD-specific processes measure would be a more appropriate indicator than the AFQ-Y of ACT processes with this population.

Because the research questions of this study were focused on individual adolescents' response to the ACT intervention, parental involvement was limited to assisting with data collection and briefly "checking in" at the conclusion of each session. Given that parents often participate in the child's compulsions (Barrett et al., 2001) and that higher levels of family dysfunction predict poorer long-term outcomes (Skoog & Skoog, 1999), more exploration of parental involvement may be a useful component of future studies. Designs may include questions regarding the effectiveness of having parents receive an ACT intervention, either separately or with their child.

There may be ways to improve the adolescent adaptation of the ACT for adult OCD treatment. Conceptual papers regarding ACT for youth (e.g., Murrell et al., 2005) and consultation with a clinical child psychologist guided the adaptation of the treatment used in this study. Youth-specific component studies of ACT processes could be conducted as replications of adult component studies, such as those by Masuda et al. (2009; defusion) and Arch and Craske (2006; being present). These would inform adolescent ACT work generally and provide a greater research base on which to build ACT interventions for youth.

### Conclusion

In summary, a brief course of ACT (without exposure) was successfully implemented for three youth. An adaptation of ACT for adult OCD, the intervention was rated as highly acceptable by participants and their parents. All three participants responded to treatment; ACT was effective in lowering youths' compulsions to manageable levels. Results suggest that ACT may be a useful treatment tool on its own. Hopefully, future research will shed light on its use in conjunction with exposure-based interventions, with the aim of increasing quality of life for youth with OCD and their families.

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APPENDICES

Appendix A:

Recruitment Flier

### USU Research Study

The Psychology Department at Utah State University is seeking individuals ages <u>12 to 17</u> <u>yrs old</u> that struggle with symptoms of

Obsessive-Compulsive Disorder

Symptoms of Obsessive-Compulsive Disorder include intrusive fearful thoughts accompanied by repetitive behaviors such as washing and cleaning, counting, and/or checking. These symptoms become problematic when they are causing distress and/or impairment in your life and efforts to control the problem have been unsuccessful. If your child struggles with this problem, he or she may be eligible for participation in a study assessing the effectiveness of a psychological treatment. The study will involve 14 hours of your time over three to four months. There will be no compensation for participation, but you will receive free psychological treatment.

If you are interested or have questions please contact Andrew Armstrong at (435) 797-8303 or <u>andrew.armstrong@aggiemail.usu.edu</u>.

Appendix B:

Children's Yale-Brown Obsessive Compulsive Scale (CY-BOCS)

# CY-BOCS OBSESSIONS CHECKLIST

Check all the	hat apply, but c	learly mark the principal symptoms with a "P".	(Items marked "*"	may or may
not be OCI	D phenomena.)			
Current	Dact	CONTAMINATION OBSESSIONS		

Current	<u>1 ast</u>	CONTAMINATION OBSESSIONS
		Concern with dirt, germs, certain illnesses, (e.g., AIDS)
		Concern or disgust with bodily waste or secretions (e.g., urine, feces,
		saliva)
		Excessive concern with environmental contaminants (e.g., asbestos,
		radiation, toxic waste)
		Excessive concern with household items (e.g., cleaners, solvents)
		Excessive concern about animals/insects
		Excessively bothered by sticky substances or residues
		Concerned will get ill because of contaminant
		Concerned will get others ill by spreading contaminant (aggressive)
		No concern with consequences of contamination other than how it
		might feel
		Other (Describe)
		AGGRESSIVE OBSESSIONS
		Fear might harm self
		Fear might harm others
		Fear harm will come to self
		Fear harm will come to others because something child did or did not
		do
		Violent or horrific images
		Fear of blurting out obscenities or insults
		Fear of doing something else embarrassing *
		Fear will act on unwanted impulses (e.g. to stab a family member)
		Fear will steal things
		Fear will be responsible for something else terrible happening (e g
		fire burglary flood)
		Other (Describe)
		Other (Deserver)
		SEXUAL OBSESSIONS
		Are you having any sexual thoughts? If yes, are they routine or are
		they repetitive thoughts that you would rather not have or find
		disturbing?
		Forbidden or perverse sexual thoughts, images, impulses
		Content involves homosexuality *
		Sexual behavior toward others (aggressive) *
		Other (Describe)
		HOARDING/SAVING OBSESSIONS
		Fear of losing things
		MAGICAL THOUGHTS/SUPERSTITIOUS OBSESSIONS
		Lucky/unlucky numbers
		Other (Describe)
		SOMATIC OBSESSIONS
		Excessive concern with illness or disease *
		Excessive concern with hady part or aspect of appearance *
		Excessive concern with overy part of aspect of appearance

#### **RELIGIOUS OBSESSIONS**

 _ Excessive concern or fear of offending religious objects (God)
 Excess concern with right/wrong, morality
 Other (Describe)
MISCELLANEOUS OBSESSIONS
 Need to know or remember
Fear of saying certain things
Fear of not saying just the right thing
Intrusive (non-violent) images
 Intrusive sounds, words, music, or numbers
 Other (Describe)
 TARGET SYMPTOM LIST FOR OBSESSIONS

OBSESSIONS (Describe, listing by order of severity):

_

AVOIDANCE (Describe any avoidance behavior associated with compulsions; e.g., child AVOIDS putting clothes away to prevent start of counting behavior.)

<u>QUESTIONS ON OBSESSIONS (ITEMS 1-5)</u> "I AM NOW GOING TO ASK YOU QUESTIONS ABOUT THE THOUGHTS YOU CANNOT STOP THINKING ABOUT." 1. <u>TIME OCCUPIED BY OBSESSIVE THOUGHTS</u>

How much time do you spend thinking about these things? (When obsessions occur as brief, intermittent intrusions, it may be impossible to assess time occupied by them in terms of total hours. In such cases, estimate time by determining how frequently they occur. Consider both the number of times the intrusions occur and how many hours of the day are affected). How frequently do these thoughts occur? [Be sure to exclude ruminations and

preoccupations which, unlike obsessions, are ego-syntonic and rational (but exaggerated).] 0 - NONE

- 1 MILD less than 1 hr/day or occasional intrusion
- 2 MODERATE 1 to 3 hrs/day or frequent intrusion
- 3 SEVERE greater than 3 and up to 8 hrs/day or very frequent intrusion
- 4 EXTREME greater than 8 hrs/day or near constant intrusion

1B. <u>OBSESSION-FREE INTERVAL</u> (not included in total score)

On the average, what is the longest amount of time each day that you are not bothered by the obsessive thoughts?

- 0 NONE
- 1 MILD long symptom free intervals or more than 8 consecutive hrs/day symptom-free
- 2 MODERATE moderately long symptom-free intervals or more than 3 and up to 8 consecutive hrs/day symptom-free
- 3 SEVERE brief symptom-free intervals or from 1 to 3 consecutive hrs/day symptom-free
- 4 EXTREME less than 1 consecutive hr/day symptom free

### 2. <u>INTERFERENCE DUE TO OBSESSIVE THOUGHTS</u>

How much do these thoughts get in the way of school or doing things with friends? Is there anything that you don't do because of them? (If currently not in school determine how much performance would be affected if patient were in school.)

- 0 NONE
- 1 MILD slight interference with social or school activities, but overall performance not impaired
- 2 MODERATE definite interference with social or school performance, but still manageable
- 3 SEVERE causes substantial impairment in social or school performance
- 4 EXTREME incapacitating

#### 3. DISTRESS ASSOCIATED WITH OBSESSIVE THOUGHTS

How much do these thoughts bother or upset you? (Only rate anxiety/frustration that seems triggered by obsessions, not generalized anxiety or anxiety associated with other symptoms.) 0 - NONE

- 1 MILD infrequent, and not too disturbing
- 2 MODERATE frequent, and disturbing, but still manageable
- 3 SEVERE very frequent, and very disturbing
- 4 EXTREME near constant, and disabling distress/frustration

#### 4. RESISTANCE AGAINST OBSESSIONS

How hard do you try to stop the thoughts or ignore them? (Only rate effort made to resist, not success or failure in actually controlling the obsessions. How much patient resists the obsessions may or may not correlate with their ability to control them. Note that this item does not directly measure the severity of the intrusive thoughts; rather it rates a manifestation of health, i.e., the effort the patient makes to counteract the obsessions. Thus, the more the patient tries to resist, the less impaired is this aspect of his/her functioning. If the obsessions are minimal, the patient may not feel the need to resist them. In such cases, a rating of "0" should be given.)

- 0 NONE makes an effort to always resist or symptoms so minimal doesn't need to actively resist.
- 1 MILD tries to resist most of the time
- 2 MODERATE makes some effort to resist
- 3 SEVERE yields to all obsessions without attempting to control them, but does so with some reluctance
- 4 EXTREME completely and willingly yields to all obsessions

#### 5. DEGREE OF CONTROL OVER OBSESSIVE THOUGHTS

When you try to fight the thoughts, can you beat them?

How much control do you have over the thoughts?

(In contrast to the preceding item on resistance, the ability of the patient to control his/her obsessions is more closely related to the severity of the intrusive thoughts.)

0 - COMPLETE CONTROL

1 - MUCH CONTROL	usually able to stop or divert obsessions with some effort and
	concentration
2 - MODERATE CONTROL	sometimes able to stop or divert obsessions
3 - LITTLE CONTROL	rarely successful in stopping obsessions, can only divert

 4 - NO CONTROL
 attention with difficulty experienced as completely involuntary, rarely able to even momentarily divert thinking

## CY-BOCS COMPULSIONS CHECKLIST

Check all that apply, but clearly mark the principal symptoms with a "P". (Items marked "\*" may or may not be compulsions.)

Current	Past	WASHING/CLEANING COMPULSIONS
		Excessive or ritualized handwashing
		Excessive or ritualized showering, bathing, toothbrushing, grooming,
		or toilet routine
		Excessive cleaning of items (e.g, personal clothes or important items)
		Other measures to prevent or remove contact with contaminants
		Other (Describe)
		CHECKING COMPULSIONS
		Checking locks, toys, school books/items, etc.
		Checking associated with getting washed, dressed, or undressed

	Chaptering that did not/will not home others
 	Checking that did not/will not narm others
 	Checking that did not/will not harm self
 	Checking that nothing terrible did/will happen
 	Checking that did not make mistake
	Checking tied to somatic obsessions
 	Other (Describe)
 	REPEATING COMPLIESIONS
	Rereading eraging or rewriting
 	Need to repeat resting of iterations (a print door sur/door from shoir)
 	Need to repeat routine activities (e.g., in/out door, up/down from chair)
 	Other (Describe)
	COUNTING COMPULSIONS
 	Objects, certain numbers, words, etc.
	Describe:
	OPDERING/ARRANGING COMPLIE SIONS
	Need for symmetry or evening up (e.g. lining items up a contain year
 	Need for symmetry of evening up (e.g., ining items up a certain way
	or arranging personal items in specific patterns)
	Describe:
	HOARDING/SAVING COMPULSIONS
	Difficulty throwing things away, saving bits of paper, string, etc.
 	Distinguish from hobbies and concern with objects of monetary or
	sentimental value
	Other (Describe)
	EXCESSIVE MAGICAL GAMES/SUPERSTITIOUS BEHAVIORS
 	Array of behavior, such as stepping over certain spots on a floor,
	touching an object/self certain number of times as a routine game to
	avoid something bad from happening. [Distinguish from age
	appropriate magical games]
	Describe:
	RITUALS INVOLVING OTHER PERSONS
	The need to involve another memory (conceller a memory) in vitual (a a
 	The need to involve another person (usually a parent) in fitual (e.g.,
	asking a parent to repeatedly answer the same questions, making
	parent perform certain meal time rituals involving specific utensils). *
	Describe:
	MISCELLANEOUS COMPULSIONS
	Mental rituals (other than counting)
 	Need to tell ask confess
 	Measures (not checking) to prevent: harm to self harm to others
 	tarrible consequences
	Dit ali ad active hele invert
 	Ritualized eating benaviors *
 	Excessive list making *
 	Need to touch, tap, rub
 	Need to do things (e.g., touch or arrange) until it feels just right *
 	Rituals involving blinking or staring *
 	Trichotillomania (hair pulling) *
 	Other self-damaging or self-mutilating behavior *
 	Other (Describe)
 	Outer (Describe)

### TARGET SYMPTOM LIST FOR COMPULSIONS

COMPULSIONS (Describe, listing by order of severity):

1.		
_		
2.		
-		
3.		
-		
4.		

AVOIDANCE (Describe any avoidance behavior associated with compulsions; e.g., child AVOIDS putting clothes away to prevent start of counting behavior.)

#### <u>QUESTIONS ON COMPULSIONS (ITEMS 6-10)</u> "I AM NOW GOING TO ASK YOU QUESTIONS ABOUT THE HABITS YOU CAN'T STOP." 6. <u>TIME SPENT PERFORMING COMPULSIVE BEHAVIORS</u>

How much time do you spend doing these things?

How much longer than most people does it take to complete your usual daily activities because of the habits? (When compulsions occur as brief, intermittent behaviors, it may be impossible to assess time spent performing them in terms of total hours. In such cases, estimate time by determining how frequently they are performed. Consider both the number of times compulsions are performed and how many hours of the day are affected.) How often do you do these habits?

[In most cases compulsions are observable behaviors (e.g., handwashing), but there are instances in which compulsions are not observable (e.g., silent checking).]

0 - NONE

1 - MILD	spends less than 1 hr/day performing compulsions or occasional
	performance of compulsive behaviors

- 2 MODERATE spends from 1 to 3 hrs/day performing compulsions or frequent performance of compulsive behaviors
- 3 SEVERE spends more than 3 and up to 8 hrs/day performing compulsions or very frequent performance of compulsive behaviors
- 4 EXTREME spends more than 8 hrs/day performing compulsions or near constant performance of compulsive behaviors

### 6B. COMPULSION-FREE INTERVAL

How long can you go without performing compulsive behavior?

[If necessary ask: What is the longest block of time in which (your habits) compulsions are absent?]

0 - NO SYMPTOMS

- 1 MILD long symptom-free interval or more than 8 consecutive hrs/day symptom-free
   2 MODERATE moderately long symptom-free interval or more than 3 and up to 8
- 2 MODERATE moderately long symptom-free mervar of more than 5 and up to consecutive hrs/day symptom-free
- 3 SEVERE short symptom-free interval or from 1 to 3 consecutive hrs/day symptom-free
- 4 EXTREME less than 1 consecutive hr/day symptom-free

### 7. INTERFERENCE DUE TO COMPULSIVE BEHAVIORS

How much do these habits get in the way of school or doing things with friends? Is there anything you don't do because of them?

(If currently not in school, determine how much performance would be affected if patient were in school.)

0 - NONE

1 - MILD	slight interference with social or school activities, but overall
	performance not impaired
2 - MODERATE	definite interference with social or school performance, but still
	manageable
2 SEVEDE	anyon gubstantial impairment in gooial or school performance

- 3 SEVERE causes substantial impairment in social or school performance
- 4 EXTREME incapacitating

#### 8. DISTRESS ASSOCIATED WITH COMPULSIVE BEHAVIOR

How would you feel if prevented from carrying out your habits? How upset would you become?

(Rate degree of distress/frustration patient would experience if performance of the compulsion were suddenly interrupted without reassurance offered. In most, but not all cases, performing compulsions reduces anxiety/frustration.)

How upset do you get while carrying out your habits until you are satisfied? 0 - NONE

- 1 MILD only slightly anxious/frustrated if compulsions prevented; only slight anxiety/frustration during performance of compulsions.
- 2 MODERATE reports that anxiety/frustration would mount but remain manageable if compulsions prevented; anxiety/frustration increases but remains manageable during performance of compulsions.
- 3 SEVERE prominent and very disturbing increase in anxiety/frustration if compulsions interrupted; prominent and very disturbing increase in anxiety/frustration during performance of compulsions.
- 4 EXTREME incapacitating anxiety/frustration from any intervention aimed at modifying activity; incapacitating anxiety/frustration develops during performance of compulsions.

#### 9. RESISTANCE AGAINST COMPULSIONS

How much do you try to fight the habits?

(Only rate effort made to resist, not success or failure in actually controlling the compulsions. How much the patient resists the compulsions may or may not correlate with his/her ability to control them. Note that this item does not directly measure the severity of the compulsions, rather it rates a manifestation of health, i.e., the effort the patient makes to counteract the compulsions. Thus, the more the patient tries to resist, the less impaired is this aspect of his/her functioning. If the compulsions are minimal, the patient may not feel the need to resist them. In such cases, a rating of "0" should be given.)

- 0 NONE makes an effort to always resist or symptoms so minimal doesn't need to actively resist
- 1 MILD tries to resist most of the time.
- 2 MODERATE makes some effort to resist
- 3 SEVERE yields to almost all compulsions without attempting to control them, but does so with some reluctance
- 4 EXTREME completely and willingly yields to all compulsions

#### 10. DEGREE OF CONTROL OVER COMPULSIVE BEHAVIOR

How strong is the feeling that you have to carry out the habit(s)?

When you try to fight them what happens?

(For the advanced child ask:) How much control do you have over the habits?

(In contrast to the preceding item on resistance, the ability of the patient to control his/her compulsions is closely related to the severity of the compulsions.)

0 - COMPLETE CONTROL

l - MUCH CONTROL	experiences pressure to perform the behavior, but usually able
	to exercise voluntary control over it
2 - MODERATE CONTROL	moderate control, strong pressure to perform behavior, can

- 2 MODERATE CONTROL moderate control, strong pressure to perform behavior, can control it only with difficulty
- 3 LITTLE CONTROL
   4 NO CONTROL
   bittle control, very strong drive to perform behavior, must be carried to completion, can only delay with difficulty no control, drive to perform behavior experienced as completely involuntary and overpowering, rarely able to even momentarily delay activity

## CHILDREN'S YALE-BROWN OBSESSIVE COMPULSIVE SCALE

	None	Mild	Moderate	Severe	Extreme
1. TIME SPENT ON OBSESSIONS		0	1	2	3
4					
2. INTERFERENCE FROM OBSESSIONS	5	0	1	2	3
4					
3. DISTRESS OF OBSESSIONS		0	1	2	3
4					
4. RESISTANCE		0	1	2	3
4					
5. CONTROL OVER OBSESSIONS		0	1	2	3
4					
None	Mild 0	Moderate 1	Severe 2	Extreme 3	
-------	-----------------------	--	--	---	
DNS	0	1	2	3	
	0	1	2	3	
	0	1	2	3	
	0	1	2	3	
MPULS	ION SU	BTOTAL (a	dd items 6-	-10)	
	None DNS DMPULS	None Mild ONS 0 0 0 0 0 0 0	None Mild Moderate 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1	NoneMildModerate 1Severe 2DNS012012012012012012	

OBSESSION SUBTOTAL (add items 1-5)

CY-BOCS TOTAL (add items 1-10) \_\_\_\_\_

Appendix C:

Children's Depression Inventory (CDI)

Kids sometimes have different feelings and ideas. This form lists the feelings and ideas in groups. From each group of three sentences, pick one sentence the describes you *best* for the past two weeks. After you pick a sentence from the first group, go on to the next group. There is no right or wrong answer. Just pick the sentence that best describes the way you have been recently. Put a mark like this "x" next to your answer. Put the mark in the box next to the sentence that you pick.

Here is an example of how this form works. Try it. Put a mark next to the sentence that describes you *best*.

Example:

- I read books all the time.
- I read books once in a while.
- I never read books.

*Remember, pick out the sentences that describe you best in the PAST TWO WEEKS.* Item 1

- I am sad once in a while.
- I am sad many times.
- I am sad all the time.

Item 2

- Nothing will ever work out for me.
- I am not sure if things will work out for me.
- Things will work out for me O.K.

Item 3

- I do most things O.K.
- I do many things wrong.
- I do everything wrong.

Item 4

- I have fun in many things.
- I have fun in some things.
- Nothing is fun at all.

Item 5

- I am bad all the time.
- I am bad many times.
- I am bad once in a while.

Item 6

- I think about bad things happening to me once in a while.
- I worry that bad things will happen to me.
- I am sure that terrible things will happen to me.

Item 7

- I hate myself.
- I do not like myself.
- I like myself.

Item 8

- All bad things are my fault.
- Many bad things are my fault.
- Bad things are not usually my fault.

Item 9

- I do not think about killing myself.
- I think about killing myself but I would not do it.
- I want to kill myself.

Item 10

- I feel like crying every day.
- I feel like crying many days.
- I feel like crying once in a while.

Item 11

- Things bother me all the time.
- Things bother me many times.
- Things bother me once in a while.

Item 12

- I like being with people.
- I do not like being with people many times.
- I do not want to be with people at all.

Item 13

- I cannot make up my mind about things.
- It is hard to make up my mind about things.
- I make up my mind about things easily.

Item 14

- I look O.K.
- There are some bad things about my looks.
- I look ugly.

Item 15

- I have to push myself all the time to do my schoolwork.
- I have to push myself many times to do my schoolwork.

• Doing schoolwork is not a big problem.

Item 16

- I have trouble sleeping every night.
- I have trouble sleeping many nights.
- I sleep pretty well.

Item 17

- I am tired once in a while.
- I am tired many days.
- I am tired all the time.

Item 18

- Most days I do not feel like eating.
- Many days I do not feel like eating.
- I eat pretty well.

Item 19

- I do not worry about aches and pains.
- I worry about aches and pains many times.

• I worry about aches and pains all the time.

Item 20

- I do not feel alone.
- I feel alone many times.
- I feel alone all the time.

Item 21

- I never have fun at school.
- I have fun at school only once in a while.
- I have fun at school many times.

Item 22

- I have plenty of friends.
- I have some friends but I wish I had more.
- I do not have any friends.

Item 23

- My schoolwork is alright.
- My schoolwork is not as good as before.
- I do very badly in subjects I used to be good in.

Item 24

- I can never be as good as other kids.
- I can be as good as other kids if I want to.
- I am just as good as other kids.

Item 25

- Nobody really loves me.
- I am not sure if anybody loves me.
- I am sure that somebody loves me.

Item 26

- I usually do what I am told.
- I do not do what I am told most times.
- I never do what I am told.

Item 27

- I get along with people.
- I get into fights many times.
- I get into fights all the time.

Appendix D:

Multidimensional Anxiety Scale for Children (MASC)

This questionnaire asks you how you have been thinking, feeling, or acting recently. For each item, please circle the number that shows how often the statement is true for you. If a sentence is true about you a lot of the time, circle 3. If it is true about you some of the time, circle 2. If it is true about you once in a while, circle 1. If a sentence is not ever true about you, circle 0. Remember, there are no right or wrong answers, just answer how you have been feeling recently.

Here are two examples to who how to complete the questionnaire. In Example A, if you were hardly ever scared of dogs, you would circle 1, meaning that the statement is rarely true about you. In Example B, if thunderstorms sometimes upset you, you would circle 2, meaning that the statement is sometimes true about you.

Example A I'm scared of dogs

Example B Thunderstorms upset me

- 1. I feel tense or uptight
- 2. I usually ask permission
- 3. I worry about other people laughing at me
- 4. I get scared when my parents go away
- 5. I keep my eyes open for danger
- 6. I have trouble getting my breath
- 7. The idea of going away to camp scares me
- 8. I get shaky or jittery
- 9. I try to stay near my mom or dad
- 10. I'm afraid that other kids will make fun of me
- 11. I try hard to obey my parents and teachers
- 12. I get dizzy or faint feelings
- 13. I check things out first
- 14. I worry about getting called on in class
- 15. I'm jumpy
- 16. I'm afraid other people will think I'm stupid
- 17. I keep the light on at night
- 18. I have pains in my chest
- 19. I avoid going to places without my family
- 20. I feel strange, weird, or unreal
- 21. I try to do things other people will like
- 22. I worry about what other people think of me
- 23. I avoid watching scary movies and TV shows
- 24. My heart races or skips beats
- 25. I stay away from things that upset me
- 26. I sleep next to someone from my family
- 27. I feel restless and on edge
- 28. I try to do everything exactly right
- 29. I worry about doing something stupid or embarrassing

- 30. I get scared riding in the car or on the bus
- 31. I feel sick to my stomach
- 32. If I get upset or scared, I let someone know right away
- 33. I get nervous if I have to perform in public
- 34. Bad weather, the dark, heights, animals, or bugs scare me
- 35. My hands shake
- 36. I check to make sure things are safe
- 37. I have trouble asking other kids to play with me
- 38. My hands feel sweaty or cold
- 39. I feel shy

Appendix E:

Child Obsessive-Compulsive Impact Scale–Revised (COIS-R)

The following statements refer to experiences that many people have in their everyday lives. Circle the number that best describes HOW MUCH that experience has DISTRESSED or BOTHERED you during the PAST MONTH.

How much has each of the following experiences distressed or bothered you during the past month?	Not at all	A little	Moderately	A lot	Extremely
1. I have saved up so many things that they get in the way.	0	1	2	3	4
2. I check things more often than necessary.	0	1	2	3	4
3. I get upset if objects are not arranged properly.	0	1	2	3	4
4. I feel compelled to count while I am doing things.	0	1	2	3	4
5. I find it difficult to touch an object when I know it has been touched by strangers or certain people.	0	1	2	3	4
6. I find it difficult to control my own thoughts.	0	1	2	3	4
7. I collect things I don't need.	0	1	2	3	4
8. I repeatedly check doors, windows, drawers, etc.	0	1	2	3	4
9. I get upset if others change the way I have arranged things.	0	1	2	3	4
10. I feel I have to repeat certain numbers.		1	2	3	4
11. I sometimes have to wash or clean myself simply because I feel contaminated.	0	1	2	3	4
12. I am upset by unpleasant thoughts that come into my mind against my will.	0	1	2	3	4
13. I avoid throwing things away because I am afraid I might need them later.		1	2	3	4
14. I repeatedly check gas and water taps and light switches after turning them off.		1	2	3	4
15. I need things to be arranged in a particular order.	0	1	2	3	4
16. I feel there are good and bad numbers.	0	1	2	3	4
17. I wash my hands more often and longer than necessary.	0	1	2	3	4
18. I frequently get nasty thoughts and have difficulty in getting rid of them.	0	1	2	3	4

Appendix F:

Acceptance and Fusion Questionnaire for Youth (AFQ-Y)

		Not at all True	A little True	Pretty True	True	Very True
1.	My life won't be good until I feel happy.	0	1	2	3	4
2.	My thoughts and feelings mess up my life.	0	1	2	3	4
3.	If I feel sad or afraid, then something must be wrong with me.	0	1	2	3	4
4.	The bad things I think about myself must be true.	0	1	2	3	4
5.	I don't try out new things if I'm afraid of messing up.	0	1	2	3	4
6.	I must get rid of my worries and fears so I can have a good life.	0	1	2	3	4
7.	I do all I can to make sure I don't look dumb in front of other people.	0	1	2	3	4
8.	I try hard to erase hurtful memories from my mind.	0	1	2	3	4
9.	I can't stand to feel pain or hurt in my body.	0	1	2	3	4
10.	If my heart beats fast, there must be something wrong with me.	0	1	2	3	4
11.	I push away thoughts and feelings that I don't like.	0	1	2	3	4
12.	I stop doing things that are important to me whenever I feel bad.	0	1	2	3	4
13.	I do worse in school when I have thoughts that make me feel sad.	0	1	2	3	4
14.	I say things to make me sound cool.	0	1	2	3	4
15.	I wish I could wave a magic wand to make all my sadness go away.	0	1	2	3	4
16.	I am afraid of my feelings.	0	1	2	3	4
17.	I can't be a good friend when I feel upset.	0	1	2	3	4

We want to know more about what you think, how you feel, and what you do. Read each sentence. Then, circle a number between 0-4 that tells <u>how true</u> each sentence is for you.

Appendix G:

Treatment Evaluation Inventory-Short Form

#### Treatment Evaluation Inventory-Short Form Parent Version

Please complete the items listed below by placing a checkmark on the line next to each question that best indicates how you feel about the treatment. Please read the items over carefully because a checkmark accidentally placed on one space rather that another may not represent the meaning you intended.

1. I find this treatment to be an acceptable way of dealing with my child's diet and activity behaviors.

	strongly disagree	disagree	neutral	agree	strongly agree
2. I lil	ked the procedu	res used in this	treatment.		
	strongly disagree	disagree	neutral	agree	strongly agree
3. I be	elieve this treat	ment is likely to	be effective.		
	strongly disagree	disagree	neutral	agree	strongly agree
4. I ex	perienced disc	omfort as a resu	It of the treatment	nt.	
	strongly	disagree	neutral	agree	strongly

5. I believe my child experienced discomfort as a result of the treatment.

strongly	disagree	neutral	agree	strongly
disagree				agree

agree

6. I believe this treatment is likely to result in permanent improvement.

strongly	disagree	neutral	agree	strongly
disagree				agree

7. Overall, I have a positive reaction to this treatment.

disagree

strongly	disagree	neutral	agree	strongly
disagree				agree

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#### Treatment Evaluation Inventory-Short Form Child Version

Please complete the items listed below by placing a checkmark on the line next to each question that best indicates how you feel about the treatment. Please read the items over carefully because a checkmark accidentally placed on one space rather that another may not represent the meaning you intended.

1. I find this treatment to be an acceptable way of dealing with my child's diet and activity behaviors.

	strongly disagree	disagree	neutral	agree	strongly agree
2. I lil	ked the proced	ures used in this	treatment.		
	strongly disagree	disagree	neutral	agree	strongly agree
3. I be	elieve this treat	ment is likely to	be effective.		
	strongly disagree	disagree	neutral	agree	strongly
4. I ex	sperienced disc	comfort as a resu	lt of the treatme	ent.	
	strongly disagree	disagree	neutral	agree	strongly agree
5. I be	elieve this treat	ment is likely to	result in perma	nent improveme	ent.
	strongly	disagree	neutral	agree	strongly

6. Overall, I have a positive reaction to this treatment.

disagree

strongly	disagree	neutral	agree	strongly
disagree				agree

Copyright: Kelley, Heffer, Gresham, & Elliot, 1989

agree

Appendix H:

Informed Consent

<u>Introduction/ Purpose</u>: Professor Michael P. Twohig, Ph.D. and Andrew B. Armstrong, M.S. in the Department of Psychology at Utah State University are running a study to find out more about the treatment of adolescent obsessive compulsive disorder. The goal of this study is to look at a specific type of therapy for this problem. The therapy sessions will involve talking with your child about his or her problem and doing exercises aimed at helping him or her gain greater control over this problem. There will be no medication or other devices used in this treatment.

Your child has been asked to take part in this study because he or she is between the ages of 12 and 17 and you have shown an interest in pursuing treatment. There will be up to six participants enrolled in this study.

**Procedures:** If your child agrees to participate, the following will happen:

1) You and your child will attend a pretreatment interview and be asked to complete a packet of paper/pencil surveys to help us understand your child's problem and to track how well the treatment works. Both you and your child will be asked to provide information in the form of interview and surveys.

2) When treatment begins, your child will be asked to attend 8 to 10 weekly sessions (one hour each) of therapy that targets these issues. Therapy will be about the way that your child handles the urges to engage in his or her compulsive behavior and will end with some exercises aimed at helping him or her stop the behavior. Your child will be asked to complete a short survey during each therapy session to help pay attention to how well he or she is doing in treatment. Also, he or she will be asked to go to Google Forms each night to report the number of compulsions during that day. This will involve logging in with a Participant ID, and will take less than two minutes per night. You will be asked to participate in the final five minutes of each therapy session. This will provide an opportunity for you to ask questions.

3) All of the treatment sessions will be recorded by video to allow us to make sure that the treatment is being done well. These videotapes will be stored in locked filing cabinet that only the investigators will have access to. Only the investigators will ever view these tapes.

4) One week after the last treatment session, you and your child will be asked to complete the same assessments that were completed during the first visit.

5) You and your child will be contacted three months following the conclusion of treatment to complete the same assessments. As part of the three-month follow-up, your child will also be asked to complete one week of daily compulsion tracking.

<u>New Findings</u>: You will be told of any important new findings (either good or bad), such as changes in the risks or benefits of being part of this study, or if there are different options to participating in this study that might cause you to change your mind about continuing in the study. If we learn new things about the study that are useful to you, or if the study changes at any time, you will be informed and we will ask you to complete a new consent form that will include the new information.

<u>Risks:</u> Every effort will be made to keep physical, medical, psychological, social, legal, or other risks as low as possible. You or your child could possibly feel mild discomfort from answering some of the questions or discussing your problem. Some components of therapy may cause distress for your child, as the source of your child's anxiety is faced in treatment. The researchers will strive to minimize potential risks by keeping you well informed about the therapy process and debriefing as necessary. You will also be

informed of alternative procedures or courses of treatment, if any, that might be advantageous for your child. Further, you and/or your child are welcome to stop being part of the study at any time or to not do any part of the study that you choose not to. There are no penalties for stopping or choosing to not do any part of the study. <u>Benefits:</u> It is possible that this treatment will help your child get control of this problem, and the findings from this study may help us treat other people with similar problems who are not part of this study.

Explanation & offer to answer questions: Andrew Armstrong has explained this research study to you and answered your questions. If you have other questions or research-related problems, you may reach Andrew Armstrong at (435) 797-8303 or Professor Michael P. Twohig at (435) 797-1402.

Extra Cost(s): There are no extra costs to participating in this study.

<u>Voluntary nature of participation and right to withdraw without consequence:</u> Participation in research is completely up to you and your child. You may stop at any time you want, or you may skip any part of the study that you or your child does not want to do. Stopping early or not completing part of the study will not affect your ability to participate in the 8 to 10-week treatment.

<u>Confidentiality</u>: All information that we collect on you and your child will be kept confidential, consistent with federal and state regulations. Only the investigator and the graduate research assistant will have access to the data that will be kept in a locked file cabinet in a locked room and kept on a password-protected computer in a locked office. Any information that could be used to identify you and your child will be kept separate from your survey material. To protect privacy, all material (DVD, assessements, treatment notes) will be under code numbers that have no relation to participants identifying information, all material will be locked in filing cabinets in a locked room, and the master list linking the coded files to participants' names will be stored in a separate locked file. DVDs, personal, identifiable information will be destroyed after the study is completed (approximately May 2012).

As professional therapists, we are legally mandated to report to an appropriate agency (Divisions of Family Services) suspected child abuse or neglect and are legally obligated to release information learned during treatment that would result in clear harm to the child or others in order to protect the youth or others from the harm.

<u>IRB Approval Statement:</u> The Institutional Review Board for the protection of human participants at USU has approved this research study. If you have any questions or concerns about your rights, you may contact the IRB at (435) 797-0567.

<u>Copy of consent</u>: You have been given two copies of this Informed Consent. Please sign both copies and keep one copy for your files.

<u>Investigator Statement:</u> "I certify that the research study has been explained to the individual, by me or my research staff, and that the individual understands the nature and purpose, the possible risks and benefits associated with taking part in this research study. Any questions that have been raised have been answered."

Michael P. Twohig, Ph.D. Principal Investigator (435) 797-1402 Andrew B. Armstrong, M.S. Student Researcher (435) 797-8303

Signature of Participant: By signing below, I agree to participate.

Participant's signature

Date

<u>Child/Youth Assent:</u> I understand that my parent(s)/guardian(s) is/are aware of this research study and that permission has been given for me to participate. I understand that it is up to me to participate even if my parents say yes. If I do not want to be in this study, I do not have to and no one will be upset if I don't want to participate or if I change my mind later and want to stop. I can ask any questions that I have about this study now or later. By signing below, I agree to participate.

Name

Date

Appendix I:

Parent Handout

What is "ACT"?

'ACT' is short for *Acceptance and Commitment Therapy*. 'ACT' is a good abbreviation, because this therapy is about taking effective action. A basic assumption of ACT is that suffering is a normal and unavoidable part of human experience. It is often people's attempts to control or avoid their own painful experiences that contribute to long-term suffering.

What are the goals of ACT?

ACT is not about overcoming pain or fighting emotions; it's about embracing life and feeling everything it has to offer. It offers a way out of suffering by choosing to live a life based on what matters most. Instead of trying to *eliminate* the intrusive thoughts that often lead to compulsive behaviors, ACT helps people learn ways to *let go of the struggle* with intrusive thoughts. One way of doing this is to help people see thoughts and feelings for what they really are. Thoughts and feelings come and go, and sometimes a good reaction is no reaction at all.

Does ACT work for OCD?

Yes. Studies have shown that ACT is effective with OCD. It has helped many individuals reduce compulsions to below-clinical levels. It has also been found to significantly improve individual's quality of life. Also, people who received ACT for OCD gave the treatment a high "acceptability" rating, meaning they felt positively about the therapy and found the interventions to be appropriate. So far, ACT studies have been conducted with adult OCD. We expect ACT to work similarly for adolescents with OCD, which this study seeks to demonstrate.

How are parents involved in the treatment?

In this study, ACT will be conducted in a one-on-one format with the adolescents. Parents will be invited to join the last five minutes of each session to check-in and ask questions, but parents will not be asked to help their child implement the therapy outside of sessions. If necessary, parents may need to remind their child to report their online data.

Additional reading *Get Out of Your Mind and Into Your Life* by Dr. Steven Hayes

Appendix J:

Treatment Manual

ACT for Adolescent OCD: Treatment Manual

Armstrong, A. B., & Twohig, M. P.

#### Adapted from

- Hayes, S. C., Batten, S., Gifford, E., Wilson, K. G., Afairi, N., & McCurry, S. (1999). Acceptance and commitment therapy: An individual psychotherapy manual for the treatment of experiential avoidance, Second Edition. Reno, NV: Context Press.
- Hayes, S. C. Strosahl, K. D., & Wilson, K. G. (1999). Acceptance and commitment Therapy: An experiential approach to behavior change. New York: Guilford Press.
- Murrell, A., & Wilson, K. (2002). *ACT for kids: Acceptance and commitment therapy adapted for children.* University, MS.
- Twohig, M. P. (2004). Acceptance and commitment therapy for obsessive compulsive disorder: Treatment manual. Reno, NV.

NOTE: This manual is a general protocol of acceptance and commitment therapy for OCD. It has been designed for youth 12 to 17 and is administered in eight to ten weekly sessions lasting one hour. Because this manual will not fit all clients' needs, it may be tailored to each particular client. Tailoring of the treatment may involve shifting components in this treatment manual to different sessions than indicated, or adding material to support the components that are already suggested in this manual. Only material that is ACT consistent may be added to the intervention.

# Overview of Treatment Sessions

Session	Treatment components
1	Assess contexts in which OC symptoms occur
	<ul> <li>Discuss differences between obsessions and compulsions</li> </ul>
	Homework: Record obsessions and what was done in response; Write about what
	OCD is costing
2	<ul> <li>Draw picture of self, label location of obsessions and compulsions</li> </ul>
	"Creative hopelessness" – list efforts to control obsessions and discuss workability of
	those efforts
	• <i>Tug of war</i> metaphor
	Homework: Practice dropping the rope (let go of unworkable control agenda)
3	• "Control as the problem" – <i>Polygraph</i> , <i>Fall in love</i> , and <i>Chocolate cake</i>
	• Introduce acceptance – <i>Finger trap</i> exercise
	Homework: Behavioral commitment
4	• Defusion – <i>Milk, milk, milk</i> exercise (in vivo and text-to-speech on computer);
	Grocery store metaphor
	• Acceptance – <i>Passengers on the bus</i> metaphor
	Homework: <i>Milk</i> exercise; Behavioral commitment
5	• Defusion – <i>Take your mind for a walk</i> exercise
	• Acceptance – <i>Two scales</i> metaphor, <i>Obsessions on paper</i> exercise
	Homework: Behavioral commitment
6	• Values – <i>Heart shaped box</i> and <i>Bull's eye</i> exercises
	• Acceptance – <i>Annoying party guest</i> metaphor
	Revisit committed action
	Homework: <i>Epitaph</i> exercise; Behavioral commitment
7	• Present moment – <i>Counting breaths, visualizing thoughts on a screen</i> mindfulness
	exercises, Kindergarten teacher metaphor
	• Self-as-context – <i>TV set</i> , <i>Chessboard</i> metaphors
8	• Present moment – Soldiers on parade mindfulness exercise
	Review all processes using <i>Passengers on the bus</i> metaphor
	• Discuss end of treatment

## Session 1

Session 1 Overview:

- 1. Build rapport
- 2. Get the client on board
- 3. Discuss differences between obsessions and compulsions
- 4. General assessment of OCD: Assess contexts in which OC symptoms occur
- 5. Homework: Record obsessions and what was done in response

### **Build Rapport**

It is important that the client and therapist have a sense of mutual trust and respect before beginning work from an ACT perspective. The therapist should work to be warm, empathetic, and accepting. Engaging in conversation about less-formal topics (e.g., clients' interests, hobbies, school and family life) not only contributes to a trusting therapeutic relationship, but provides the therapist with ideas for tailoring to the treatment to the client's own experiences.

### Get the Client On Board

The client likely has fears about contacting his or her obsessions and will have some reservations about beginning treatment. It is helpful to assess the client's expectations of the therapy process and to ask if the client has any questions. Try to get a sense for why the client is participating in the treatment. How will getting control of the OCD make his or her life better?

The therapist usually gives a warning: *My experience with this approach is that it can put you on a bit of a roller coaster. All kinds of different emotions might emerge: interest, boredom, anxiety, sadness, clarity, confusion, and so on. It is like cleaning out a dirty glass with sludge in the bottom: the only way to do it is to stir up the dirt. So some stuff might get stirred up, and for a while, things may look worse before they look better. It is not that it is overwhelming—it is just that you should be prepared to let various things show up. It is like exercise: sometimes good things hurt a bit. If we are moving ahead, you will know it and we will both see it in your life. It is just that we can't be sure of this on a week to week basis. In some cases, the outcomes of ACT are not seen until later in the treatment. So what I would like is a period of time - 8 sessions. Let's push ahead for that amount of time no matter what - even if you really want to quit. One of the reasons that I find this important, is that if you do not really engage in these 8 sessions you will not really know whether this treatment is useful or not.* 

Difference between obsessions and compulsions

Help the client understand what is meant by obsessions ("O"s) and compulsions ("C"s). It is normal for clients to try and explain the different things that he or she does to control the compulsion and not the obsession. The idea that the obsession and the compulsion do not always occur together can be difficult for clients to understand. In a sense, this is one

of the main things we are trying to help the client recognize, that the obsession can occur without the compulsion.

General assessment

The function of the general assessment is to get a sense of what the client's OCD is like, including how Os and Cs relate to each other.

- Ask the client to describe his or her obsessions and compulsions. There will likely be many different Os and Cs. Have the client indicate what the main one(s) are.
- What are the situations when Os are most frequent? When are Cs most frequent? Do you want to perform a C every time an O shows up?
- What happens to Os when you perform Cs?
- Are you experiencing any Os right now? If so, are you wanting to perform a C?

Homework:

Obsession and Compulsion Tracking Sheet

When an "O" shows up:

Date	What is "O" like? (What are you thinking? What are you feeling?)	Write what you did with the "O"

NOTE: Every session following session 1 will begin with the following treatment components:

#### 1. Assess functioning

Check how the client's week went. Check for external stressors such as difficulties at school or in the family. These areas will not be directly targeted but are useful because they can affect treatment. Assess if the client is doing anything differently as a result of the therapy.

### 2. Review reaction to last session

Ask the client if he or she had any reactions to the last session. This gives the client an opportunity to ask questions or share reactions to the material from the last session. In some cases the material will be very clear to the client and in some cases it will not make sense to the client. Do not try arguing or pressuring the client into believing what was said in session. Let the client's experience guide his or her behavior. Allowing the client to present his or her reactions allows the therapist to see where the client is and what areas require additional attention. The therapist should be compassionate because engaging in this therapy can be difficult.

#### 3. Review Homework

If the client does not complete the homework the therapist should assess the variables that got in the way. Very likely, the same variables that get in the way of the client experiencing the obsession and not acting on it are the same ones that got in the way of the client not doing the homework. Try and help bring these variables to the client's attention. The client may have not completed the homework because it was it was too emotionally difficult, did not make the time, or did not want to. All of these have an avoidance component to them. Help the client see that part of the thing that got in the way was that he or she had to do something that was difficult and did not feel good. This is very much like the struggle that the client is in when the obsession occurs and the client must decide to engage in the compulsion or not. Again, this should not be done in a blaming fashion. The purpose is to help the client see that a large part of our behavior is guided by avoiding unpleasant activities. If the homework is not competed it can either be completed in session with the therapist or reassigned with the next homework assignment.

### Session 2

#### Session 2 Overview:

- 1. Assess functioning, review reactions to last session, & review homework
- 2. "Location of Os and Cs" exercise
- 3. Introduce creative hopelessness
- 4. "Tug of War" metaphor
- 5. Homework: "What Works" writing assignment

#### "Location of Os and Cs" Exercise

On a blank sheet of paper, the client draws a picture of him- or herself, as if tracing an outline of their body lying on the paper. Then he or she writes specific obsessions and compulsions on the part of the body where the "Os" or "Cs" occur (e.g., *contamination fears* inside the head, *washing* on the hands).

The drawing exercise helps the client distinguish Os from Cs and sets up a future conversation (session 3) about tasks minds are good at (e.g., solving problems in the external world) versus tasks at which minds are often not helpful (e.g., controlling inner events).

#### Creative Hopelessness

This section begins with uncovering behaviors in the client's repertoire that have the function of avoiding obsessions or feelings of anxiety associated with obsessions. The therapist should help the client figure out all the different things that he or she does to decrease or avoid the obsession and assess the effectiveness of these strategies. The different escape/avoidance behaviors will include the compulsion, avoiding certain situations, different methods of self-talk, reassurance, and a variety of other behaviors. What the therapist and the client are looking for, are the methods that are effective in the long run. Many of these escape methods will decrease the obsession immediately, such as engaging in the compulsion, but they are not effective methods in the long run. The obsession comes back.

If the client is unsure what works and what does not you can help the client think of all the different methods that might work and send the client home to try these methods. Do not try and talk the client into this, let the client's experience tell him or her that these methods are not effective.

This process should continue through all the different things that the client does to decrease his or her obsession and associated feelings of anxiety. The therapist needs to be careful in this phase not to make the client feel as though the therapist is blaming him or her for what he or she has been doing. The therapist should help the client see that this is what most humans do with private events that are uncomfortable. Help the client see that exerting physical and mental energy usually gets them somewhere (sports, school) but that does not appear to be the case with solving this problem.

This is a very important phase in the treatment of OCD; a substantial amount of time can be spent on this phase of the treatment. The therapist should not move on before the client sees and feels the uselessness and paradoxical affects of the control agenda. Often times the client will slip back into his or her control agenda throughout treatment and the therapist will need to help the client check out the function of his or her behavior.

#### "Tug-Of-War" Metaphor

This situation is like being in a tug-of-war with a monster. It is big, ugly, and very strong. In between you and the monster is a pit, and as far as you can tell, it is bottomless. If you lose this tug-of-war, you will fall into this pit and will be destroyed. So you pull and pull, but the harder you pull, it seems the harder the monster pulls, and it appears that you are edging closer and closer to the pit. The hardest thing to see is that your job here is not to win the tug-of-war. Your job is to drop the rope.

Sometimes clients ask, "How do I do that?" after this metaphor. It is best not to answer firmly at this point. The therapist can say something like: "Well, I don't know. But the first step is really to see that the tug-of-war can't be won... and that it doesn't need to be. The client can be told that nothing new needs to be done yet. He or she can work on paying attention to avoidance attempts and their level of long-term effectiveness.

It is sometimes helpful to give the client a larger framework for the skill you are hinting at and to provide some reasons why you are seeming to be evasive. If the person has a history with sports, playing musical instruments, or other fine motor skills, these can be used as metaphors to explain that dropping the rope must ultimately be learned experientially. *Willingness is a skill like playing a sport or riding a bike. I can give you general suggestions—like a coach might, but you are really going to have to practice this at home.* Clients will likely run into some situations where he or she might feel compelled to reduce escape and avoidance but we are not formally suggesting these actions. The following homework will help the client begin to abandon avoidance strategies.

#### Homework:

#### What Works

- 1. Write down everything that your OCD has cost you. Be as specific as possible.
- 2. Now write down a list of everything you have done in an attempt to control your obsessions. Be thorough and specific: you should be able to come up with several examples of strategies you've used in your attempts to solve it, and many specific examples where you have used these strategies (talking yourself out of it, rationalizing, avoiding, getting help from others, criticizing yourself, etc.).
- 3. Honestly evaluate how far each of these strategies have brought you toward solving the problem *in the long run*.

### Session 3

Session 3 Overview:

- 1. Assess functioning, review reactions to last session, & review homework
- 2. "Control as the problem" Polygraph, Fall in love, and Chocolate cake
- 3. Introduce willingness *Finger trap* exercise
- 4. Homework: Behavioral commitment

The client was asked to assess the effectiveness of his or her strategies to control the obsession. Those efforts should be reviewed with the therapist, as they provide the basis for this session.

#### Control as the Problem

The function of "control as the problem" is to help the client experience the paradoxical affects of his or her attempts to control the obsessions. In most cases attempts at controlling obsessions not only does not work, but it increases the importance of the obsession. It makes it bigger rather than smaller. If the client can be brought in touch with this, then the client will be more likely to give up the control agenda and try something different. Basically, it is making the compulsion feel less useful.

It is generally useful to talk about client's struggle with his or her obsessions. For example, the therapist might say something like: *When your obsession shows up, what do you do with it? Do you try to get rid of it? Is it possible that struggling to get rid of your obsession in itself provokes distress? Eventually you get through it, and it looks as if the reason you got through it was because you were struggling with it, but doesn't that seem a little bit fishy? If that were the case, then why is the discomfort you have still hanging around? Clearly, struggling doesn't solve the confusion.* Try to relate these control efforts to clients' specific experiences.

There is an operating rule: if you don't like something, figure out how to get rid of it and do so. And that rule works great in 95% of our life. But suppose that same rule worked terribly in that last 5%: the world inside the skin. In your experience, not in your logical mind, check and see if this fits: in the world inside the skin, the rule actually is, if you aren't willing to have it, you've got it.

This is sort of a funny way of looking at your problem isn't it? I don't think there is anything odd about what you have been doing. It is what we all do. When we don't like things we change them. Like I said, it works on the outside world, we were taught to do it, and it does sometimes work immediately, but not in the long run. I have some exercises that help show this.

#### "Polygraph" Metaphor

Suppose I had you hooked up to the best polygraph machine that's ever been built. This is a perfect machine, the most sensitive ever made. When you are all wired up to it, there is no way you can be aroused or anxious without the machine knowing it. So I tell you that you have a very simple task here: all you have to do is stay relaxed. If you get the least bit anxious, however, I will know it. I know you want to try hard, but I want to give you an extra incentive, so I also have a .44 Magnum which I'll hold to your head. If you just stay relaxed, I won't blow your brains out, but if you get nervous (and I'll know it because you're wired up to this perfect machine), I'm going to have to kill you. So, just relax! ... What do you think would happen? Guess what you'd get? The tiniest bit of anxiety would be terrifying. You'd be going "Oh no! I'm getting anxious! Here it comes!" BAM! You're dead meat. How could it work otherwise?

The polygraph metaphor can be used to draw out several paradoxical aspects of the control and avoidance of obsession. It helps demonstrate that the reason the client is stuck is not a lack of motivation, lack of creativity, or lack of energy. Again, the therapist helps normalize the client's experience by emphasizing it is what well all do.

#### "Fall in Love" Metaphor

But it's not just negative emotions. Here's a test. I come to you and say, 'See that person? If you fall in love with that person in 2 days, I'll give you 10 million dollars.' Could you do it? Probably not. In other words, it's not just getting rid of emotions that is difficult, but it is also difficult to create them, even ones you like, in any kind of predictable, controllable way.

#### "Chocolate Cake" Exercise

It's not just emotions, either. Let's look at thoughts. Suppose I tell you right now, I don't want you to think about something. I'm going to tell you real soon. And when I do don't think it even for a second. Here it comes. Remember, don't think of it. Don't think of ....Warm chocolate cake! You know how it smells when it first comes out of the oven...Don't think of it! The taste of the chocolate icing when you bite into the first warm piece ...Don't think of it! As the warm, moist piece crumbles and crumbs fall to the plate...Don't think of it! It's very important, don't think about any of this!

For clients with OCD, this issue should be related to their struggle with their obsessions. What their mind tells them is that if they cannot make their obsession go away, or at least lessen, they will always have OCD. Always ask the client whether this strategy has worked. They will usually say that it has worked in a limited sense. However, it cannot have worked in a real, lasting, fundamental sense, or else the client would not be in treatment. It is important to validate the incredible effort the client has invested in controlling urges.

Introduce the Alternative to Control: Willingness

Up to this point, therapy has focused on undermining the literal control agenda that tells clients that they can only move ahead after they first start from somewhere else. It helps to begin to point to the alternative. The therapist should use the word "willingness" at this point in therapy because "acceptance" is often interpreted to mean "toleration" or "resignation."

#### "Finger Trap" Exercise

[The therapist gives the client a "finger trap" toy (a small tube of woven straw) and invites the client to push both fingers in, one into each end. As the client pulls his or her fingers back out the straw catches and tightens.]

The harder you pull, the smaller the tube gets and the stronger it holds your finger. Maybe OCD is something like that. Maybe these tubes are like life itself. There is no healthy way to get out of life, and any attempt to do so just restricts the room you have to move. With this little tube, the only way to get some room is to push your fingers in, which makes the tube bigger. That may be hard at first to do because your mind tells you the way to escape is to pull your fingers out. Perhaps it's not a question of getting free from the tube. Perhaps it's a question of how much "wiggle room" you want to have in your life. The more you struggle, the more constricted your movements will be. If you let go of the struggle, the more freedom you have to make new choices.

#### Homework:

#### Behavioral commitment

At this point the client will likely be interested in trying something different. The therapist should suggest practicing willingness to have obsessions, in a manner tailored to the client. Behavioral commitments are aimed at reducing compulsions, not obsessions. It is important for the commitments to be specific and achievable. For example, the client can agree not to do the compulsion from 8:00-9:00, or to not do the compulsion more than 20 times per day if it is one that they can easily count. These assignments give the client real-life experiences with the material that is being presented in session. Also, it provides the material for the following sessions.

Behavioral commitments should be increased each week as the client's repertoire to experience the obsession without doing the compulsion increases. The exercises should continue to be for specific durations or specific amounts. The client should be increasing his or her commitments throughout the treatment. The client should not be pushed to make commitments that are larger than will occur; while at the same time the client should choose commitments that are big enough steps that the client is making progress and increasing his or her willingness repertoire.

# Session 4

Session 4 Overview:

- 1. Assess functioning, review reactions to last session, & review homework
- 2. Introduce defusion
- 3. "Grocery store" metaphor
- 4. "Milk, milk, milk" exercise
- 5. "Passengers on the bus" metaphor
- 6. Homework: Milk exercise; Behavioral commitment

Introduce Defusion

Defusion involves increasing the client's behavioral repertoire with regard to the obsession. When the client experiences an obsession the only move in his or her repertoire is to escape it. The same goes for situations that elicit the obsession, the only move that the client has is to avoid the situation. Defusion exercises help the client interact with the obsession in different ways, which increases the client's behavioral repertoire with regard to the obsession. Additionally, when the obsession is interacted with in a variety of ways its believability decreases. Thus, the obsession may occur at the same rate, but it occurs as something less threatening.

As a way of introducing this idea, tell client that *minds* are kind of like symbols for *brains*. Describe some things that minds do:

- Minds talk a lot and try to tell us what to do.
- Minds look for ways that things or situations are like other things or situations, especially ones that happened to us before or that we think might happen to us.
- Minds try to tell us if something is good or bad to do.
- *Minds talk about the same stuff over and over.*

Ask the client to list things that we don't need our minds to figure out. Provide examples if needed (breathing, dancing, sports, etc.).

### "Kid in the Grocery Store" Metaphor

All kids want something when they see the candy or the toys in the grocery store. And they usually say something like "can I get one of those?" Let's pretend you're the dad and you have to make a decision. Do you give in or not? You know what is going to happen if you don't give in – the child will ask a little louder. And if you say no he will likely get louder still. You can either get him to be quiet with a toy or candy or let him cry and have everyone look at you. But the problem with giving in is you've taught the kid they can have whatever they want by crying.

Struggles with obsessions can feel like this. The 'O' shows up and you decide not to give in, but then it gets louder and louder until you give in. The 'O' is like the kid in a grocery store. In an attempt to control it, you are teaching it how "loud" it needs to get. It could actually be having the opposite effect than you want. Just like a parent might say "I'm not buying it," practice saying "I'm not buying it" to your obsession.

"Milk, Milk, Milk" Exercise

*T:* Sometimes we believe that our thoughts are literally what they say they are, especially thoughts that really push us around like OCD thoughts. For example, "I am contaminated." What if I say that thoughts are simply "just thoughts," rather than what they say they are? Let's do a little exercise. I'm going to ask you to say a word. Then you tell me what comes to mind. I want you to say the word, "Milk."

C: Milk.

T: Good. Now tell me what comes to mind when you said it?

*P: I picture it—white, a glass.* 

*T:* Good what else? Can you taste it? Can you feel what it feels like to drink a glass of milk? Cold, creamy, coats your mouth...right?

*T:* Okay, let's see if this fits. What came across your mind were things about actual milk and your experience with it. All that happened is that we made a strange sound — Milk (say it slowly!) — and lots of those things show up. Notice that there isn't any milk in this room, not at all. But milk was in the room in our minds. You and I were seeing it, tasting it, and feeling it. And yet, only the word was actually here.

*T:* Now, here is another exercise. The exercise is a little silly, and you might feel embarrassed doing it, but I am going to do it with you so we can all be silly together. What I am going to ask you to do is to say the word, "Milk," out loud, over and over again, and as rapidly as possible, and then notice what happens. Are you ready?

T: Okay, let's do it. Say "milk" over and over again!

[30 seconds pass]

T: Okay, now stop. Tell me what came to mind while you kept repeating it?

C: (e.g., It sounded funny, The words blended together, etc.)

*T*: *Did you notice what happened to "white, cold, creamy, etc."*?

C: They are not the same; they are not really here.

*T:* Right, the creamy and cold stuff just goes away. When you said it the first time, it was as if milk was actually here, in the room. But all that really happened was that you just said that word. The first time you said it, it was "psychologically" meaningful, and it was almost solid. But when you said it again and again and again, you began to lose that meaning and the words became just a sound.

T: What I am suggesting is that... What happens in this exercise may be applied to OCDrelated thoughts. Imagine that such thoughts are like smoke. When you think things like "I am contaminated," that is much like inhaling the smoke and believing it's the air. But the thoughts are not air—they're just thoughts, a cloud of smoke over your mind.

The entire exercise is then repeated, using the client's most common obsession in place of "milk." If the obsession is a long statement, shorten it to something that can be quickly repeated. Another variation is to use a web-based text-to-speech computer program such as <u>http://www.oddcast.com/home/demos/tts/tts\_example.php?sitepal</u>. Words or phrases can be typed into the program, which then pronounces the words in any accent the user chooses. Also, an iPhone app called "Talking Carl" can be used. Clients say their obsession into the phone and "Carl" repeats the phrase in a high-pitched voice.

#### "Passengers on the Bus" Metaphor

The "Passengers on the Bus" metaphor is a core ACT intervention aimed at deliteralizing provocative psychological content. This is a particularly effective strategy for those with OCD because it assists them in looking at the obsession in a way that is less threatening.

It's as if there is a bus and you're the driver. On this bus we've got a bunch of passengers. The passengers are thoughts, feelings, bodily states, memories, and other aspects of experience. Some of them are scary, and they're dressed up in black leather jackets and they've got switchblade knives. What happens is, you're driving along and the passengers start threatening you, telling you what you have to do, where you have to go. "You've got to turn left," "you've got to go right," etc. The threat that they have over you is that, if you don't do what they say, they're going to come up from the back of the bus.

It's as if you've made deals with these passengers, and the deal is, "You sit in the back of the bus and scrunch down so that I can't see you very often, and I'll do what you say, pretty much." Now what if one day you get tired of that and say, "I don't like this! I'm going to throw those people off the bus!" You stop the bus, and you go back to deal with the meanlooking passengers. Except you notice that the very first thing you had to do was stop. Notice now, you're not driving anywhere, you're just dealing with these passengers. And plus, they're real strong. They don't intend to leave, and you wrestle with them, but you're unable to kick them off the bus.

Now the trick about the whole thing is this: The power that the passengers have over you is based on this: "If you don't do what we say, we're coming up and we're making you look at us." That's it. It's true that when they come up they look like they could do a whole lot more. They've got knives, chains, etc. It looks like you could be destroyed. The deal you make is to do what they say so they won't come up and stand next to you and make you look at them. The driver (you) has control of the bus, but you trade off the control in these secret deals with the passengers. In other words, by trying to get control, you've actually given up control! Now notice that, even though your passengers claim they can destroy you if you don't turn left, it has never actually happened. These passengers can't make you do something against your will.

The therapist can continue to allude to the bus metaphor throughout therapy. Questions such as, "Which passenger is threatening you now?" can help re-orient the client who is practicing emotional avoidance in session.

Homework:

- Behavioral commitment
- "Milk" exercise: When obsessions appear during the week, the client is to practice defusion by repeating the obsession—aloud, if possible—and notice how their experience of the obsession changes.

# Session 5

Session 5 Overview:

- 1. Assess functioning, review reactions to last session, & review homework
- 2. "Take your mind for a walk" exercise
- 3. "Two scales" metaphor
- 4. "Obsessions on paper" exercise
- 5. Homework: Behavioral commitment

### "Take Your Mind for a Walk" Exercise

This exercise illustrates how busy minds can be on a moment-to-moment basis. It also gives clients an opportunity to practice willingness in session. Having the client's "mind" voiced by an external source helps them defuse from evaluative, second-guessing chatter.

Before we do this exercise, it is important for us to identify who all is in the room. By my count, there are four of us: Me, You, Your Mind, and My Mind. Let's just set out to notice how our minds get in the way. To do this I want us to do a little exercise. You be you, and I'll pretend to be your mind. We are going to walk around the room, using a special set of rules. You may go wherever you choose, and I will follow. I'll talk the whole time about anything and everything: I'll describe what you're doing, evaluate you, analyze your actions, and give you instructions. You will listen to me without necessarily doing what I say to do. Instead, you should do whatever you want no matter what the mind says. After five minutes, we'll switch roles.

Process the exercise with the client and share your own experience of practicing willingness during the exercise. Make the point that learning to make room for certain inner experiences can actually help the client gain more control over his or her life.

At this point, the client will not know exactly what willingness is. Even though the therapist has made it clear that it is not a feeling or a thought, the client will look for willingness of exactly this kind: a feeling of willingness or a belief that is helpful. The client may also believe that the therapist is saying to ignore or tolerate discomfort. It is essential that the therapist be on the lookout for and detect these misunderstandings.
#### "Two Scales" Metaphor

This is a core ACT intervention designed to further illustrate the concept of willingness and its relationship to psychological distress.

Imagine there are two scales or meters, like the volume and balance knobs on a stereo. One is right out here in front of us and it is called "anxiety" [Use labels that fit the client's situation, if anxiety does not, such as "anger, guilt, disturbing thoughts, worry," etc. It may also help to move ones hand as if it is moving up and down a numerical scale]. It can go from 0 to 10. In the posture you're in, what brought you in here, was this: "This anxiety is too high." It's way up here and I want it down here and I want you, the therapist, to help me do that, please. In other words you have been trying to pull the pointer down on this scale [the therapist can use the other hand to pull down unsuccessfully on the anxiety hand]. But now there's also another scale. It's been hidden. It is hard to see. This other scale can also go from 0 to 10. [move the other hand up and down behind your head so you can't see it] What we have been doing is gradually preparing the way so that we can see this other scale. We've been bringing it around to look at it. [move the other hand around in front] It is really the more important of the two, because it is this one that makes the difference and it is the only one that you can control. This second scale is called "Willingness." It refers to how open you are to experiencing your own experience when you experience it-without trying to

manipulate it, avoid it, escape it, change it, and so on. When anxiety is up here at 10, and you're trying hard to control this anxiety, make it go down, make it go away, then you're unwilling to feel this anxiety. In other words, the Willingness scale is down at 0. But that is a terrible combination. You've been trying to control Mr. Anxiety for a long time, and it just doesn't work. It's not that you weren't clever enough; it simply doesn't work. Instead of doing that, we will turn our focus to the willingness scale.

Unlike the anxiety scale, which you can't move around at will, the willingness scale is something you can set anywhere. It is not a reaction—not a feeling or a thought—it is a choice. You've had it set low. You came in here with it set low—in fact coming in here at all may initially have been a reflection of its low setting. What we need to do is get it set high. If you do this, if you set willingness high, I can guarantee you what will happen to anxiety. I'll tell you exactly what will happen and you can hold me to this as a solemn promise. If you stop trying to control anxiety, your anxiety will be low ... [pause] or ... it will be high. I promise you! I swear. Hold me to it. And when it is low, it will be low, until it's not low and then it will be high. And when it is high it will be high until it isn't high anymore. Then it will be low again. ... I'm not teasing you. There just aren't good words for what it is like to have the willingness scale set high—these strange words are as close as I can get. I can say one thing for sure, though, and your experience says the same thing—if you want to know for sure where the anxiety scale will be, then there is something you can do. Just set willingness very, very low and sooner or later you will have plenty of anxiety. It will be very predictable. All in the name of getting it low. If you move the willingness scale up, then anxiety is free to move. Sometimes it will be low, and sometimes it will be high, and in both cases you will keep out of a useless and traumatic struggle that can only lead in one direction.

#### "Obsessions on Paper" Exercise

Give the client a sheet of paper on which to draw an obsession. The drawing is not meant to be a literal image of the obsession, rather it is meant to reflect the client's experience of the obsession. After the client is done drawing, ask him or her to discuss how the image (e.g., a ghost) represents their experience with obsessions. Take advantage of opportunities to tie in ACT processes; for example, *like your mind, a ghost makes a lot of frightening noise, but he doesn't do anything to hurt you*.

Then take the paper and tell the client the task is to make 100% certain the paper does not touch their lap. Make a few attempts to place the paper on the client's lap (the client deflects the paper each time). Next, ask the client to let the paper land on their lap and merely to watch the paper. The contrast in effort between just noticing the paper versus batting it away makes the underlying point.

Homework:

Behavioral commitment

# Session 6

Session 6 Overview:

- 1. Assess functioning, review reactions to last session, & review homework
- 2. Introduce values
- 3. "Heart shaped box" and "Bull's eye" exercises
- 4. "Annoying party guest" metaphor
- 5. Revisit committed action
- 6. Homework: Behavioral commitment; "Epitaph" exercise

## Introduce Values

At this point in treatment the therapist should assist the client assessing his or her values. Hopefully at this point in treatment the client is showing decreases in his or her compulsions and becoming less involved in struggles with the obsessions. Through contacting the natural contingencies the client should begin to contact the appetitive results of not giving into the compulsions. Presumably, if the client is spending less time engaging and struggling with the compulsions, more time will be spent engaging in valued activities.

Discuss key characteristics of values:

- Like points on a compass, values are directions we move in, not destinations we achieve.
- Values are directions we "move toward" not "away from." Therefore, values are stated positively.
- We are talking about what is important to the client, not necessarily what is important to parents, teachers, church leaders, etc.
- We are also talking about things that will not necessarily feel good.
- Values are chosen. (It may be helpful to illustrate this by asking "why" questions about a chosen preference of the client's (e.g., favorite food). Ask why they like something until the answer is "just because.")

## "Heart Shaped Box" Exercise

Show the client a box shaped like a heart. Talk about how the heart is a symbol kind of like the mind is a symbol of the brain. Just like our actual hearts keep us alive by pumping blood, metaphorical hearts keep us alive in a different way. Hearts are about the experiences, feelings, memories, and behaviors that we care about.

Give the client slips of paper on which to write examples of his or her chosen values. If clients struggle with this task, prompt them with questions (e.g., *What does freedom mean to you?, What makes a good life?, What's the most important thing to you right now?, What do you think is your main purpose in life?*, etc.). Ask the client to place the strips inside the heart shaped box.

#### "Bull's Eye" Exercise

Once the client has come up with some of their values, use this exercise to help the client assess how closely he or she is applying each value in his or her life.

Ask the client to draw a target on a sheet of paper or a white board. Then draw slips out of the heart shaped box and read them to the client one by one. As each value is read aloud, the client is to make a mark on the target indicating how closely he or she is living the particular value. Explain that placing a mark on the bull's eye indicates following that value perfectly and living exactly like what is in one's heart. The farther the mark is from the bull's eye, the less the client believes he or she is living that value. After the client places each mark, ask them to discuss the distance and what it means (e.g., how it affects them, others that they care about, etc.). Ask the client to share what he or she would have to do to live the value more completely. Emphasize specificity; ask the client to talk about the exact things he or she would need to do live the value more completely.

To illustrate moving toward values, it may be useful to remind clients of the "passengers on the bus" metaphor. The costs associated with not moving in valued directions are described in the following metaphor.

#### "Annoying Party Guest" Metaphor

Imagine you invited your whole class over to a party. So all your friends show up, the party's going great, and here comes \_\_\_\_\_ (an annoying person from school, a bully, etc.). You can welcome \_\_\_\_\_ even though you don't think well of him. You don't have to like him. Now you can decide that even though you said everyone was welcome, in reality he's not welcome. But if you kick him out, the party changes. Now you have to be at the front of the house, guarding the door so he can't come back in. Or if you say, OK, you're welcome, but you don't really mean it, you only mean that he's welcome as long as he stays in the kitchen and doesn't mingle with the other guests. Then you're going to have to spend the whole party making sure he stays in the kitchen. Meanwhile, the party's going on, and you're off guarding \_\_\_\_\_. It's not much like a party. It's a lot of work.

This metaphor is about all the feelings and memories and thoughts that show up that we don't like. The issue is the posture we take with regards to our own "stuff." Is the "stuff" welcome? Can you choose to welcome them in, even though you don't like the fact they came? If not, what's the party going to be like?

## Increase focus on behavioral commitment

After values have been clarified, it is time to assist the client in shifting the focus to engaging in these behaviors. The whole point of ACT is stated in its name: acceptance and commitment. This is another way of saying "get present and move ahead" or "start from where you are and go where you choose to go." The client has been making

commitments to increase his or her willingness throughout the treatment, and now the commitment should be more focused on engaging in these valued activities. Point out that a commitment should not be made unless one is 100% sure you intend to keep it, and it will happen that you won't be able to keep it always. The question is, Are you willing to make a commitment, knowing that you're not going to always live up to it; are you willing to feel what you're going to feel when you fail to keep your commitments and still make the commitment?

Homework:

- Behavioral commitment
- *Epitaph* assignment: The client is to create an epitaph that briefly summarizes their values. For example, "\_\_\_\_\_ was kind to everyone she met."

# Session 7

Session 7 Overview:

- 1. Assess functioning, review reactions to last session, & review homework
- 2. Mindfulness "Counting breaths" exercise and "Kindergarten teacher" metaphor
- 3. Self-as-context "Chessboard" and "TV set" metaphors
- 4. "Visualize thoughts on a screen" exercise
- 6. Homework: Behavioral commitment; Watch thoughts as images on a screen

Introduce present moment awareness by leading the client in a mindfulness exercise.

## "Counting Breaths" Exercise

Sit in a comfortable position with the spine straight and feet on the floor. Gently close your eyes and take a few deep breaths. Breathe naturally without trying to influence it.

- Count "one" to yourself as you exhale.
- The next time you exhale, count "two," and so on up to "five."
- Then begin a new cycle, counting "one" on the next exhalation.

If you notice yourself counting higher than five gently bring your attention back to your breath and begin again at "one."

Greater awareness of the present moment can help the client make room for private events. Again, while we teach clients not to resist internal experiences, acceptance does not mean "agreeing with." The following metaphor illustrates a gentle posture of acknowledging unwanted private events while maintaining committed action.

## "Kindergarten Teacher" Metaphor

Imagine a kindergarten teacher teaching a lesson to a classroom full of students. While the teacher is talking, one of the students blurts out "my dog had puppies!" There are lots of ways the teacher could respond: she could scold the student for interrupting or pretend the student didn't say anything. Excellent teachers respond to these kinds of interruptions by smiling at the student, saying something like "Oh wow" or "That's awesome," and then getting right back to the lesson.

## Self as Context

Self as context in the treatment of OCD involves being able to treat ones private events as nothing more than any other every day event, to treat a thought as a thought, a feeling as a feeling, and sensations as sensations, nothing more. Individuals with OCD have a very difficult time not giving into their obsessions because they feel like they are real events. The client might encounter this when engaging in the willingness exercises in the past two sessions. If the client has a hard time creating willingness to experience the obsession without responding to it, use that as the place to introduce self as context. Self as context is not something that can be described verbally; it is a psychological posture that is best learned through practice and experience.

## The "Chessboard" Metaphor

The chessboard metaphor is a central ACT intervention and another way to connect the client to the distinction between content and the observing self. It helps the client see that she is not her inner experiences and that these experiences occur within her but do not define her.

Here is another way to look at thinking. It's as if there is a chess board that goes out infinitely in all directions. It's covered with different colored pieces, black pieces and white pieces. They work together in teams, like in chess--the white pieces fight against the black pieces. You can think of your thoughts and feelings and beliefs as these pieces; they sort of hang out together in teams, too. For example, "bad" feelings (like anxiety, depression, resentment) hang out with "bad" thoughts and "bad" memories. Same thing with the "good" ones. So it seems that the way the game is played is that we select which side we want to win. We put the "good" pieces (like thoughts that are self-confident, feelings of being in control, etc.) on one side, and the "bad" pieces on the other. Then we get up on the back of the white queen and ride to battle, fighting to win the war against anxiety, depression, thoughts about using drugs, whatever. It's a war game. But there's a logical problem here, and that is that from this posture, huge portions of yourself are your own enemy. In other words, if you need to be in this war, there is something wrong with you. And since it appears that you're on the same level as these pieces, they can be as big or even bigger than you are, even though these pieces are in you. So somehow, even though it is not logical, the more you fight the bigger they get. If it is true that "if you are not willing to have it, you've got it," then as you fight them they get more central to your life, more habitual, more dominating, and more linked to every area of living. The logical idea is that you will knock enough of them off the board so that you eventually dominate them--except your experience tells you that the exact opposite happens. Apparently, the black pieces can't be deliberately knocked off the board. So the battle goes on. You feel hopeless, you have a sense that you can't win, and yet you can't stop fighting. If you're on the back of that white horse, fighting is the only choice you have because the black pieces seem life threatening. Yet living in a war zone is a miserable way to live.

It's useful to look at yourself as the board, not the pieces or the player. Without a board, these pieces have no place to be. The board holds them. Like what would happen to your thoughts if you weren't there to be aware that you thought them? The pieces need you. They cannot exist without you, but you contain them, they don't contain you. Notice that if you're the pieces, the game is very important; you've got to win, your life depends on it. But if you're the board, it doesn't matter if the war stops or not. The game may go on, but it doesn't make any difference to the board. As the board, you can see all the pieces, you can hold them, you are in intimate contact with them and you can watch the war being played out on your consciousness, but it doesn't matter. It takes no effort.

The chessboard metaphor is often physically acted out in therapy. For example, a piece of cardboard is placed on the floor and various attractive and ugly things are put on top (e.g., cigarette butts, pictures). The client may be asked to notice that the board exerts no effort to hold the pieces (a metaphor for the lack of effort that is needed in willingness, with the physical act of the board holding things as a metaphor for willingness). The client may be asked to notice that at board level only two things can be done: hold the pieces and move them all in a direction. We cannot move specific pieces without abandoning board-level. Notice also that the board is in more direct contact with the pieces than the pieces are to each other—so willingness is not about detachment. Rather, when we "buy" a thought or struggle with an emotion we go up to piece level and at that level, other pieces, while scary, are not genuinely being touched at all.

#### "TV Set" Metaphor

Similar to the idea of the chessboard, the TV metaphor illustrates self-as-context. The participant is invited to envision her- or himself as a TV set—the *location* where shows are viewed—not as the channels or the *content* of the shows that appear on the TV. A useful way to introduce this discussion is to ask the client to describe their favorite TV shows.

## "Watching Thoughts on a Movie Screen" Exercise

Ask the client to close their eyes. Start by encouraging the client to mindfully notice their surroundings, their bodily sensations, their breathing. Then ask them to gently turn their attention to their thoughts. As thoughts appear, they are seen as images on a movie screen. Tell the client that there is no right or wrong way to do the exercise—images may appear as abstract colors or shapes, or as words. If distracting thoughts arise, these can also be gently placed on the screen and watched.

## Homework:

- Behavioral commitment
- Watch thoughts as images on a movie screen (To be practiced daily as a planned mindfulness exercise and as needed when troubling thoughts appear)

# Session 8

Session 8 Overview:

- 1. Assess functioning, review reactions to last session, & review homework
- 2. Soldiers on parade mindfulness exercise
- 3. Review all processes using *Passengers on the bus* metaphor
- 4. Discuss end of treatment and relapse issues

#### "Soldiers on Parade" Exercise

Building on the homework to watch thoughts on a screen, the "soldiers on parade" exercise provides an opportunity to practice mindful noticing. It also helps distinguish between "having a thought" and "buying a thought."

This exercise shows how quickly thoughts pull us away from experience when we "buy" them. All I'm going to ask you to do is to think whatever thoughts you think and to allow them to flow, one thought after another. The purpose of the exercise is to notice when there's a shift from looking at your thoughts, to looking from your thoughts. You will know that has happened when the parade stops or you are down in the parade or the exercise has disappeared.

I'm going to ask you to imagine that there are little people, soldiers, marching out of your left ear marching down in front of you in a parade. You are up on the reviewing stand, watching the parade go by. Each soldier is carrying a sign, and each thought you have is a sentence written on one of these signs. Some people have a hard time putting thoughts into words, and they see thoughts as images. If that applies to you, put each image on a sign being carried by the soldiers.

Get centered, and begin to let your thoughts go by written on signs carried by the soldiers. Now here is the task. The task is simply to watch the parade go by without having it stop and without you jumping down into the parade. You are just supposed to let it flow. At some point you will have the sense that the parade has stopped, or that you have lost the point of the exercise, or that you are down in the parade instead of being on the reviewing stand. When that happens, I would like you to back up a few seconds and see if you can catch what you were doing right before the parade stopped. Then go ahead and put your thoughts on the signs again, until the parade stops a second time, and so on. The main thing is to notice when it stops for any reason and see if you can catch what happened right before it stopped. One more thing: if the parade never gets going at all and you start thinking "it's not working." or "I'm not doing it right" then let that thought be written on a sign and send it down into the parade.

#### Revisit "Passengers on the Bus" Metaphor

All six ACT processes are found in the *Passengers on the Bus* metaphor. Revisiting the metaphor can be a helpful way to review and summarize treatment. Tailored to the clients' own experiences and values, discuss driving the bus (committed action) in chosen directions (values) while carrying disruptive passengers (acceptance). The bus driver mindfully notices (present moment awareness) what is being said by passengers, realizing that passengers' comments are "just thoughts" (defusion), not truths that define the driver (self as context).

#### **Ending Treatment**

Ask the client to discuss feelings about the end of treatment. Clients may be reluctant to end sessions, fearing that OCD will worsen. "What if things get worse?" can be framed as the words of a noisy passenger on the bus. Encourage the client to think of working on OCD as an ongoing process, not as "you either have OCD or you don't." As discussed during session 5, clients can expect the "anxiety scale" to go up and down. Many clients will have times of engaging in compulsions after therapy ends. Inform the client that such relapses are normal and need not be thought of as a return to former functioning. These times can be seen as opportunities for practicing skills learned in therapy (e.g., acceptance, mindfulness, valued action).

Invite the client to continue setting and working towards specific values-consistent goals. It may be helpful to have the client continue to track daily compulsions and to check in with a parent about progress.

Appendix K:

Definitions of ACT Processes

#### Acceptance

# Definitions

"The active and aware embrace of private events that are occasioned by our history, without unnecessary attempts to change their frequency or form, especially when doing so would cause psychological harm" (Luoma et al., 2007).

"Actively embracing private events (thoughts, feelings, bodily sensations), while they are presently occurring, as ongoing private experiences" (Twohig & Hayes, 2008).

# Therapist Behavior (examples)

- Encourages sticking with difficult thoughts, feelings, memories, and/or bodily sensations.^
- Engages client in exposure exercises\*
- Talks about doing things just to do them or doing things for the experience\*
- Encourages behaviors that are new or have not been done for a long time\*
- Reinforces client for saying "I would usually not talk about this" or the like\*
- Encourages the client to engage in any of the above outside the session
- Uses *two scales* metaphor

# Creative Hopelessness (coded as Acceptance)

# Definition

Undermining ineffective change strategies and emphasizing the negative consequences of the strategies.^

# Therapist Behavior (examples)

- Asks the client for specific instances of efforts to control or change thoughts or feelings^
- Asks about workability of control attempts^
- Uses "control as the problem" techniques (e.g., *polygraph*^, *man in the hole*^, *chocolate cake, wedge of lemon, mind reading*).
- Reminds the client of historical control attempts^
- Encourages the client to engage in any of the above outside the session

#### Defusion

## Definitions

"Seeing thoughts and feelings for what they are (i.e., a verbally entangeled process of minding) rather than what they advertise themselves to be (e.g., the world understood; structured reality)" (Hayes et al., 1999).

"The process of creating nonliteral contexts in which language can be seen as an active, ongoing, relational process that is historical in nature and present in the current moment" (Luoma et al., 2007).

# Therapist Behavior (examples)

- Talks about mind as a separate thing (e.g., "There goes your mind again"\*, "thank your mind for that"^)
- Encourages "I am having the thought that..." (or functional equivalent)^
- States that thought/feeling does not lead to action^
- Undermines "right and wrong" languaging\*
- Comments flexibly on the functions of thoughts\*
- Replaces "but" with "and"^
- Reinforces client for confusion\*
- Laughs at things in session\*
- Encourages the client to engage in any of the above outside the session
- Magic wand or \$100,000 questions
- Your mind is not your friend or finding a place to sit or bad cup metaphors
- Milk, milk, milk or having a thought vs buying a thought exercise

# Self-as-Context

## Definitions

"A continuous and secure 'I' from which events are experienced, but that is also distinct from those events" (Luoma et al., 2007).

"Seeing that observations are being made from a consistent locus: I/here/now—the "you" aware of the experiences, not the experiences themselves" (Twohig & Hayes, 2008).

"The locus from which a person's experience unfolds" (Bach & Moran, 2008).

#### Therapist Behavior (examples)

- Reinforces client's perspective-taking (e.g. expression of empathy for others)\*
- Discusses private events as ongoing processes that do not define client\*
- Says "you are the place/container/context"...^
- Uses *chessboard* metaphor^
- Uses *observer* exercise
- Encourages the client to engage in any of the above outside the session

# Being Present

# Definition

"Ongoing, nonjudgmental contact with psychological and environmental events as they occur" (Luoma et al., 2007).

# Therapist Behavior (examples)

- Helps client focus on bodily sensations, thoughts, and/or feelings in present^
- Describes own (therapist's) sensory experience

## Values

# Definitons

"Chosen actions that can never be obtained as an object, but can be instantiated moment by moment" (Luoma et al., 2007).

"Areas of importance that we recognize and embrace as guides of our patterns of action" (Twohig & Hayes, 2008).

# Therapist Behavior (examples)

- Engages in activities because of their intrinsic value and the vitality they bring\*
- Asks for clarity about what client wants\*
- Links previous pain to present purposes\*
- Reminds client of stated values^
- Encourages the client to engage in any of the above outside the session

#### Committed Action

# Definitions

"The development of larger and larger patterns of effective action linked to chosen values" (Luoma et al., 2007).

"Behaving in the service of chosen values" (Bach & Moran, 2008).

# Therapist Behavior (examples)

- Assigns homework linked to short-, medium-, and long-term behavior change goals.
- Asks client to generate behavioral goals^
- Encourages client to follow through on behavioral goals^
- Reinforces completion of homework and keeping of commitments\*
- Reinforces spontaneous engagement in new behaviors \*
- Encourages behavioral generalization to new domains\*
- Encourages flexibility, responsibility, and empowerment related to actions\*
- Encourages the client to engage in any of the above outside the session

^adapted from ACT for OCD Adherence Manual (Twohig & Plumb, 2008) \*adapted from ACT Verbatim (Twohig & Hayes, 2008)

# CURRICULUM VITAE

# Andrew B. Armstrong

55 West 400 South Logan, Utah 84321 (435) 512-6106 andrew.armstrong@aggiemail.usu.edu

# **EDUCATION**

Ph.D. 8/12 (expected)	Combined Clinical/Counseling/School Psychology (APA Accredited) Utah State University (Logan, UT) Dissertation: Acceptance and Commitment Therapy for Adolescent OCD Chair: Michael Twohig, Ph.D.
Ed.S. 5/10	School Psychology Utah State University (Logan, UT) Thesis: <i>Altering Positive/Negative Interaction Ratios in</i> <i>Relationships of Mothers and Young Children</i> Chair: Clint Field, Ph.D.
M.S.	Counseling Psychology
12/08	Utah State University (Logan, UT)
B.S.	Psychology, Minor: Music
8/02	Brigham Young University (Provo, UT)

# **CLINICAL EXPERIENCE**

8/10 - 5/11	<b>Counseling Assistantship</b> , Utah State University Counseling
	Center (Logan, UT)
	Position: Graduate Assistant Therapist
	Responsibilities: Individual and group therapy, university
	outreach, supervision of peer mentor, treatment planning.
	Supervisor: David Bush, Ph.D.
	<i>Hours:</i> Total – 640, Direct service hours – 380

8/09 - 5/10	Counseling Practicum, Utah State University Counseling Center (Logan, UT) <i>Position:</i> Student Therapist <i>Responsibilities:</i> Individual and group therapy. Assessment, diagnosis, formulation and implementation of interventions with college students who presented with diverse concerns. <i>Supervisor:</i> Mark Nafziger, Ph.D. <i>Hours:</i> Total - 240, Direct service hours – 115
7/08 – 7/09	Clinical Practicum, IHC Budge Clinic (Logan, UT) Position: Student Therapist Responsibilities: Conducted therapy sessions with children, adolescents, and their parents in a primary care pediatric setting. Supervisor: Clint Field, Ph.D. Hours: Total - 185, Direct service hours – 120
8/07 - 5/08	School Psychology Internship, Weber School District (Ogden, UT) <i>Responsibilities:</i> Provided individual and group counseling services to special education students in four elementary schools, worked with administrators, parents, and teachers to develop and implement behavioral intervention plans, performed standardized testing and assisted in determining special education eligibility. <i>Supervisor:</i> Gretchen Gimpel Peacock, Ph.D. <i>Hours:</i> Total – 560, Direct service hours - 225
9/06 – 5/07	<ul> <li>School Psychology Practicum, Pioneer Elementary School (Preston, ID)</li> <li>Responsibilities: Conducted eligibility assessments for special education services, directed social skills groups for 4<sup>th</sup> and 5<sup>th</sup> grade students, conducted behavioral observations and functional behavioral assessments, consulted with teachers to plan and implement academic and behavioral interventions, and conducted curriculum-based assessments to evaluate response to intervention.</li> <li>Supervisor: Donna Gilbertson, Ph.D.</li> <li>Hours: Total – 280, Direct service hours – 115</li> </ul>

5/06 - 5/07	Clinic Assistant, Utah State University Psychology
	Community
	Clinic (Logan, UT)
	Responsibilities: Assisted clinic director in office work,
	research activities, and clinical work with child clients.
	Supervisor: Clint Field, Ph.D.
	Hours: Total - 360, Direct service hours - 85
1/06 - 11/06	Clinical Practicum, Psychology Community Clinic, Utah
	State University (Logan, UT)
	Position: Student Therapist
	Responsibilities: Conducted therapy sessions and assessments
	with adult and adolescent clients.
	Supervisor: Melanie Domenech Rodríguez, Ph.D.
	Hours: Total – 250, Direct service hours – 110

# **TEACHING EXPERIENCE**

8/08 - 12/10	Graduate Teaching Assistant, Utah State University
	(Logan, UT)
	Course: Psychology 1010: Introductory Psychology (approx.
	200 students per semester)
	Responsibilities: Assisted the professor in creation of course
	materials, designed supplementary lab assignments, led
	weekly discussion groups with undergraduate students on a
	variety of psychology topics, guest lectured
	Supervisor: Scott Bates, Ph.D.
Summer o8,	Instructor, Bridgerland Applied Technology College
Apring 09	(Logan, UT)
	Instructor, Utah State University, Brigham City Campus
	(Brigham City, UT)
	Course: Psychology 1010 - Introductory Psychology
	Responsibilities: Lecturing, curriculum development, grading,
	and office hours.

# **RESEARCH EXPERIENCE**

8/08 - 5/11Research Assistant, Utah State University Center for Clinical<br/>Research (Logan, UT)<br/>Responsibilities: Helped develop coding manual for scoring<br/>ACT processes, assisted with treatment study on compulsive

	pornography use, was a therapist for <i>ACT for</i> <i>Trichotillomania</i> , was principal therapist for <i>ACT for</i> <i>Adolescent OCD</i> . <i>Supervisor:</i> Michael Twohig, Ph.D.
9/05 - 9/10	<b>Research Assistant</b> , Utah State University Behavioral Pediatric Research Group (Logan, UT) <i>Responsibilities:</i> Helped develop and implement research protocols for preventive behavioral training, helped develop coding manual for scoring parent and child behaviors, coded intervention sessions, prepared data for conference presentations. <i>Supervisor:</i> Clint Field, Ph.D.
9/05 - 5/06	<b>Research Assistant</b> , Utah State University Center for the School of the Future (Logan, UT) <i>Responsibilities:</i> Helped evaluate and refine the Center's school environment data collection system, Indicators of School Quality (ISQ), summarized research conducted by the Center for publication and poster dissemination. <i>Supervisor:</i> Richard West, Ph.D.
1/04 – 5/05	<b>Research Coordinator</b> , Payson Middle School (Payson, UT) <i>Responsibilities:</i> Provided training and consultation to school personnel regarding implementation of a school-wide positive behavior support model, helped conduct school-wide screening, managed screening data, assisted in the development and writing of social skills curriculum at the school-wide level and for the <i>Achievement Plus</i> class. <i>Supervisor:</i> K. Richard Young, Ph.D.
11/03 – 7/05	<b>Research Assistant</b> , Brigham Young University Peaceable Schools Project (Provo, UT) <i>Responsibilities:</i> Full-time employee of federal research grant <i>Preventing Emotional Disturbance in Secondary-Age Students</i> , collected and summarized screening data at 4 secondary and 7 elementary schools, collaborated with executive committee to design and execute single-subject research, and assembled data for presentation at national conferences. <i>Supervisors:</i> K. Richard Young, Ph.D. & Ellie L. Young, Ph.D.

## **PUBLICATIONS**

- Armstrong, A., & Field, C. (in press). Altering positive/negative interaction ratios of mothers and young children. *Child and Family Behavior Therapy*.
- oooCrosby, J., Gundy, J., **Armstrong, A.**, Nye, E., Boman, A., Nelson, C., & Twohig, M. (2010). How well are we doing at reporting participant characteristics in our research? *The Behavior Therapist*, 33, 133-135.
- Twohig, M., Field, C., Armstrong, A., & Dahl, A. (2010). Acceptance and mindfulness as mechanisms of change in mindfulness-based interventions for children and adolescents. (pp. 225-250). In R. Baer (Ed.). Assessing mindfulness and acceptance: Illuminating the process of change. Oakland: New Harbinger.
- Armstrong, A. & Young, E. L. (2005). Best practices in implementing and evaluating self-management interventions. *Communiqué, 33*.
- Armstrong, A. & Young, E. L. (2005). Self-managing academic behaviors. *Communiqué*, 33.

## **PRESENTATIONS**

- Armstrong, A. (2011, March). Acceptance and Commitment Therapy for Adolescent OCD. Paper presented at the Intermountain Graduate Research Symposium, Logan, UT.
- Myler, C., Armstrong, A., Dehlin, J., Twohig, M., & Domenech Rodríguez, M. (2010, October). Addressing Conflict Between Religious Beliefs and Attitudes Toward Sexual Minorities: An ACT-based Group Intervention. Poster presented at the Utah University and College Counseling Centers Conference, Park City, UT.
- Field, C., **Armstrong, A.**, & Malmberg, J. (2010, June). *ACT-enhanced Behavioral Parent Training*. Workshop presented at the 8<sup>th</sup> World Conference of the Association for Contextual Behavioral Science, Reno, NV.
- Armstrong, A. (2010, May). Promoting Positive Parent-Child Socialization Processes by Altering Positive/Negative Interaction Ratios. Paper presented at the 36<sup>th</sup> annual convention of the Association for Behavior Analysis International, San Antonio, TX.

- Malmberg, J., Armstrong, A., Field, C., Scharton, R., Duchoslav, R., Bolton, A., & Dahl, A. (2008, May). Preventive Behavioral Parent Training: Immediate and Long Term Outcomes on Observed Rates and Maternal Report of Conduct Problems. Poster session presented at the 34<sup>th</sup> annual convention of the Association for Behavior Analysis International, Chicago, IL.
- Field, C., Armstrong, A., Knapp, J., Malmberg, J., & Scharton, R. (2006, November).
  Preliminary evaluation of preventive behavioral parent training: immediate impact on observed rates and maternal perception of problem behavior.
  Poster session presented at the 40<sup>th</sup> annual convention of the Association for Behavioral and Cognitive Therapies, Chicago, IL.
- Armstrong, A., Anderson, D., & Young, E. L. (2004, November). Secondary-level Interventions for Students At-Risk for Emotional Disturbance: What We Learned from a Pilot Semester of Achievement Plus. Paper presented at the 28<sup>th</sup> Annual Teacher Educators for Children with Behavior Disorders Conference (TECBD), Tempe, AZ.
- Anderson, D. & Armstrong, A. (2004, August). *Achievement Plus: Unique features* of the secondary model. Workshop for Alpine School Psychologists, American Fork, UT.
- Young, K. R., Quackenbush, B., Armstrong, A., Popham, A., Morrell, N., & Thompson, M. (2004, June). *Creating a Peaceable School Environment: School-wide Positive Behavior Support at the Middle Level*. Paper presented at In the Middle of It, Utah Middle School Conference, Alpine, UT.

# **SERVICE**

6/07 - 5/08	<b>Graduate Student Representative</b> , USU Combined Psychology Doctoral Program (Logan, UT) An elected position in which representative attends and votes at faculty meetings, discusses professional and programmatic issues with students and faculty, and plans student meetings and activities.
4/07 - Present	<b>Member</b> , USU Allies on Campus (Logan, UT) Campus-wide alliance of students and professionals in support of Gay, Lesbian, Bisexual, and Transgender members of the University community.

# **ADDITIONAL TRAINING**

2/12/10	Dynamics of Gottman Couples Therapy Workshop Salt Lake City, UT. <i>Presenter:</i> John Gottman, Ph.D.
4/18 & 4/19/09	Acceptance and Commitment Therapy Experiential Workshop Logan, UT. <i>Presenter:</i> Steven Hayes, Ph.D.
4/17/09	Introduction to Acceptance and Commitment Therapy Seminar USU Counseling Center Conference. <i>Presenter:</i> Steven Hayes, Ph.D.
5/26 & 5/27/08	Acceptance and Commitment Therapy Experiential Workshop ACT Summer Institute, Chicago, IL. <i>Presenter:</i> Sonja Batten, Ph.D.
4/4/08	Existential Psychotherapy Workshop Utah Psychological Association, Salt Lake City, UT. <i>Presenter:</i> Irvin Yalom, Ph.D.

# **MEMBERSHIPS**

Association for Behavior Analysis Association for Behavioral and Cognitive Therapies Association for Contextual Behavioral Science American Psychological Association

# **AWARDS**

3/09	USU Graduate Student Stipend Enhancement Award, \$4,000
3/08	2 <sup>nd</sup> Place Recipient, Arrington Writing Award, \$500 USU Leonard Arrington Foundation
8/05	USU Presidential Fellowship, \$12,000