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Child involvement, alliance, and therapist flexibility: Process variables in cognitive-behavioural therapy for anxiety disorders in childhood

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ABSTRACT

Background: This study examined the relations between treatment process variables and child anxiety outcomes. Method: Independent raters watched/listened to taped therapy sessions of 151 anxiety-disordered (6–14 yr-old; $M = 10.71$) children (43% boys) and assessed process variables (child alliance, therapist alliance, child involvement, therapist flexibility and therapist functionality) within a manual-based cognitive-behavioural treatment. Latent growth modelling examined three latent variables (intercept, slope, and quadratic) for each process variable. Child age, gender, family income and ethnicity were examined as potential antecedents. Outcome was analyzed using factorially derived clinician, mother, father, child and teacher scores from questionnaire and structured diagnostic interviews at pretreatment, posttreatment and 12-month follow-up. Results: Latent growth models demonstrated a concave quadratic curve for child involvement and therapist flexibility over time. A predominantly linear, downward slope was observed for alliance, and functional flexibility remained consistent over time. Increased alliance, child involvement and therapist flexibility showed some albeit inconsistent, associations with positive treatment outcome. Conclusion: Findings support the notion that maintaining the initial high level of alliance or involvement is important for clinical improvement. There is some support that progressively increasing alliance/involvement also positively impacts on treatment outcome. These findings were not consistent across outcome measurement points or reporters.

Analysis of the process of change in interventions for anxiety in youth has been relatively neglected (Kendall & Ollendick, 2004; Kazdin & Nock, 2003; Shirk & Russell, 1998). In an early review of child therapy studies, Kazdin, Bass, Ayers, and Rodgers (1990) found that less than 3% of child therapy studies examined treatment processes, but recommended that such research could facilitate our understanding of the mechanisms of change and help to improve our empirically supported treatments. Others have argued that process research could smooth the path for dissemination of evidence-based treatments (Kendall & Beidas, 2007).

Recent years have evidenced a significant increase in attention to child and therapist process variables in youth-based psychotherapy. Karver, Handelsman, Fields, and Bickman (2006) conducted a meta-analysis on child treatment studies and identified moderate-to-large relationships between treatment outcome and process variables that focused on therapist alliance, parent and youth participation willingness, and client and parent actual participation (weighted effect size = .26). Similarly, Fjermestad, Haugland, Heiervang, and Ost (2009) found evidence of significant associations between relationship variables and outcomes, but concluded that the literature was still preliminary due to inconsistent measurement of relationship variables.

Research examining the effect of client involvement in RCT with manual-based therapy has been limited. Chu and Kendall (2004) found that child involvement in manual-based cognitive-behavioural therapy (CBT) was associated with the absence of the principal anxiety diagnosis after treatment. Involvement has also been associated with other processes such as alliance (Tryon & Kane, 1995). Together, these findings suggest that involvement is an important process variable in child therapy.

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Therapeutic alliance has a well-developed research history in the adult literature (Horvath & Bedi, 2002, pp. 37–69; Martin, Garske, & Davis, 2000) and a developing literature for youth treatment. It describes a number of constructs including the therapeutic or working relationship; therapeutic bond and treatment involvement. In child and family community clinics, therapeutic relationship problems were identified as the major factor that distinguished therapy dropouts from completers, (Garcia & Weisz, 2002) and self-report assessment of therapist-child and therapist-parent alliance have been associated with treatment retention, satisfaction, and improved symptoms (Hawley & Weisz, 2005). Shirk and Karver (2003) conducted a meta-analytic review of child and adolescent treatments, and found a small, but significant, overall effect size between alliance and treatment outcome. The results suggested that therapist-ratings of alliance were stronger predictors of treatment outcome than child ratings. Research, however, examining alliance–outcome relationships specifically in the treatment for anxious children has been mixed. Although some studies have identified significant relations between treatment outcome and the therapeutic relationship (Chiu, McLeod, Har, & Wood, 2009; McLeod & Weisz, 2005, other studies have found limited support Liber et al., 2010).

Current clinical recommendations suggest adhering to manual − based treatments with a flexible and individualized manner (Kendall, Chu, Gifford, Hayes, & Nauta, 1998). This "flexibility within fidelity" principle helps ensure that treatment is individually responsive yet retains its core principles and strategies (Kendall et al., 1998). Using independent observer ratings Chu and Kendall (2009) found that therapist flexibility was positively and significantly related to mid-treatment child involvement and child involvement predicted diagnostic improvement. Prior research however did not assess the degree to which therapist flexibility occurred in response to the child (or just part of the therapist's approach). Preferred therapist flexibility (here defined as *functional flexibility*) would be that which is matched to the child's needs.

The present study examined process variables in CBT for anxiety disorders in children. The process variables, coded from three previous RCTs, were child involvement, therapeutic alliance, therapist flexibility, and functional flexibility, as rated by independent coders viewing/listening to taped sessions. Latent growth modelling was used to accomplish three objectives. First, mean growth trajectories were estimated for the two child process variables and three therapist variables. There is limited research to inform hypotheses about overall mean trajectories for these variables, but preliminary evidence suggests stable courses or slight decreases over time for alliance and child involvement (Chiu et al., 2009; Chu & Kendall, 2004; Liber et al., 2010). In contrast, Kendall et al. (2009) recently identified a different pattern in which participant-reports of alliance increased gradually over the first half of treatment before levelling off after mid-treatment.

Our second aim was to identify relations among the process variables. Again, limited research is available, but meta-analyses (Fjermestad et al., 2009; Karver et al., 2006) suggest small to medium relations among relationship factors (e.g., involvement, child alliance, therapist alliance) and preliminary evidence suggests possible associations between child involvement and therapist flexibility (Chu & Kendall, 2009). Third, it was hypothesized that child and therapist variables would predict post-treatment and one-year follow-up outcomes across all reports.

Method

Participants

Children (N = 151 ages 6–14; 71 boys) and their parents completed independent structured diagnostic interviews conducted by separate diagnosticians. Child diagnoses were obtained from the Anxiety Disorders Interview Schedule (ADIS-IV-C/P or ADIS-III-R-C/P; Silverman, 1987; Silverman & Albano, 1996) conducted at the Child and Adolescent Anxiety Disorders Clinic (CAADC), Temple University. Children participated in an RCT ($n = 44$ from Kendall, Hudson, Gosch, Flannery-Schroeder, & Suveg, 2008; n = 58 from Kendall et al., 1997; n = 20 from Flannery-Schroeder & Kendall, 2000; n = 29, Kendall, 1994a, 1994b), if they met DSM criteria for a primary diagnosis of Generalized Anxiety Disorder (GAD; $n = 77$), Separation Anxiety Disorder (SAD, $n = 36$), Social Phobia (SP; $n = 37$) and Panic Disorder (PD; $n = 1$) based on ADIS-C/P composite diagnosis. Eighty-eight percent of children had a comorbid anxiety disorder, 15.7% met criteria for ADHD, 6.4% for mood disorder, and 8.7% had an externalizing disorder. Children (M age = 10.71, SD = 1.68) were European American (130; 86.7%), African American (6; 6%), Asian (2; 1.3%), Hispanic (4; 2.7%), other (5; 3.3%) and missing (4; 2.6%).

Therapy sessions (1 through 16) were recorded, and the audio/videotapes were examined and coded. Tapes were excluded for if missing or inaudible. All available tapes were rated. The average number of rated tapes per participant was 11.07 (SD = 2.93; Range = 3–16). The average number of taped sessions unavailable for rating was 30.8% per participant. All participants had tapes available from early (sessions 1 through 4), mid (sessions 5 through 8), and late (sessions 9–16) therapy sessions. A greater number of tapes were unavailable for sessions 9 through 16 as these sessions focused on exposure tasks that were sometimes completed outside the therapy room. The percentage of unavailable tapes from sessions 9–16 was 40.4%.

Outcome measures

The Anxiety Disorder Interview Schedule for Children and Parents (ADIS-IV-C/P or ADIS-III-R-C/P; Silverman, 1987; Silverman & Albano, 1996) is a child and parent semi-structured interview to enable diagnosis according to DSM categories. Impairment ratings are given separately by the child and parents, and each are considered in deriving composite diagnoses. Both the ADIS-III − C/P and the ADIS − IV − C/P have favourable psychometric properties (Lyneham, Abbott, & Rapee, 2007; Silverman & Nelles, 1988).

Revised Children's Manifest Anxiety Scale (RCMAS; Reynolds & Richmond, 1978) is a 37-item self-report measure that assesses trait anxiety in 6–19 year-olds producing four subscales: anxiety, physiological symptoms, worry and oversensitivity, and social concern-concentration. The RCMAS has high internal consistency, moderate retest reliability ($r = .68$), and reasonable construct validity (Reynolds & Paget, 1981).

Coping questionnaire-child (CQ-C; Kendall, 1994a, 1994b*)* assesses the child's perceived ability to manage anxiety-provoking situations. The CQ is situationally-based and individualized: 3 areas of difficulty are chosen based on interview data, and each child rates his/her ability to cope with each on a 7-point scale (1 = *not at all able to help myself* to 7 = *completely able to help myself feel comfortable*). The CQ-C has strong retest reliability (Kendall & Marrs-Garcia, 1999).

Child behaviour checklist (CBCL; Achenbach, 1991*)* is a widely used 118-item parent-report measure of behavioural, emotional, social, academic problems in children measured on a 3 − point scale (0 = *not true*, 1 = *somewhat or sometimes true*, 2 = *very/often true*). The measure generates *T* scores on Internalizing and Externalizing Problems as well as the Withdrawn and Anxiety/Depression subscales. Validity, internal consistency, and retest reliability have been documented (Achenbach & Rescorla, 2001).

Teacher report form (TRF; Achenbach, 1991; Achenbach & Edelbrock, 1986*)* provides data on the child's classroom