Sudden gains during cognitive–behavioral group therapy for anxiety disorders☆

Peter J. Norton*, Suzanne C. Klenck, Terri L. Barrera

University of Houston, USA

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ABSTRACT

Sudden gains in psychotherapy are characterized by large and relatively stable decreases in psychiatric symptoms and have been associated with cognitive shifts in clients and shown to predict superior treatment outcomes in studies of depression and, to a lesser extent, anxiety disorders. The purpose of this study was to examine prevalence and impact of sudden gains during a transdiagnostic cognitive–behavioral group therapy (CBGT) for anxiety disorders, as well as the temporal relationship between sudden gains and cognitive changes. Data were used from two trials of transdiagnostic CBGT for anxiety disorders ($n = 130$). Criteria for determining sudden gains in anxiety symptoms were based upon previous research on sudden gains from trials of cognitive–behavioral treatments for major depressive disorder. A total of 17 out of 98 (17.3%) clients experienced at least one sudden gain, with three clients showing two sudden gains during treatment. Three patients showing a sudden gain experienced a reversal of these gains, although one of these three had a subsequent second sudden gain. Clients experiencing sudden gains showed greater overall improvement following treatment than did clients who did not experience a sudden gain, with 65% of the sudden gainers' overall improvement accounted for by the sudden gain. Greater cognitive change in the pregain sessions was observed for clients with a sudden gain than those not showing a sudden gain. This finding lends support to the theory of cognitive mediation through CBGT in which substantial cognitive changes in pregain sessions lead to greater improvement overall.

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The concept that psychotherapy clients may have periods of significant symptomatic relief within a short time period, termed *sudden gains* by Tang and DeRubeis (1999), has existed throughout the history of psychotherapy. Breuer and Freud (see Freud, 1955) wrote extensively regarding catharsis, the conscious awareness of unconscious or repressed conflicts resulting in sudden emotional release and problem resolution. Similarly, Eysenck (1981) and Fontenelle et al. (2000) describe sudden decreases in symptoms following planned and unplanned, respectively, intense conditioning experiences. Despite this, within behavioral and cognitive psychotherapy movements, sudden gains have received only recent attention.

Tang and DeRubeis (1999) reported the first intensive empirical investigation of sudden gains in symptom reduction during cognitive–behavioral therapy for depression. Using archival data of 61 depressed clients from two efficacy studies, Tang and DeRubeis

examined session-by-session changes in Beck Depression Inventory (BDI; Beck & Steer, 1987) scores and identified 29 instances of sudden gains occurring among 24 clients. Tang and DeRubeis (1999) originally defined sudden gains by to the following criteria: "A sudden gain occurred between session N and session $N+1$ if (a) the gain was at least 7 BDI points ($BDI_N-BDI_{N+1} \geq 7$); (b) the gain represented at least 25% of the pregain session's BDI score ($BDI_N-BDI_{N+1} \geq .25\ BDI_N$); and (c) the mean BDI score of the three therapy sessions before the gain (sessions $N-2$, $N-1$, and N) was significantly higher than the mean BDI score of the three therapy sessions after the gain (sessions $N+1$, $N+2$, and $N+3$) using a two-sample t test, with an α of .05" (Tang and DeRubeis, 1999, p. 895).

These criteria were later (Tang, DeRubeis, Beberman, & Pham, 2005) rephrased as:

1. *Absolute magnitude.* The gain was at least 7 BDI points, $BDI_N-BDI_{N+1} \geq 7$.
2. *Relative magnitude.* The gain represented at least 25% of the pregain session's BDI score, $BDI_N-BDI_{N-1} \geq .25\ BDI_N$.
3. *Relative to symptom fluctuation.* The mean difference between the BDI scores of the 3 sessions before the gain and the 3 sessions after the gain was at least 2.78 times greater than the pooled standard deviations of these two groups BDI scores.

On average, these gains represented 51% of their total BDI reduction during treatment, and clients evidencing a sudden gain showed significantly lower BDI scores at post-treatment and 6- and 18-month follow-up periods than did clients who did not show a sudden gain during treatment. Sudden gains occurred throughout the 16-week treatment protocol, with a median and modal occurrence at session 5. Subsequent coding of session audiotapes by blind assessors suggested that during the session preceding the sudden gain, clients demonstrated substantial cognitive changes whereas significantly fewer signs of cognitive change were identified in sessions more distal to the sudden gain. Following the sudden gain, clients showed increased therapist alliance and continued signs of positive cognitive change. The exact mechanisms underlying the relationship between cognitive changes, sudden gains, and improved outcomes are unclear although it may be related to a number of factors, including: enhanced treatment motivation following sudden improvement or more complete modification of biased cognitive structures.

Since publication of the Tang and DeRubeis (1999) paper, others have replicated these findings across independent samples of depressed outpatients receiving CBT for depression. Tang et al. (2005) reported highly similar rates of sudden gains in an independent archival sample of cognitive therapy and cognitive–behavioral therapy for depression. Further, evidence of cognitive change in the pregain session was again observed. Hardy et al. (2005) reported similar, albeit less pronounced, results based on data from cognitive therapy for depression conducted in a non-research-driven community practice. In contrast, however, Busch, Kanter, Landes, and Kohlenberg (2006) were unable to replicate these findings. Instead, they found that sudden gains did not predict better outcome, and that sudden gains occurred later in cognitive therapy for depression than previous studies have noted (median occurrence at session 10 of 20). Additionally, Busch et al. (2006) reported numerous instances of pre-treatment and first session gains, although it was unclear if these gains were similar to later sudden gains in terms of causal influence (e.g., expectancies, non-specific factors, cognitive change, etc.). Kelly, Roberts, and Ciesla (2005) also found discrepant results than that of Tang and DeRubeis (1999), in that there were no significant differences detected among sudden gainers and non-sudden gainers after 12 sessions of CBT for depression as measured by BDI scores. Kelly et al. (2005) found that those who experienced a sudden gain in the first third of treatment did have significantly greater symptom reduction and were more likely to be treatment responders than those who did not experience a sudden gain and those who did not experience an early sudden gain, when controlling for initial BDI scores. Kelly et al. (2005) also concluded that cognitive changes were not related to early sudden gains in their sample because cognitive techniques were not introduced until session seven in their protocol, suggesting that other mechanisms of change contribute to early success in treatment.

Given impact of the literature on sudden gains in depression, it is somewhat surprising that published research on sudden gains during cognitive–behavioral therapy for other mental or emotional disorders has been limited. To our knowledge, only two studies of sudden gains in CBT for anxiety disorders have been conducted to date. Using data from 107 clients with social phobia receiving exposure therapy or cognitive–behavioral therapy, Hofmann, Schulz, Meuret, Moscovitch, and Suvak (2006) reported an incidence of sudden gains of roughly 19%. No differences in treatment outcome, however, were observed between the clients with social phobia who did and did not display a sudden gain. Further, Hofmann et al. did not find evidence that cognitive changes preceded sudden gains at a rate higher than that observed in control sessions. Clerkin, Teachman, and Smith Janik (2008) found evidence for

sudden gains during CBT for panic disorder. The majority of the sudden gains occurred between the first and second sessions, with most of these individuals showing a reversal of gains followed by an eventual return to pre-reversal levels. Sudden gains occurring after the second session (n = 6, 14.0%) or later were associated with greater pre- to post-treatment changes in anxiety sensitivity, which the authors considered to be a proxy for cognitive change.

The current study sought to examine incidence and impact of sudden gains in a transdiagnostic cognitive–behavioral group therapy (CBGT) for anxiety, and to explore the relationship between sudden gains and cognitive changes in this population. It was anticipated that sudden gains would be apparent during CBGT for anxiety and would account for a sizable proportion of overall treatment gains. It was specifically hypothesized that, (1) those experiencing sudden gains would show superior outcomes than those not showing a sudden gain, and (2) during sessions prior to which a sudden gain occurred, participants would show greater cognitive change than did those not experiencing a sudden gain.

1. Method

1.1. Participants

Archival data from two trials of a transdiagnostic CBGT for anxiety disorders (Norton, 2008, in press) were examined for the current study. Norton (2008) reported data from 52 clients with an anxiety disorder who participated in an open trial of transdiagnostic CBGT for anxiety disorders. Norton (in press) provided data from 78 participants receiving transdiagnostic CBGT for anxiety in a randomized controlled trial by comparison to a relaxation/educational-supportive treatment (R/EST) condition. Both trials used the same structured treatment protocol (Norton & Hope, unpublished), inclusion and exclusion criteria, recruitment methods, and assessment protocols, with the only significant difference being the possibility of randomization to the R/EST condition in the second trial. Participants in the two samples did not differ significantly on any of the primary study variables, Fs = 0.07–1.81, ps = .183–.789.

Participants (55.6% women) ranged in age from 18 to 71 years (M = 33.94, SD = 11.53), and were moderately racially diverse (60.3% Caucasian, 17.8% Hispanic, 11% African American, 5.5% Asian, 5.5% Other). Most were single, divorced, or widowed (59.2%), while the remainder were married or cohabitating. Participants had primary diagnoses of social anxiety disorder (n = 40, 42.1%), panic disorder with or without agoraphobia (n = 33, 34.8%), generalized anxiety disorder (n = 12, 12.6%), agoraphobia without history of panic (n = 3, 3.2%), anxiety disorder not otherwise specified (n = 3, 3.2%), specific phobia (n = 2, 2.1%), and obsessive–compulsive disorder (n = 2, 2.1%). Sixty-two percent of the sample met criteria for one or more comorbid Axis I diagnoses, including depressive disorders (n = 26), generalized anxiety disorder (n = 24), social phobia (n = 13), specific phobia (n = 10), panic disorder with or without agoraphobia (n = 8), obsessive–compulsive disorder (n = 4), substance abuse or dependence (n = 3), posttraumatic stress disorder (n = 2), body dysmorphic disorder (n = 2), and adjustment disorder (n = 1).

Of the total treatment initiator sample of 130, 32 did not have sufficient data to establish a sudden gain. Twelve only attended one session, three did not attend any consecutive sessions (needed to establish Criteria 1 and 2), and 17 did not attend a sufficient number of consecutive or temporally close sessions to establish symptom fluctuation before and after the possible sudden gain (needed to establish Criterion 3). As a result, data from 98 clients were analyzed. Although participants were nested within group format, Norton (in press) indicated that group-level intra-class cor-