

**PARENTAL RESISTANCE IN COGNITIVE BEHAVIORAL THERAPY FOR
ANXIOUS YOUTH**

A Dissertation
Submitted to
the Temple University Graduate Board

In Partial Fulfillment
of the Requirements for the Degree
DOCTOR OF PHILOSOPHY

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August 2020

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ABSTRACT

Objective: Resistance is a therapeutic process variable that can play an important role in treatment. The present study examined whether observer-rated parental resistance during parent-only sessions of cognitive-behavioral therapy (CBT) for anxious youth predicted the number of parent-reported between-session exposures completed, posttreatment outcome, and 36-week follow-up. **Method:** Participants ($N = 272$) were parents or adult caregivers of youth (age 7 to 17 years old) who received CBT for an anxiety disorder as participants in the Child/Adolescent Anxiety Multimodal study (CAMS). Parent-only therapy sessions were rated for resistance by observers. Measures of anxiety and overall symptom severity were completed at posttreatment and 36-week follow-up. Mediation analyses examined the indirect effect of the number of parent-reported exposures completed on the relationship between parent in-session resistance and therapy outcomes at posttreatment and 36-week follow-up. Additionally, resistance levels in participants in the CBT-only condition of CAMS were compared with resistance levels for participants in the CBT plus sertraline condition. **Results:** Analyses demonstrated that there was no significant difference in mean resistance scores between the CBT-only group and the CBT plus sertraline group. None of the 12 mediation tests found statistically significant indirect effects of the number of parent-reported exposures completed on the relationship between parent in-session resistance and therapy outcomes at posttreatment and 36-week follow-up. A significant relationship was found, however, between number of exposures completed and posttreatment Pediatric Anxiety Rating Scale (PARS) total scores, indicating a significant relationship between number of parent-reported exposures and posttreatment therapy outcomes. **Conclusions:** Parental resistance is not associated with

outcomes for youth receiving CBT for anxiety. Number of exposures was significantly associated with one measure of posttreatment therapy outcomes.

ACKNOWLEDGMENTS

Although I will not be able to sufficiently thank all of those who are deserving and merit mention, I am deeply grateful for so many who have supported me throughout not only the completion of this dissertation, but the entire course of graduate school. I am grateful for the mentorship of Phil Kendall throughout graduate school and throughout the duration of this project. I would like to thank my core dissertation committee members, Rob Fauber and especially Rick Heimberg for his thoughtful guidance on this project. I would also like to thank my dissertation committee members, Tania Giovannetti, Lauren Alloy, and Michael McCloskey.

Thank you to my cohort mates and my fellow Child and Adolescent Anxiety Disorders Clinic (CAADC) lab mates. You are all a wonderful group of people and I am lucky to have learned alongside you. Thank you to Elizabeth Gosch for her excellent supervision during my time in the CAADC.

A very special thanks to Samantha Baker, Esther Chung, Julia Cogdell, Mona Hedayatfar, Lucas Mahabir, Eliza Meketon, Maia Perone, and Noelle Tweedie for their invaluable coding help. This project would not have been possible without you.

My deepest gratitude for my family and friends. Thank you Mom, Dad, Katie, Paul, and Christina for your incredible love and unfailing support my entire life.

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CHAPTER 1

INTRODUCTION

Anxiety disorders are common psychological problems affecting children and adolescents (Merikangas, Nakamura, & Kessler, 2009), with data indicating a 31.9% lifetime prevalence rate for any anxiety disorder among 13-18-year olds (Merikangas et al., 2010). Additional studies indicate that anxiety disorders currently affect between 3.1-23.8% of youth (Ford, Goodman, & Meltzer, 2003; Kroes et al., 2001). In addition to interfering symptoms, anxiety is associated with multiple unwanted functional impairments (Swan & Kendall, 2016). Youth with anxiety disorders are at increased risk of alcohol abuse in adolescence (Schuckit & Hesselbrock, 1994), and those who do not receive treatment are at greater risk of atypical psychosocial development, substance abuse later in life, and further mental health problems as adults (Connolly et al., 2007; Essau, Conradt, & Petermann, 2000; Kendall et al., 2004; Kim-Cohen et al., 2003; Pine, Cohen, Gurley, Brook, & Ma, 1998; Puleo, Conner, Benjamin, & Kendall, 2011; Wolk, Kendall & Beidas, 2015). Cognitive behavioral therapy (CBT) is an established empirically supported treatment for anxiety disorders in youth (Hollon & Beck, 2013) with a response rate of approximately 60% (Kendall et al., 2008; Walkup et al., 2008). However, the results of a recent meta-analysis (James et al., 2015) found that approximately 40% of youth receiving 12- to 16-week protocols of CBT for treatment of anxiety disorders did not achieve remission, indicating the need for the enhancement of the efficacy of CBT for anxiety disorders in youth.

Research supports the importance of successful engagement in exposure tasks (i.e., exposure to feared stimuli and/or anxiety inducing situations) for positive outcomes

in CBT for anxious youth (Kendall et al., 1997; Peris et al., 2015). Despite a lack of unanimous agreement among researchers regarding the exact mechanisms through which exposure tasks convey therapeutic benefit, it is thought that exposures may precede a cognitive shift during which clients alter their perspective on the relationship between the feared stimulus and/or anxiety provoking situation and their response to it (both physiologically and cognitively), enhancing their ability to cope (Kendall et al., 2008). When using exposures within CBT for anxious youth, therapists collaborate with the client and often the client's family members to arrange anxiety-inducing situations experienced by the client in vivo, through imaginal exposures, and using role-play with the therapist (Kazdin & Weisz, 1998; Kendall et al., 2005). As a vital component of CBT for the treatment of anxious youth, exposure tasks are the main focus of the latter portion of *Coping Cat* (Kendall & Hedtke, 2006) and *C.A.T. Project* (Kendall, Choudhury, Hudson, & Webb, 2002), empirically supported CBT protocols for the treatment of anxiety in children and adolescents, respectively, with exposures taking place both in sessions as well as out of session (i.e., between-session homework) in order to augment the benefits of exposure.

As the typical initiators of treatment on behalf of their children (Choudhury, Pimentel, & Kendall, 2003), parents or primary caregivers typically play a role as collaborators with therapists. Beyond collaborating with their child's therapist, the extent to which parent involvement is associated with outcomes in CBT for anxious youth remains unclear. Silk et al. (2013) found that parents encouraging their children to approach instead of avoid anxiety-inducing situations improved outcomes for anxious youth treated with CBT. Additionally, the results of other studies of CBT outcomes for

anxious youth suggest that specific types of parental involvement (e.g., contingency management; transfer of control) are beneficial for maintaining treatment gains (Manassis et al., 2014). Due in part to variability in the specific aspects of parental involvement in treatment examined across studies, findings regarding the specific benefits of parental involvement in CBT treatment outcomes for anxious youth remain inconclusive (Barmish & Kendall, 2005; Wei & Kendall, 2014).

In two studies examining CBT for anxious youth, parental involvement was measured with a therapist-rated scale measuring parental involvement. Using this scale at posttreatment, therapists rated parental involvement (degree of beneficial parent involvement, amount of therapist contact with the parent, and degree of parental interference) on a seven-point scale (Kendall, 1994; Kendall et al., 1997), with results showing no association between parental involvement and treatment outcomes. In another study examining CBT for anxious youth, independent coders (research assistants) used audio recordings of therapy sessions to rate the extent of parental involvement in therapy, with results indicating that, in the “parent involved” condition, higher parental involvement scores were associated with higher clinician-rated global child functioning scores (Choudhury, 2004). In a study examining both the role of the child-therapist alliance and the parent-therapist alliance in a sample of outpatients receiving treatment as usual at community mental health clinics, results indicated that, during treatment, therapist-child alliance predicted reduced posttreatment anxiety symptoms, and therapist-parent alliance predicted reduced posttreatment anxiety and depression symptoms (McLeod & Weisz, 2005).

Resistance is another therapy process variable shown to be associated with both therapy engagement and outcome. Westra, Aviram, Kertes, Ahmed, and Connors (2009b) define resistance as "going against, opposing, diverting, blocking, or impeding the direction set by the therapist" (p. 1). Examples of in-session resistance include, but are not limited to, in-session avoidance (e.g., long silences, client overuse of "I don't know," changing the subject) and high levels of expressed emotion towards the therapist (e.g., cynical replies, hostility, gratuitous debates). Resistance can also occur outside of or between sessions. Within the context of CBT, refusal or failure to follow through on homework assignments is also considered an important form of resistance (Newman, 1994). Previous research with adult populations supports an association between resistance and therapy outcomes ($\beta = 0.40$) for clients receiving CBT for generalized anxiety disorder (GAD) (Button, Westra, Hara, & Aviram, 2015). Within the literature focused on CBT for youth, the results of a Jungbluth and Shirk (2009) study examining child involvement in therapy for youth with depression showed that there was a significant relationship between first session resistance and child involvement at session two ($r = -.58$) and a significant relationship between first session resistance and total number of sessions completed by the child ($r = -.36$).

Patterson and Chamberlain (1994) examined the role of parental resistance and outcomes during parent training therapy for parents of antisocial children. Using videotaped recordings of parent training therapy sessions, coders used the Client Resistance Code (CRC; Kavanagh, Gabrielson, & Chamberlain, 1982) to code parent responses in sessions as either cooperative or resistant. Therapist ratings of case success or failure were significantly correlated ($r = .54$) with parental resistance scores at therapy

termination, with cases deemed failures demonstrating greater resistance than successful cases. All parents participating in Patterson and Chamberlain (1994) reported their children demonstrated severe behavior problems at home, and 80% of the parents reported their children were also having difficulties at school, with 45% of the children classified as academically delayed. The results of another study examining parental resistance during parent training therapy showed that failure to adequately address parent resistance significantly predicted ($r = .26, p < .05$) child arrests over the two-year period following therapy termination (Stoolmiller, Duncan, Bank, & Patterson, 1993).

Motivational interviewing (MI), initially used to treat problem drinking (Miller, 1983), has been applied to a wide range of behaviors (Lundahl, Kunz, Brownell, Tollefson, & Burke, 2010; Miller & Rose, 2009). Studies have also examined the application of MI to treatment of GAD, with MI used as either a pretreatment intervention or integrated with a CBT protocol specifically to address resistance (Westra, Arkowitz, & Dozois, 2009a; Westra, Constantino, & Antony, 2016). In a randomized clinical trial (RCT) examining the effects of MI on treatment outcomes, participants with a principal diagnosis of GAD were randomized into either an MI pretreatment condition (MI $n = 38$), in which they received four individual 50-minute weekly MI sessions, or a no pretreatment condition, (NPT $n = 38$), in which they had a four week no-treatment waiting period (Westra et al., 2009a). After four weeks, participants in both conditions completed an identical eight-week protocol of individual CBT for GAD (14 hours of CBT). The MI condition had significantly more treatment responders compared to the NPT condition. Homework compliance significantly mediated the relationship between

treatment condition and outcome such that higher homework compliance (i.e., lower resistance) predicted lower levels of worry (Westra et al., 2009a).

For a high severity worry subset of the participants in both conditions of Westra et al. (2009a), trained coders used the CRC adapted for anxiety (Westra et al., 2009b) to code rates of client resistance. Those in the MI condition demonstrated significantly less resistance than those in the NPT condition after one and four sessions of CBT. Path analytic models demonstrated that treatment group had a significant effect on early resistance in treatment ($\beta = .60, p < .001$), indicating that clients from the MI pretreatment group showed significantly lower levels of resistance early in treatment. Path analytic models also demonstrated that resistance had a direct effect on homework compliance ($\beta = -.41, p = .028$) and posttreatment worry ($\beta = .55, p < .001$) such that greater session one resistance significantly predicted lower homework compliance overall as well as higher scores on posttreatment worry measures, demonstrating the effects of resistance on posttreatment worry were direct and not mediated through homework compliance. No direct effect of homework compliance on posttreatment worry ($\beta = .01, ns$) was found (Aviram & Westra, 2011).

Although there is support for an association between resistance and therapy outcomes and involvement in adult and youth CBT, few studies have examined the role of parental resistance in therapy outcomes for youth. The present study examined whether observer-rated parental resistance during parent-only sessions of CBT for anxious youth predicted (a) the average number of parent-reported between-session exposures completed after the second parent session and (b) posttreatment outcome and 36-week follow-up. It is hypothesized that parental resistance will predict the frequency

of between-session parent-reported exposures completed as well as posttreatment levels of youth anxiety, such that greater levels of parental in-session resistance will be associated with (a) fewer parent-reported exposures completed and (b) worse treatment outcomes. It is also hypothesized that the average number of between-session exposures completed will mediate the relationship between observed in-session parental resistance and posttreatment outcomes. Given that between-session exposures occur after the second parent session and before posttreatment, temporal precedence is achieved.

Exploratory analyses compared parental resistance levels in participants in the CBT alone condition (“CBT”) with resistance levels for participants who received a combination of sertraline and CBT (“COMB” condition). It was hypothesized that parents in the CBT condition would demonstrate greater resistance than parents in the COMB condition. Specifically, it was hypothesized that potential reductions in COMB children’s anxiety related to effects of sertraline could in turn make their parents more satisfied with the course of treatment overall and therefore less resistant during parent-only therapy sessions.

CHAPTER 2

METHODS

Participants

Participants were parents or adult caregivers of youth (age 7 to 17 years old) who participated in the Child/Adolescent Anxiety Multimodal study (CAMS). CAMS was a six-year multisite RCT examining treatment outcomes for anxious youth (see, e.g., Compton et al., 2010, for methods; Kendall et al., 2010, for participants; Walkup et al., 2008, for results). Included in the current study are CAMS participants who met DSM-IV criteria for a principal diagnosis of GAD, separation anxiety disorder (SEP), or social anxiety disorder (SAD). In the larger CAMS study, participants were randomized into four groups: sertraline only (“SRT”), placebo only (“PBO”), CBT only (“CBT”), or a combination of sertraline and CBT (“COMB”). In the current study, only those randomized into the CBT condition ($n = 136$) or COMB condition ($n = 136$) and had at least one recorded parent session available for coding were included. Principal diagnosis was determined by the highest clinician severity rating (CSR) on the Anxiety Disorders Interview Schedule for DSM-IV (ADIS-C/P; Silverman & Albano, 1996). Readers are referred to Compton et al. (2010) for additional inclusion and exclusion criteria.

Therapy

Each youth received 14 sessions of CBT over 12 weeks. Parent-only sessions occurred during week 2 (session 3) and week 5 (session 7). If a week of CBT was missed, sessions were combined to complete treatment within the 12 weeks. Youth ages 7-13 received *Coping Cat* (Kendall & Hedtke, 2006); youth ages 14-17 received the *C.A.T. Project* (Kendall et al., 2002). Both protocols included two parent-only sessions. The first

half of treatment was focused on psychoeducation (e.g., anxiety management, awareness of physiological feelings of anxiety, challenging anxious thoughts) and the second half was focused on exposure.

The goals of the first parent session included providing information about treatment, providing a space for parents to discuss any concerns regarding their child, gathering information about situations that provoke anxiety for the child, and informing parents of their role in the treatment protocol. The second half of the youth's CBT consisted of exposure tasks in which participants engaged with anxiety provoking situations (as opposed to avoidance). The second parent-only session was followed by the first exposure therapy session, so the goals of the second parent session included explaining the structure and purpose of the upcoming exposures, acknowledging that exposure may elicit more anxiety than psychoeducation, and continuing to encourage parents to discuss concerns related to their child's anxiety. Each session was scheduled to last 50 minutes.

Session Recordings

A total of 401 parent sessions were available to code. Of those, 9.22% ($n = 37$) recordings were excluded, resulting in 364 total parent sessions that were coded. Recordings were excluded for such reasons as therapist error (e.g., therapist did not record session), technical difficulties (e.g., audio and/or video not working properly), and missing recordings. In total, there were 84 parent sessions in which at least some resistance was coded. Of the participants comprising those 84 sessions, 12 participants had resistance occur in both parent sessions (session 3 and session 7), resulting in a total of 72 unique participants demonstrating some resistance in at least one parent session.

Measures

Anxiety Disorders Interview Schedule for Children and Parents (ADIS-C/P; Silverman & Albano, 1996). The ADIS-C/P is a semi-structured diagnostic interview that assesses child anxiety disorders as well as other forms of child psychopathology. Across six different sites, diagnosticians assigned CSRs based on separate youth and parent interviews using a 0 to 8-point scale, with higher ratings indicating more severe impairment (i.e., a rating of “0” indicating no impairment, a rating of “4” indicating clinically significant impairment, and a rating of “8” indicating an extreme level of impairment). Composite CSRs were determined by carrying down the highest CSR from the parent and child interviews, with principal diagnosis determined by the disorder with the highest CSR in the composite. CSRs of 4 or greater indicate a DSM-IV clinical level diagnosis. The ADIS-C/P has demonstrated internal consistency ($\alpha=0.80$ to 0.84), retest reliability ($k= 0.65$ to 0.88 over a period of 7-14 days) and interrater reliability ($r = .98$ for parent interview and $.93$ for child interview; Silverman & Nelles 1988; Silverman, Saavedra, & Pina, 2001).

CAMS CBT Session Summary Sheet – Child Session. CAMS therapists completed the summary sheet at the end of each child therapy session. Question 3B asked “was the child assigned an exposure task?” with the answer options of “No” or “Yes.” If “Yes,” the form then asks, “how many assigned exposures were carried out since last session?” with a space available for entering potential number of imaginal exposures and a space available for entering potential number of in vivo exposures. For this study, the average number of “assigned exposures carried out since last session” was calculated by dividing the total number of between-sessions exposures completed by six, which is the total number of

sessions in which parents reported “assigned exposures carried out since last session” to the therapist.

Pediatric Anxiety Rating Scale (PARS; Research Units on Pediatric Psychopharmacology (RUPP) Anxiety Study Group, 2002). The PARS is a 50-item clinician-rated checklist of anxiety symptoms on which independent evaluators (IEs) rate symptom severity and impairment related to anxious symptoms over the previous week. Each symptom is scored as either present (with a score of “1” assigned for a symptom’s presence) or absent (scored as a “0”). The PARS includes seven dimensions of severity, five of which were used to calculate a total severity score. One of the excluded dimensions, Number of Symptoms, was excluded due to concern that it might not be related to severity of anxiety and might be highly skewed in this sample. The Physical Symptoms dimension was excluded because of concern that outcome data included ratings on subjects who were being treated with a selective serotonin reuptake inhibitor (SSRI). Common adverse events of SSRIs include symptoms that are identical to some of the symptoms in the PARS Symptom Checklist, including: “sweating”; “feels sick to stomach, nausea or abdominal distress”; “restlessness or feeling keyed-up or on edge”; “sleep disturbance, especially difficulty falling asleep.” Thus, throughout this document, PARS Total Score refers to a sum of the remaining five dimension scores, which include frequency, severity of distress associated with anxiety symptoms, avoidance, interference at home, and interference out of home. Total PARS scores range from 0 to 30 with higher values indicating greater symptom severity. The PARS was administered at pretreatment, week 4, week 8, post-treatment (i.e., week 12), and 36-week follow-up, by IEs who were blind to treatment condition. The PARS total score was used to index overall anxiety

symptom severity. The PARS has demonstrated internal consistency ($\alpha = .64$), interrater reliability ($ICC = .97$), and retest reliability ($ICC = .55$) (RUPP Anxiety Study Group, 2002).

Clinical Global Impression Scale-Severity and Improvement (CGI-Severity/Improvement; Guy, 1976). The CGI scales are single items rated by IEs on a 7-point Likert scale. The CGI-Severity (CGI-S) rating assessed current overall level of symptom severity, with higher scores indicating greater severity. IEs gave CGI-S ratings at pretreatment, week 4, week 8, posttreatment, and 36-week follow-up. Within the CAMS study, IE CGI-S ratings were given after the PARS and were consistent with same participant IE-rated PARS total scores ($r = .78$) (Peris et al., 2015). The CGI-Improvement (CGI-I) rating assessed the change in overall symptoms from the pre-treatment assessment, with scores ranging from 1 (very much improved) to 7 (very much worse). Participants who received a score of 1 or 2 were considered treatment responders. The CGI-Severity and Improvement scales have both been significantly associated with symptom severity and changes in adults (Zaider, Heimberg, Fresco, Schneier, & Liebowitz, 2003).

Manual for Rating Interpersonal Resistance (Westra et al., 2009b). Observer-rated parental resistance was assessed with this coding manual, which is an adapted version of the CRC (Kavanagh et al., 1982) specifically for GAD in adults. Resistance is defined as client behavior that “goes against, opposes, diverts, blocks, or impedes the direction set by the therapist” (Westra et al., 2009b, p. 1), and is viewed as an interpersonal process construct. The CRC has been shown to possess good interrater reliability ($ICC = .88$), face and content validity (Bischoff & Tracey, 1995), and construct

and predictive validity (Chamberlain, Patterson, Reid, Kavanagh, & Forgatch, 1984; Patterson & Forgatch, 1985; Tracey & Ray, 1984). An overall rate of resistance was calculated for each participant included in the present study. Coders watched a video recording of up to 30 minutes of a parent therapy session, with coders making individual resistance ratings at 30 second intervals (i.e., 30 second “time bins”). Each time bin was rated for the presence of resistance on a rating scale of 0 (absence of resistance), 1 (minimal or qualified resistance), 2 (clear resistance), or 3 (hostile/confrontational resistance). Previous research found that level 2 resistance was the most common resistance code and accounted for the majority of outcome variance, and therefore excluded time bins rated as “1” from their rate of resistance calculations (Aviram et al., 2011). In the present study, however, level 1 resistance was the most common resistance code, and was therefore included along with level 2 and 3 resistance in rate of resistance calculations. A session’s overall rate of resistance score was calculated by summing the total number of 30 second time bins assigned a 1, 2, or 3, and dividing that number by the total number of time bins coded to yield a percent resistance score between 0 and 1. Resistance scores for a given session are therefore not binary, but represent a “rate” indicating the percentage of time bins within which some resistance was observed. Appendix A contains a one-page summary of the *Manual for Rating Interpersonal Resistance*.

Procedure

Informed consent and assent for treatment, assessment, and recording were obtained. All parents and youth participants completed the ADIS interview conducted by reliable diagnosticians (IEs) blind to treatment condition. After the pretreatment ADIS,

youth were randomized to one of four groups (only those randomized to the CBT or COMB conditions were included in the present study) and randomly assigned to a therapist. Later assessments were conducted at week 4, week 8, posttreatment, and at 36-week follow-up.

All therapy sessions were video or audio recorded. All available parent-only sessions (CAMS session 3, $n = 185$, and CAMS session 7, $n = 179$) were coded for parental resistance using the *Manual for Rating Interpersonal Resistance* (Westra et al., 2009b). An overall resistance score was calculated for each parent-only session. For a given participant, when both parent-only sessions were available for coding, resistance scores were averaged together to yield a total resistance score for that participant. If only one parent session recording was available for coding, the resistance score derived from the one available recording was used as that participant's resistance score (i.e., as opposed to the average resistance score from both parent sessions, which was used when available). Although the majority of coded parent sessions included only one parent, some included two parents ($n = 40$). In these cases, coders coded resistance scores for both parents and averaged them together.

Observer training and rating.

Seven undergraduates and one graduate student were trained to reliability (ICC = .75 with agreement calculated as the trainer's score and the coder's score agreeing within one, and ICC = .73 when exact agreement was used) prior to rating parental resistance for CAMS recordings. Coders were trained as a group with coding manuals and a sample of recordings. Sample training recordings consisted of non-CAMS parent sessions conducted by graduate student therapists in the Temple University Child and Adolescent

Anxiety Disorders Clinic using either the *Coping Cat* (Kendall & Hedkte, 2006) or *C.A.T. Project* (Kendall, Choudhury, Hudson, & Webb, 2002) protocols. Coders watched five tapes with the trainer and discussed reasoning for ratings given on the training tapes. Next, coders independently watched ten training tapes with the trainer's ratings in hand. Coders then watched and made ratings on ten new recordings, with coder ratings compared to the trainer's ratings.

Coders were randomly assigned parent-only sessions across CAMS participants, and reliable coders were blind to participant disorders, symptom severity, and treatment outcome. Coders made resistance ratings (0, 1, 2, or 3) every 30 seconds. The session recording played continuously between the 30-second time bins unless the coder felt the need to pause or rewind, with the coders marking their resistance ratings on pre-made sheets for recording ratings. If a parent's resistance carried over from, for example, time bin 12 to time bin 13, both time bins were coded as positive for resistance. Interrater reliability was calculated by having the trainer double-code 15% of randomly selected tapes of each coder. This resulted in the trainer double-coding 55 parent-only sessions, with reliability (ICC) on CAMS recordings of .78. The length of coded sessions ranged from 19 to 30 minutes ($M = 26.08$, $SD = 2.59$).

Data Analytic Plan

A series of mediation analyses were conducted using the PROCESS v3.4 macro for SPSS (Hayes, 2018), applying 5,000 bootstrap resamples with 95% confidence intervals (CIs) estimated around the indirect effect of the average number of parent-reported exposures on the relationship between parent in-session resistance and therapy outcomes at posttreatment and 36-week follow-up. PROCESS handles missing data using

listwise deletion. Using skewness and kurtosis to check for normality of distribution (absolute values of two and seven, respectively), all variables included in the mediation analyses were normally distributed with the exception of the resistance scores. The use of bootstrap sampling, however, allows for mediation analyses without any a priori assumptions about distribution (Hayes, 2018).

An independent samples *t*-test was used to compare resistance levels between participants in the CBT condition with resistance levels for participants in the COMB condition. A *post hoc* power analysis for the independent samples *t*-test was conducted in GPower (Faul, Erdfelder, Lang, & Buchner, 2007), using an alpha level of .05. Observed power was calculated for expected medium ($d = 0.5$) effect sizes, with the analysis indicating that the available sample size of 272 provides adequate power for detecting medium ($1-\beta = 0.97$) effects. A paired samples *t*-test was planned to compare resistance levels at the first parent-only session with resistance levels at the second parent-only session. Very few participants ($n = 12$), however, demonstrated resistance in both sessions 3 and 7, making this particular analysis infeasible due to the small sample size.

CHAPTER 3

RESULTS

Table 1 shows means and standard deviations for the mediator variable (parent-reported exposures completed) as well as each posttreatment and 36-week follow-up outcome measure (i.e., PARS, CGI-S, CGI-I) for “resisters” ($n = 72$) and “non-resisters” ($n = 200$). There were no mean differences at the pretreatment assessment between resisters and non-resisters on anxiety severity or demographic information (see Table 2). Both parent resisters and parent non-resisters showed significant reduction in anxiety severity between the pre- and post-treatment assessments as measured by the PARS and CGI-S. A majority of both resisters (74.3%) and non-resisters (74.5%) were rated as treatment responders (CGI-Improvement of “much improved” or “very much improved”) at posttreatment.

Comparison of resistance scores between the CBT Only and the COMB groups.

An independent samples t -test was conducted to compare mean resistance scores between the CBT group ($M = 0.01$, $SD = 0.04$) and the COMB group ($M = 0.01$, $SD = 0.05$). Results demonstrated that there was no significant difference in mean resistance scores, $t(270) = -0.17$, $p = .86$.

Mediation analyses

Three mediation analyses were conducted for posttreatment outcomes (dependent variables used were PARS total scores, CGI-Severity, and CGI-Improvement) and three mediation analyses using the same dependent variables were also conducted for the 36-week follow-up timepoint. Control variables included in the mediation analyses were

pretreatment PARS total scores when the outcome was posttreatment PARS total scores and PARS total

Table 1

Mean Anxiety and symptom severity pre and post-treatment and 36-week follow-up by any resistance status; Total number of exposures and Average Resistance Scores

	Resisters (<i>n</i> = 72)	Non-Resisters (<i>n</i> =200)
Pre-treatment		
PARS	19.79 (4.28)	19.01 (4.01)
CGI-S	5.15 (0.73)	5.02 (0.73)
Posttreatment		
PARS12	9.26 (6.05)	8.48 (6.22)
CGI-S12	2.86 (1.25)	2.70 (1.38)
CGI-I12	2.01 (0.86)	1.96 (0.92)
36 week follow-up		
PARS36	7.81 (5.44)	6.51 (6.08)
CGI-S36	2.44 (1.21)	2.22 (1.41)
CGI-I36	1.83 (1.02)	1.66 (1.03)
Exposures	16.40 (11.87)	14.28 (13.04)
Average Resistance Score	0.05 (0.07)	--

Note: PARS = Pediatric Anxiety Rating Scale; CGI-S = Clinical Global Impression Severity; CGI-I = Clinical Global Impression Improvement

Table 2

Participant demographics by presence of any resistance status

	Resisters (<i>n</i> = 72)	Non-Resisters (<i>n</i> =200)
Mean Age in Years (SD)	10.36 (2.82)	10.91 (2.77)
Female	34 (47.2%)	97 (48.5%)
Race/Ethnicity		
Caucasian	57 (79.2%)	160 (80.0%)
American Indian	1 (1.4%)	3 (1.5%)
Black	6 (8.3%)	19 (9.5%)
Asian	4 (5.6%)	2 (1.0%)
Other	4 (5.6%)	15 (7.5%)
Native Hawaiian	-- (0.0%)	1 (0.5%)
Principal Anxiety Diagnosis		
Generalized Anxiety Disorder (GAD)	5 (6.9%)	17 (8.5%)
Social Phobia (SP)	2 (2.8%)	22 (11.0%)
Separation Anxiety Disorder (SAD)	2 (2.8%)	4 (2.0%)
SAD & SP	7 (9.7%)	15 (7.5%)
SAD & GAD	7 (9.7%)	18 (9.0%)
SP & GAD	21 (29.2%)	68 (34.0%)
SAD, SP, & GAD	28 (38.9%)	56 (28.0%)
Mean Principal CSR (SD)	6.04 (0.86)	5.91 (0.85)
Comorbid Anxiety Disorders	63 (88.0%)	157 (78.5%)

scores at 36-week follow-up, and pretreatment CGI-S scores when the outcome was posttreatment and 36-week follow-up CGI-S and CGI-I scores.

Mediation analyses using posttreatment dependent variables. None of the mediation tests found statistically significant mediation effects, contrary to hypotheses. Average number of parent-reported exposures showed a nonsignificant unstandardized indirect effect on the relationship between resistance and posttreatment PARS total scores (see Table 3). A significant path *b* relationship was found, however, between average number of exposures and posttreatment PARS total scores (see Table 3). In effect this result demonstrates that when the number of parent-reported exposures increases by one, the posttreatment PARS total score decreases by 0.07. Results showed a nonsignificant unstandardized total effect of resistance on posttreatment PARS total scores and a nonsignificant unstandardized direct effect of resistance on PARS total scores (see Table 3).

Table 3

Indirect effect of average number of parent-reported exposures on relationship between parent in-session resistance and posttreatment PARS (n = 252)

Path	Unstandardized Coefficient (b)	SE(b)	Standardized Coefficient	<i>t</i>	<i>P</i>	LLCI	ULCI
a	4.74	3.16	0.09	1.50	.14	-1.49	10.97
b	-0.44	0.18	-0.15	-2.48	.01	-0.78	-0.09
Indirect	-2.06	1.69	-0.01	--	NS	-5.22	1.69
Direct	-0.99	8.79	-0.01	-0.11	.91	-18.32	16.33
Total	-3.06	8.85	-0.02	-0.35	.73	-20.48	14.36

Average number of parent-reported exposures showed a nonsignificant unstandardized indirect effect on the relationship between resistance and posttreatment

CGI-S scores (see Table 4). Results showed a nonsignificant unstandardized total effect of resistance on posttreatment CGI-S scores and a nonsignificant unstandardized direct effect of resistance on CGI-S scores (see Table 4).

Table 4

Indirect effect of average number of parent-reported exposures on relationship between parent in-session resistance and posttreatment CGI-S (n = 253)

Path	Unstandardized Coefficient (b)	SE(b)	Standardized Coefficient	t	P	LLCI	ULCI
a	4.88	3.17	0.10	1.54	.12	-1.36	11.12
b	-0.07	0.04	-0.11	-1.82	.07	-0.15	0.01
Indirect	-0.35	0.33	-0.01	--	NS	-1.02	0.29
Direct	-0.54	1.98	-0.02	-0.27	.79	-4.43	3.36
Total	-0.89	1.98	-0.03	-0.45	.65	-4.78	3.01

Average number of parent-reported exposures showed a nonsignificant unstandardized indirect effect on the relationship between resistance and posttreatment CGI-I scores (see Table 5). Results showed a nonsignificant unstandardized total effect of resistance on posttreatment CGI-I scores and a nonsignificant unstandardized direct effect of resistance on CGI-I scores (see Table 5).

Table 5

Indirect effect of average number of parent-reported exposures on relationship between parent in-session resistance and posttreatment CGI-I (n = 253)

Path	Unstandardized Coefficient (b)	SE(b)	Standardized Coefficient	t	P	LLCI	ULCI
a	4.88	3.17	0.10	1.54	.12	-1.36	11.12
b	-0.05	0.03	-0.11	-1.78	.08	-0.10	0.01
Indirect	-0.24	0.21	-0.01	--	NS	-0.68	0.17
Direct	-0.09	1.36	-0.00	-0.06	.95	-2.77	2.60
Total	-0.32	1.36	-0.01	-0.24	.81	-3.01	2.37

Mediation analyses using 36-week follow-up dependent variables. None of the mediation tests found statistically significant medication effects, contrary to hypotheses. Average number of parent-reported exposures showed a nonsignificant unstandardized indirect effect on the relationship between resistance and 36-week follow-up PARS total scores (see Table 6). Results showed a nonsignificant unstandardized total effect of resistance on 36-week follow-up PARS total scores and a nonsignificant unstandardized direct effect of resistance on 36-week follow-up PARS total scores (see Table 6).

Table 6

Indirect effect of average number of parent-reported exposures on relationship between parent in-session resistance and 36-week follow-up PARS (n = 219)

Path	Unstandardized Coefficient (b)	SE(b)	Standardized Coefficient	t	P	LLCI	ULCI
a	4.42	3.14	0.10	1.41	.16	-1.76	10.60
b	-0.42	0.19	-0.14	-2.21	.03	-0.79	-0.05
Indirect	-1.85	1.76	-0.01	--	NS	-5.29	2.00
Direct	9.14	8.75	0.07	1.05	.30	-8.09	26.38
Total	7.30	8.78	0.05	0.83	.41	-10.02	24.61

Average number of parent-reported exposures showed a nonsignificant unstandardized indirect effect on the relationship between resistance and 36-week follow-up CGI-S scores (see Table 7). Results showed a nonsignificant unstandardized total effect of resistance on 36-week follow-up CGI-S scores and a nonsignificant unstandardized direct effect of resistance on 36-week follow-up CGI-S scores (see Table 7).

Average number of parent-reported exposures showed a nonsignificant unstandardized indirect effect on the relationship between resistance and 36-week follow-

up CGI-I scores (see Table 8). Results showed a nonsignificant unstandardized total effect of resistance on 36-week follow-up CGI-I scores and a nonsignificant unstandardized direct effect of resistance on 36-week follow-up CGI-I scores (see Table 8).

Table 7

Indirect effect of average number of parent-reported exposures on relationship between parent in-session resistance and 36-week follow-up CGI-S (n = 219)

Path	Unstandardized Coefficient (b)	SE(b)	Standardized Coefficient	t	P	LLCI	ULCI
a	4.45	3.14	0.10	1.42	.16	-1.74	10.63
b	-0.07	0.04	-0.10	-1.53	.13	-0.15	0.02
Indirect	-0.30	0.31	-0.01	--	NS	-0.93	0.34
Direct	2.47	2.03	0.08	1.22	.22	-1.53	6.47
Total	2.18	2.03	0.07	1.07	.28	-1.82	6.17

Table 8

Indirect effect of average number of parent-reported exposures on relationship between parent in-session resistance and 36-week follow-up CGI-I (n = 219)

Path	Unstandardized Coefficient (b)	SE(b)	Standardized Coefficient	t	P	LLCI	ULCI
a	4.45	3.14	0.10	1.42	.16	-1.74	10.63
b	-0.04	0.03	-0.08	-1.15	.25	-0.11	0.03
Indirect	-0.17	0.22	-0.01	--	NS	-0.65	0.24
Direct	1.24	1.58	0.05	.79	.43	-1.87	4.35
Total	1.07	1.57	0.05	.68	.50	-2.03	4.16

CHAPTER 4

DISCUSSION

Contrary to hypothesis, none of the six mediation tests found statistically significant indirect effects of the average number of parent-reported exposures on the relationship between parent in-session resistance and therapy outcomes at posttreatment and 36-week follow-up. Although no statistically significant mediation effects were found, a significant path *b* relationship was found between average exposures and posttreatment PARS total scores, demonstrating a significant relationship between number of parent-reported exposures and posttreatment therapy outcomes. This particular result is in keeping with findings from earlier studies that demonstrated the importance of exposure tasks for therapy outcomes of CBT for anxious youth (Kendall et al., 1997; Peris et al., 2015). Also contrary to hypothesis, statistical analysis demonstrated that there was no significant difference in mean resistance scores between the CBT group and the COMB group.

Resistance has been thought to be a therapy process variable that can play an important role in treatment. Findings in the adult literature support an association between therapy outcomes and resistance among adults receiving CBT for GAD (Aviram & Westra, 2011; Button et al., 2015), and, in a study focused on therapy for youth with depressive disorders, Jungbluth and Shirk (2009) found that first-session resistance was significantly associated with child involvement in therapy at session two as well as total number of sessions completed. Despite these prior findings, the present findings suggest that parental resistance plays a more limited role in therapy for youth seeking treatment for anxiety disorders. Previous research has found that higher rates of parental resistance

during parent training therapy for parents of antisocial children was significantly associated with worse therapy outcomes (Patterson & Chamberlain, 1994) as well as future child arrests over the two-year period following therapy termination (Stoolmiller et al., 1993). The Client Resistance Code (Kavanagh et al., 1982) was used for coding parental resistance in both studies, and was later adapted by Westra et al. (2009b) to examine resistance in adults receiving CBT for GAD. The parents in the studies conducted by Patterson and Chamberlain (1994) and Stoolmiller et al. (1993) demonstrated considerably greater rates of resistance (approximately 6% and 9%, respectively) compared to an overall resistance rate of 1.1% for parents in the current study. Although Patterson and Chamberlain (1994) and Stoolmiller et al. (1993) examined parent resistance in therapy, there are differences between those studies and the present one.

Perhaps most important is the difference in the underlying problems for which the parents are involved in therapy in the first place, and the specific role parents played in therapy. Parent training therapy inherently requires significantly more parent-therapist contact, as therapists work almost exclusively with parents instead of the children. In the current study, only six children of parents demonstrating any resistance ($n = 72$) had a comorbid disruptive disorder diagnosis (i.e. conduct disorder or oppositional defiant disorder). Aside from the target problem of therapy, socioeconomic status of study participants was another difference between earlier studies and the present one, with the majority of families (79.4%, $n = 216$) in the current study in the top two quintiles of socioeconomic status using Hollingshead criteria. Additionally, approximately 25% of the Patterson and Chamberlain (1994) mothers were depressed at the time of the study

based on the results of diagnostic interviews, with analyses showing that being depressed was related to in-session resistance throughout treatment. In the current study, 18.0%, ($n = 49$) of caregivers endorsed clinical levels of psychological symptomology on the Global Severity Index (GSI) of the Brief Symptom Inventory (BSI; Derogatis, 1975). Notably, post-hoc chi-square analyses demonstrated there were no group differences between resisters and non-resisters on the GSI, any other BSI symptom dimensions, or socioeconomic status.

In addition to its occurrence in session, resistance can also occur outside of or between therapy sessions. As surveys of therapists indicate issues with homework compliance are common problems (Helbig & Fehm, 2004), failure or refusal to complete between-session therapy homework assignments can therefore be conceptualized as a form of resistance (Newman, 1994). In the adult literature examining resistance in participants receiving CBT for GAD, differences in methodologies and focus between similar studies make it difficult to determine the specific relationship between in-session resistance, homework compliance, and therapy outcomes. For example, in a RCT examining the effects of MI on treatment outcomes where participants were randomized into either an MI pretreatment condition or a no pretreatment condition, Westra et al. (2009a) found that homework compliance fully mediated the relationship between treatment condition and therapy outcome. Higher homework compliance conceptualized as lower between-sessions resistance predicted lower levels of posttreatment worry. In-session resistance, however, was not measured. In a later study focused on a high severity worry subset of the participants in both conditions of Westra et al. (2009a), trained coders coded rates of client resistance. Path analytic models showed that in-session resistance

had a direct effect on homework compliance and posttreatment worry, though there was no direct effect of homework compliance on posttreatment worry (Aviram & Westra, 2011). Hara et al. (2015) found that observer ratings of resistance were a strong predictor of both homework compliance and posttreatment worry. In the current study, although no significant relationship was found between in-session resistance and between-sessions exposures completed, there was a significant relationship between exposures completed (i.e., homework) and posttreatment PARS total scores. It should be noted that in the present study, the number of between-sessions exposures is not the same as the rate of homework compliance. In the CAMS study, the CBT Session Summary Sheet asked, “how many assigned exposures were carried out since last session?” Though this is certainly very useful information, there was no data collected regarding how many exposures were assigned but not completed, making it impossible to calculate an actual rate of homework compliance.

To the author’s knowledge, this is the first study that used behavioral coding to examine in-session resistance for parents of youth seeking treatment for anxiety disorders. In the present study, coders utilized the *Manual for Rating Interpersonal Resistance* (Westra et al., 2009b) to code in-session parental resistance, which allowed for a systematic approach to examining resistance, an interpersonal process that would otherwise be more difficult to operationalize and consistently measure. The present study also used recorded therapy session from the CAMS study, a large multi-site RCT. In addition to providing a large set of recordings to code for resistance, the CAMS study included checks on therapist fidelity to *Coping Cat* (Kendall & Hedtke, 2006) and *C.A.T. Project* (Kendall, Choudhury, Hudson, & Webb, 2002) which, for the present study,

facilitated consistency in therapeutic content and approach for the two parent-only sessions that were coded.

Parental in-session resistance was found to be a relatively low frequency behavior. Of the 364 total parent sessions that were coded, there were only 84 sessions where at least some resistance was coded. Additionally, because there were very few participants ($n = 12$) that demonstrated resistance in both sessions 3 and 7, we were unable to run a paired samples t-test as originally planned to compare resistance levels at the first parent-only session with resistance levels from the second parent-only session. The details and context of the CAMS study itself might at least partially explain why parental resistance was rare. First, the study offered free treatment to families with anxious children that would have otherwise paid a provider or providers hundreds if not thousands of dollars for the level of care received over the course of participation in CAMS. A sense of gratitude, or perhaps a “don’t look a gift horse in the mouth” sentiment may have therefore contributed to parents demonstrating generally very little in-session resistance across treatment. Relatedly, the universities that comprised the multi-site RCT are all very well-known and established research institutions. It is possible that families receiving treatment from providers affiliated with these universities may be less likely to demonstrate resistance as a result of deference to the reputation of the universities or due to a very strong belief in the competence of treatment providers from such universities.

Similar to Patterson and Chamberlain (1994) and Stoolmiller et al. (1993), future studies focused on the role of parents or caregivers in treatment for youth should examine parental psychosocial factors that may be related to resistance. Although the present

study did not find evidence for a relationship between in-session parental resistance and number of between-session exposures completed or therapy outcomes, most treatments for psychological disorders in youth will necessitate some level of caregiver participation. Similar to the anxiety disorders included in the present study, cognitive behavioral treatments for youth with depression or obsessive-compulsive disorder, for example, include exposures to be completed between sessions. Examination of factors that may be related to caregiver noncompliance with homework (i.e., caregivers not facilitating the completion of the assigned exposure homework) would therefore be informative. In addition to socioeconomic status and psychiatric history, researchers could assess factors such as parental attitudes towards mental health, authority, and the medical community. Additionally, future studies examining parental resistance should examine therapist and parent interaction sequences during treatment. In another study examining resistance in parent management training, Patterson and Forgatch (1985) found that therapist verbalizations categorized as “teaching” or “confronting” increased the likelihood that subsequent parental behavior would be coded as resistant, whereas therapist verbalizations classified as “facilitate” or “support” were associated with lower levels of resistance.

Although it was not within the scope of the present study, parental accommodation may be an important factor to examine in future studies of parental resistance. Parental accommodation, within the context of youth anxiety, refers to the various ways parents or family members modify or alter their behavior, routines, or expectations to ameliorate the emotional distress their child may experience (Kagan et al., 2016; Kagan et al., 2017). Examples of parental accommodation include but are not

limited to parents providing reassurance about feared situations or stimuli, allowing a child to avoid a feared situation, or responding to frequent phone calls or text messages from the child (Flessner et al., 2011; Thompson-Hollands et al., 2014). The results of previous studies have shown that 97.3 - 99% of parents of youth with anxiety and obsessive-compulsive disorder (OCD) reported engaging in one or more forms of accommodation, demonstrating that parental accommodation is a very common behavior among parents of anxious youth. Further, frequent accommodation of youth with anxiety and OCD is associated with greater child impairment at school and at home, as well as greater symptom severity (Flessner et al., 2011; Lebowitz et al., 2013). Previous research has also demonstrated that the more parents reduced accommodating behaviors over the course of manualized CBT for anxious youth, the less anxiety symptoms the children had at posttreatment (Kagan et al., 2018). Given the importance of exposures in treatment for youth receiving CBT for anxiety (Kendall et al., 1997; Peris et al., 2015) accommodating behavior that may reduce the efficacy of exposures could potentially be viewed as a form of parental resistance behavior, and therefore merits further examination in future studies.

Finally, future studies of parental resistance should examine how therapists manage resistance when it occurs. In the adult literature, Aviram, Westra, Constantino, and Antony (2016) examined the relationship between therapist behavior during instances of disagreement, conceptualized as resistance, early in treatment and posttreatment worry for high severity worry level participants receiving CBT for GAD. Therapy sessions were coded for resistance using an adapted version of the CRC (Westra et al., 2009b). Even though therapists were administering CBT without MI, therapist “MI-consistent” behavior was coded using the Motivational Interviewing Treatment Integrity (MITI) scale

(Moyers et al., 2010). Clients of therapists who displayed greater MI-consistent response styles during disagreements in session had significantly lower levels of posttreatment worry. Higher levels of general MI-behavior (i.e., MI-behavior outside of resistant episodes), however, were not significantly related to posttreatment worry. Although resistance was relatively rare in the current study and no significant relationship between resistance and exposures completed and treatment outcomes was found, the results of Aviram et al. (2016) demonstrate the potential impact of clinician behavior and response during episodes of disagreement.

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APPENDIX

MANUAL FOR RATING INTERPERSONAL RESISTANCE ONE PAGE SUMMARY

Westra, H. A., Aviram, A., Kertes, A., Ahmed, M., & Connors, L. (2009)

Definition of Resistance is "going against, opposing, blocking, or impeding the direction set by the therapist"

This is a process coding system. Content is secondary. Rely on what is being communicated beyond the words (i.e., ask yourself: "What is the intention of this client behavior?" irrespective of the words used)

Client statements of counter-change, lack of progress, hopelessness, or concerns with the therapy/therapist DO NOT automatically get coded as resistance. Whether resistance is inferred from clients statements depends on the context in which reservations are expressed (i.e., "Is the intent to go against the therapy/therapist, or not?")

Develop an interpersonal paraphrase. "What is the client saying to the therapist on an interpersonal level?"

Ask yourself: "Where is the therapist going?" The client's response can then be assessed for whether or not it complies with this direction

Types of interpersonal resistance:

Disagree, Confront, Challenge, Doubt – Responses indicate dissatisfaction or skepticism about the therapy/therapist, disagreements with the therapist, or client's failure to comply with a session directive/homework. Must be clear from interpersonal context that the client's *intention is to oppose/disagree/challenge the direction set by the therapist*

Own Agenda, Sidetracking, Interrupting – Responses indicate the client wants to discuss an issue different from the direction set by the therapist, persists in discussing tangential issues, or interrupting in order to oppose/block therapist

Ignoring, Not Responding, Not Answering – Instances in which the client ignores the therapist by not responding/going in a different direction; withholding information by not responding, giving evasive, non-direct responses to a therapist's direct question; Short, highly abbreviated responses that are clearly non-cooperative

Questions about the Therapist/Treatment – Questions that stem from underlying skepticism and are meant to doubt/challenge the therapist/therapy; questions about treatment procedures. *Tone and intent must be clearly resistant* (i.e., questions for the purpose of clarifying/getting information are not resistance)

Quality of interpersonal resistance (assigning codes to time bins):

0 – Absence of resistance. Client is going along with therapist's direction (Default code is always 0)

1 – Minimal, Qualified resistance. Client is NOT going along with therapist's direction and/or is being skeptical, BUT the context is generally one of cooperation (i.e., sending a mixed interpersonal message of opposition along with a simultaneous intent to cooperate with the therapist); Qualified, tentative, apologetic-like statements/behaviours with a gentle tone; Ambivalent (“yes... but”) responses (when the “Yes” part is not a throw-away response)

2 – Clear, Unequivocal resistance. Client does not qualify their response, but rather straightforwardly states their disagreements, doubts, or challenges/questions the therapist. Can occur in process (e.g., sidetrack, ignore, talk over therapist) and/or in content (i.e.,

responses that are clearly doubtful or are intended to oppose therapist's direction); nonverbal responses (i.e., vocal tone, behavioural gestures) that clearly send the message "I don't agree"; Interruptions that are meant to communicate resistance (i.e., ignoring, blocking the therapist)

3 – Hostile, combative resistance. Client's tone is clearly hostile, combative, or discrediting of the therapist; responses often directly address the therapist personally (e.g., criticizing, questioning therapist's competence); overly firm/emphatic responses; nonverbal behaviours that clearly indicate dismissal/dissatisfaction with the therapist

Codes are NOT mutually exclusive. You may assign *more than one code for each time bin* (Code 0 is an exception).

However, *each code may only be assigned once within the same time bin*

Carryover (i.e., instances in which the client's resistance continues into the next time bin) continue to be coded at their initial form/quality of resistance, UNLESS the client did/said something that changes the quality of resistance

Coding system is designed to **capture quality of resistance (as defined by 0-3 scale) as opposed to type of resistance** (e.g., Ignore vs. Disagree). However, type of resistance is important when providing rationale for your code