



A comparison of CCRT pervasiveness and symptomatic improvement in brief therapy

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Crits-Christoph and Luborsky (1990) persuasively argued that one of the most significant needs in psychotherapy research is the development of measurement strategies that compliment particular therapeutic methods. In other words, as theories of change differ across treatment modalities, outcome evaluations should be specialized based on the underlying theory of the therapy provided. 'For psychodynamic psychotherapies, the lack of a reliable and valid measure of psychodynamic change has forced studies to rely on other types of assessment, such as general symptom inventories or global ratings of improvement. Although such measures have the virtue of simplicity and applicability to many different kinds of treatment, they are not derived from theory' (Crits-Christoph & Luborsky, 1990, p. 134). They concluded that in order to effectively evaluate outcomes in psychodynamic therapy, relevant measures must expose changes in the main conflictual relationship pattern and changes in the patient's awareness of that pattern.

They developed a method of conceptualizing core dynamic formations called the core conflictual relationship theme (CCRT) composed of three primary components: wish, response of other, and response of self. Response of self and response of others are further characterized as being either positive (positive response of self, positive response from others) or negative (negative response of self, negative response from others). These themes are extracted from 'relationship episodes' described by patients during the course of therapy. They proposed that therapeutic improvements could be measured as a function of increases in 'positive' themes and decreases in 'negative' themes as a consequence of the intervention. In essence, theme pervasiveness (e.g. how prevalent certain themes are at a given time) could provide a salient outcome strategy potentially more sensitive to psychodynamically-based theories of change.

Crits-Christoph and Luborsky (1990) investigated the reliability and validity of the CCRT pervasiveness methodology using a sample of 33 subjects from the Penn

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Psychotherapy Project. In their evaluation, two judges independently rated CCRT formations-based on relationship episodes extracted from 'early' and 'late' sessions. They defined the 'early' session as between the third and fifth sessions and the late session as when approximately 90% of the sessions had been completed ($M = 38$ sessions). They found that from early to late sessions the change in CCRT pervasiveness was statistically significant on four of the five CCRT components. Change in pervasiveness for negative response from other, negative response of self, positive response of other, and positive response of self were all significant in the directions expected (e.g. increases in positive themes and decreases in negative themes). The change in pervasiveness for wish was not significant.

Curiously, despite their previous assertion that changes in theme pervasiveness may provide an alternative outcome evaluation strategy – ostensibly independent from symptomatic change – Crits-Christoph and Luborsky (1990) also correlated change in CCRT pervasiveness with change in symptoms on the Hopkins Symptom Checklist (HSCL; Derogatis, Lipman, Rickles, Uhlenhuth, & Covi, 1974). Their results indicated significant correlations on three of the five components (wish, negative response of self, positive response of self) and results approaching significance on the two remaining components (negative response from others, positive response of others). Based on these findings, Crits-Christoph and Luborsky concluded:

As a whole, these results demonstrate another aspect of the validity of this aspect of measuring dynamic change. Beyond that, the data have implications for psychoanalytic theories of change, and in particular lend support to clinical theories maintaining that aspects of the core conflictual relationship pattern are still apparent even after successful treatment (p. 146).

The widespread use of CCRT methodology among psychotherapy researchers speaks to its popularity and appeal. It provides an effective strategy to systemize and analyse important interpersonal aspects in clients' lives throughout treatment. Theme pervasiveness, in turn, provides a logical and compelling way of using the CCRT formulations to evaluate clinical outcomes in a manner more consistent with dynamic theory. Studies using the CCRT pervasiveness methodology have yielded varying results regarding its utility as an outcome indicator and its relationship to measures of symptomatic improvement.

Bressi *et al.* (2000) used CCRT pervasiveness to evaluate outcomes based on three interventions (crisis intervention, brief psychotherapy, pharmacological therapy) for 71 patients suffering acute psychological crisis. Their results indicated a positive correlation between symptomatic change and changes in CCRT theme pervasiveness and suggested that the pervasiveness methodology may also be appropriate for shorter-term interventions. They noted: 'the disappearance of the symptoms seems to depend upon the diminished pervasiveness of the relational conflicts described in the CCRT' (p. 33). Ultimately, they concluded that 'the CCRT method provides a useful measurement of psychodynamic change, and is a valid auxiliary tool for patient assessment during early stages of psychotherapeutic intervention' (Bressi *et al.*, 2000, p. 31). However, they conceptualized their brief therapy as being between 20 and 40 sessions with no mean number of sessions reported. They did not report pervasiveness data for their crisis intervention subjects (who participated in 8–12 sessions) or their pharmacological subjects.

Noseda *et al.* (2001) found significant correspondence between changes in CCRT theme pervasiveness and symptomatic improvements for two patients. Freni and

Azzone (1997) studied the relationship between CCRT classifications and severity of psychopathology and found that more 'negative' CCRT formulations were associated with a greater degree of pathology. Their longitudinal study of the CCRT revealed minimal changes in pervasiveness, which in turn corresponded with minimal symptomatic improvements in the patients studied. However, because both Freni and Azzone (1997) and Nosedà *et al.* (2001) used only two subjects, the generalizability of their results remains questionable.

Cierpka *et al.* (1998) used the pervasiveness methodology to evaluate relational patterns in 32 out-patients, 25 in-patients, and 25 normal subjects. They expanded the methodology to include an evaluation of theme 'dispersion', arguing that changes in pervasiveness of central themes alone excludes other important relationship information coded by the CCRT raters. They suggested that dispersion provides an index for the flexibility of stereotypic relational patterns in patients. Ultimately they found significant consistency between theme pervasiveness, dispersion, and degree of psychopathology. Unfortunately, Cierpka *et al.*, do not provide data regarding treatment durations for either the out-patient or in-patient groups.

In contrast, Staats, May, Herrmann, Kersting, and König (1998) found that changes in theme pervasiveness were not meaningfully related to measures of symptomatic improvement. Staats *et al.*, compared changes in negative theme pervasiveness with pre and post changes on the Symptom Checklist 90-R (SCL-90-R; Derogatis, 1983) for 36 patients who participated in 9 months of psychoanalytically-oriented therapy (precise number of sessions was not reported). They ultimately concluded that 'there was no correlation between change in the proportion of negative response of other and negative response of self in the narratives and change in self-reported symptoms in the SCL-90-R' (Staats *et al.*, 1998, p. 375) and emphasized the importance of future study in this area.

These studies reveal great promise for the use of theme pervasiveness as an effective alternative outcome index for psychodynamic treatment approaches. However, they also leave a number of questions unanswered. For example, how early do changes in pervasiveness reveal themselves (e.g. is this methodology as useful for brief interventions)? Additionally, do changes in CCRT pervasiveness correspond to symptomatic changes for brief interventions? If such a correlation exists, to some extent, it begs the question of what the pervasiveness methodology 'adds' to the outcome picture.

The present study addresses these questions using data from participants in the Vanderbilt II psychotherapy research project (Strupp, 1993). The researchers identified 12 Vanderbilt II participants who met Jacobson and Truax's (1991) criteria for having made clinically significant symptomatic improvement (based on pre-post therapy scores on the SCL-90-R) and another set of 12 Vanderbilt II subjects who had not demonstrated clinically significant improvement (randomly selected from the remaining 72 Vanderbilt II participants). It was felt that data from these 24 subjects were ideal for evaluating the CCRT pervasiveness methodology in that all therapists in the project identified themselves as psychodynamically oriented. The current investigation had two specific objectives. First, evaluate the CCRT pervasiveness methodology for a brief treatment paradigm. The present investigators conducted the same analyses as Crits-Christoph and Luborsky (1990) with the average 'late' session identified as the 15th (versus the 38th in Crits-Christoph and Luborsky's original evaluation). Second, to compare CCRT pervasiveness with symptomatic improvement based on Jacobson and Truax's criteria for clinical significance. To consider the relationship between changes in CCRT

pervasiveness and symptomatic improvement the 12 clinically significant 'improvers' were compared with the 12 'no-changers.' The investigators reasoned that using such an extreme case design (e.g. improvers versus no-changers), as opposed to the more dimensional approach used in previous studies (Crits-Christoph & Luborsky, 1990; Bressi *et al.*, 2000; Nosada *et al.*, 2001) would maximize the likelihood of finding an appreciable relationship – if any exists. Consequently, if significant correlations between theme pervasiveness and symptomatic improvements do exist, it would be expected that improvers would exhibit more positive changes in CCRT pervasiveness (e.g. decreases in pervasiveness of negative CCRT components and increases in pervasiveness of positive CCRT components) than their no-change counterparts.

Methods

Subjects

The subjects in the present study were selected from participants in the Vanderbilt II psychotherapy project (Strupp, 1993). For a complete description of subject characteristics of all 84 participants in the Vanderbilt II project see Henry, Strupp, Butler, Schacht, and Binder (1993). The present study utilized data from a subset of 24 of the Vanderbilt II subjects. Table 1 includes a summary of relevant demographic variables for the 24 participants.

Table 1. Participant demographics

	Improvers		No-changers		Total	
	8 Females 4 Males		10 Females 2 Males		18 Females 6 Males	
	M	SD	M	SD	M	SD
Age	40.42	10.14	39.25	11.50	38.83	10.62
Years education	16.33	1.63	15.83	1.34	16.08	1.47
Previous Tx length*	4.08	7.24	4.00	5.66	4.04	6.35
Pre-Tx GSI	48.92	5.02	45.83	8.23	47.38	6.85

*Number of sessions.

Two of the subjects identified themselves as unmarried, 12 identified themselves as married, and 10 identified themselves as divorced. All subjects qualified for at least one Axis I and/or Axis II diagnosis. Inclusion of the 24 participants was based solely on symptomatic change/no-change without consideration of their respective cohort in the 3-year Vanderbilt II project. Ultimately, 10 of the 24 subjects ended up being from the first year of the project, 2 were from the second year, and 12 were from the third year.

CCRT raters

One set of raters extracted relationship episodes from 'early' and 'late' therapy transcripts and one set of raters formulated CCRT ratings based on the extracted episodes. Three raters extracted relationship episodes from the session transcripts. Each transcript was reviewed by two of the three raters with relationship episodes selected

per Luborsky's (1990) recommendations. A total of 431 relationship episodes were identified by one and/or both raters from 48 therapy session transcripts. Of these episodes, the raters agreed on 315 (73%). Only episodes that were identified by *both* raters were included in the study. Inter-rater reliability of the raters was based on four variables: (1) percentage agreement for the identification of each episode, (2) the length of each episode, (3) the completeness rating based on Luborsky's recommendations, and (4) the 'other person' identified in each episode. Correlations were calculated between judges for each variable. All correlations were high and significant at the .01 level, indicating a high level of agreement between extraction raters. See Table 2.

Table 2. Inter-rater agreement of relationship episode extraction

Judge 1	Judge 2a					Judge 2b				
	ID	Length	Rating	Other	$p <$	ID	Length	Rating	Other	$p <$
ID	75%				.01	72%				.01
Length		0.66			.01		0.68			.01
Rating			0.60		.01			0.58		.01
Other				0.98	.01				0.93	.01

Judge 1 and Judge 2a concurrently rated 132 relationship episodes.

Judge 1 and Judge 2b concurrently rated 183 relationship episodes.

An average of 6.71 ($SD = 2.57$) episodes were extracted from each session with episodes being slightly more prevalent in the early versus late sessions ($M_{\text{Early}} = 7.38$, $SD = 2.87$; $M_{\text{Late}} = 6.04$, $SD = 2.07$; $F(1, 46) = 3.40$, $p < .07$). The length of relationship episodes ranged from 24 to 502 words ($M = 150.11$, $SD = 86.35$). The episode completeness ratings (based on Luborsky's 1990 recommendations) ranged from 2.5 to 4.5 ($M = 3.39$, $SD = 0.541$). Another set of five raters formulated the CCRT based on the extracted relationship episodes. Kappa values were calculated for each rater with the goal of reaching the level reported by Crits-Christoph, Luborsky, Popp, Mellon, and Mark (1990). See Table 3 for a summary of kappa results. Agreement between judges on all CCRT components was in the 'substantial' range (Landis & Koch, 1977) and comparable to figures reported by Crits-Christoph *et al.*, and Barber, Luborsky, Crits-Christoph, and Diguer (1995).

Table 3. A comparison of κ values from the present study with two previous studies

Component	Crits-Christoph <i>et al.</i> (1990)	Barber, Luborsky, Crits-Christoph, and Diguer (1995)	Raters in the present study
Wish	.61	.81	.63
RO	.61	.64	.69
RS	.70	.73	.70
Total	.64	.73	.67

Measures

The Symptom Checklist-90-Revised (Derogatis, 1983) was used to measure the subjects' symptoms before and after therapy. It is a 90-item self-report questionnaire that

is designed to tap nine symptom dimensions: somatization, obsessive-compulsive, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation, and psychoticism. Each item is ranked on a 5-point Likert scale (0 = *not at all*, 4 = *extremely*). One commonly used index from the SCL-90-R is the Global Severity Index (GSI). The GSI is calculated by summing the responses from all 90 items and then dividing the value by 90 yielding a range of scores from 0 to 4 which are then typically converted into T scores. Several studies have demonstrated that the SCL-90-R has adequate psychometric properties (Derogatis, 1983; Derogatis & Cleary, 1977; Derogatis, Rickels, & Rock, 1976).

Procedures

Determination of clinical significance

Subjects were classified as either clinically significant 'improvers' or 'no-changers' on an individual basis, participant by participant, using the cutoff and reliable change criteria recommended by Jacobson and Truax (1991). The individual was deemed to have made reliable change if they meet or exceeded Jacobson and Truax's RCI defined as follows:

$$1.96(M_2 - M_1) / \{2[S_n(1 - r_{xx})^{1/2}]^2\}^{1/2}$$

For the GSI, a 0.32-point difference is required to make clinically reliable change. In addition, the client's post-therapy GSI had to cross a cutoff point that lies equidistant from the mean of a 'functional' population and the mean of a 'dysfunctional' population. The cutoff point indicates the point on the continuum at which the score is equally likely to be within either of the two populations. The formula for the cutoff point (C) is:

$$C = S_n M_d + S_d M_n / S_n + S_d$$

Table 4 provides exact figures for each of the components in the RCI and cutoff formulas used in the present study.

Table 4. Data used in determining clinical significance criteria

Symbol	Definition	Value
M_n	Mean of the GSI for the functional population ^a	0.31
M_d	Mean of the GSI for the dysfunctional clinical population	1.17
M_1	Pre-treatment GSI score of a participant	–
M_2	Post-treatment GSI score of a participant	–
S_d	Standard deviation of the participant groups	0.45
S_n	Standard deviation of the normal population	0.31
R_{xx}	Test-retest reliability of the GSI ^b	0.838
$S_n(1 - r_{xx})^{1/2}$	Standard error of measurement for the GSI	0.24
$2[S_n(1 - r_{xx})^{1/2}]^2$	Standard error of the difference between the two test scores	0.35

^a Based on a non-patient norm group of 974 individuals from a diverse community in a large eastern state [9].

^b Based on a sample of 94 heterogeneous out-patients with 1 week elapsed between tests [9].

CCRT formulation and pervasiveness calculation

Relationship episodes were identified from transcripts from an early and late session for each subject, respectively. The early session was the third session for each participant, the late session varied depending on the duration of the individual subjects participation

in the Vanderbilt II project. Late sessions ranged from Sessions 11 to 16 ($M = 15.38$, $SD = 1.47$), with the modal number for the late session being 16. Each of the identified relationship episodes was formatted on a single sheet of paper devoid of any identifying information. These sheets were then randomly assigned to raters who scored each according to Barber, Crits-Christoph, and Luborsky's (1990) standard categories. All raters were blind to the Jacobson and Truax outcome groupings (e.g. improvers versus no-changers) as well as session status (e.g. early versus late). Each rater scored from 50 to 75 episodes ($M = 64.40$, $SD = 11.23$). CCRT pervasiveness was then calculated for the five elements of the CCRT (wish, negative response from other, positive response from other, negative response of self, positive response of self) based on the following formula:

$$\text{CCRT pervasiveness} = \frac{\text{Number of REs with the CCRT component}}{\text{Number of REs in the session}}$$

Results

Evaluations of theme pervasiveness

The initial analyses attempted to replicate the findings of Crits-Christoph and Luborsky (1990) for the brief treatment period. A two-factor repeated measures ANOVA was conducted. One factor, 'measure', had five levels corresponding to the five CCRT components and a second variable, 'session', consisted of the early-late session dimension. The interaction term, Measure \times Session, was also of primary interest as it addressed the question of differential change in the five CCRT components from the early to late session. The ANOVA produced a significant main effect for measure, $F(4, 92) = 18.67$, $p < .001$; however, neither the results for the main effect of session, $F(1, 23) = 0.21$, $p < .653$, nor the interaction of Measure \times Session, $F(4, 92) = 1.34$, $p < .262$, were significant. Additional analyses were conducted for each of the CCRT components by using a paired t -test procedure. None of the components differed significantly from early to late session. Table 5 provides a summary of these results.

Table 5. Pre-post analyses of CCRT pervasiveness with both groups inclusive

	Early session		Late session		Δ	t	Sig of t	Effect size
	M	SD	M	SD				
Wish	49.42	12.44	53.63	21.87	4.21	-.80	.432	.245
PRO	27.67	16.08	33.83	21.82	6.16	-1.2	.261	.325
NRO	59.42	18.76	49.62	29.64	9.80	1.47	.154	.405
PRS	28.04	15.80	32.58	15.87	4.54	-.93	.362	.287
NRS	56.21	18.03	56.42	21.15	.21*	-.04	.969	.011

*Difference in the opposite direction than expected.

Crits-Christoph and Luborsky (1990) also reported significant correlations between changes in CCRT pervasiveness and pre- and post-therapy change on the HSCL (Derogatis *et al.*, 1974) for three of the five CCRT components. A similar comparison

was made in the present study using pre- and post-therapy change on the GSI as a comparator. Table 6 summarizes these results.

Table 6. Correlations of change in CCRT pervasiveness with pre- and post-therapy change on the GSI

CCRT component	Crits-Christoph & Luborsky [2]	Present study
	HSCL	GSI
Wish	.41*	.14
NRO	.34 ^a	.10
NRS	.40*	-.001
PRO	-.32 ^b	.32
PRS	-.40*	.06

* $p < .05$.

^a $p = .06$.

^b $p = .08$.

None of the changes in pervasiveness on CCRT components were significantly correlated with changes on the GSI.

The next analyses involved looking for possible differences between clinically significant improvers and non-changers. These analyses included between and within-group comparisons for both early and late session theme pervasiveness. Two one-way ANOVAs and two repeated measures ANOVAs were conducted with outcome group (improvers versus no-changers) and session (early versus late) serving as the independent variables, respectively, and wish, positive response of other (PRO), negative response of other (NRO), positive response of self (PRS), and negative response of self (NRS) as the dependent variables. For the between-group comparisons, no significant differences were evident for the early session data. On the late session data, there were significant differences between improvers and no-changers on one component, PRO. Improvers had significantly higher pervasiveness on PRO than did their no-changer counterparts. For the within-group analyses it was expected that significant differences in pervasiveness would be evident for improvers but not for no-changers. As expected, there were no significant differences in pervasiveness for the no-changers; however, for improvers, only one CCRT variable (PRO), was significantly different from the early to late session. Table 7 contains a summary of these results

Discussion

The present investigators evaluated the use of CCRT theme pervasiveness in a brief treatment modality and considered the relationship between changes in pervasiveness and changes in symptoms.

Are changes in theme pervasiveness detectable in brief treatment situations?

A similar set of analyses to those conducted in Crits-Christoph and Luborsky's (1990) investigation yielded a different set of results for the brief treatment paradigm utilized in the Vanderbilt II project. Theme pervasiveness ratings did not change significantly from the early to late sessions. In fact, one CCRT component, Negative response of self (NRS) actually changed (albeit slightly) in the opposite direction expected.

Table 7. Between- and within-group differences in CCRT pervasiveness

	Early session						Late session						Within group				
	Improvers			No-changers			Improvers			No-changers							
	M	SD		M	SD	Δ_1	M	SD	$p <$	M	SD	Δ_2	$p <$	Δ_3	$p <$	Δ_4	$p <$
Wish	47.58	11.49		51.25	13.57	3.67	53.50	25.67	.48	53.75	18.46	0.25	.98	5.9	.48	2.5	.73
PRO	24.50	12.39		30.83	19.11	6.33	43.50	20.44	.35	24.17	19.33	19.33	.03	19.0	.02	6.7*	.34
NRO	58.33	18.77		60.50	19.52	2.17	43.58	32.78	.78	55.67	26.14	12.09	.33	14.8	.21	4.8	.53
PRS	32.58	10.48		23.50	19.16	9.08	36.00	18.32	.16	29.17	12.87	6.83	.30	3.4	.62	5.7	.46
NRS	50.00	12.71		62.42	20.83	12.4	55.33	23.01	.09	57.50	20.08	2.17	.81	5.3*	.53	4.9	.48

 Δ_1 = Improvers early session – No-changers early session. Δ_2 = Improvers late session – No-changers late session. Δ_3 = Improvers early session – Improvers late session. Δ_4 = No-changers early session – No-changers late session.

*Difference in the opposite direction expected.

These results suggest that core relational themes are unlikely to dramatically change in relatively short periods of time. This finding is not surprising and is certainly consistent with the literature on interpersonal change, which indicates that relational patterns tend to be fairly resilient and resistant to change (Warner *et al.*, 2001; Hoglend, 2003; Ahuja, 1995). However, with the exception of NRS, the other pervasiveness ratings did change in directions expected and generally followed the trend suggested in Crits-Christoph and Luborsky's original evaluation (e.g. positive themes increased and negative themes decreased subsequent to treatment).

The subject selection criteria used in the present study is worth consideration in the context of the research question. The present study created (by design) a dichotomous subject pool (e.g. improvers versus no-changers). Would this selected sample pool be expected to somehow bias the resulting analyses? Evaluations of dose-response relationships are worth considering in this context. Dose-response evaluations indicate that by the 21st session, approximately 50% of patients exhibit clinically significant improvement (Lambert, Hansen, & Finch, 2001). Using predictive values based on Lambert *et al.*'s dose response curve, it would be expected that at the 38th session (the average number of sessions in Crits-Christoph and Luborsky's original evaluation) approximately 60% of subjects would demonstrate clinically significant change. Based on this, one would expect that the Crits-Christoph and Luborsky sample had approximately 10% more 'improvers' in their sample in comparison with the present study. However, while this difference may account for some small part of the disparity between the present results and those of Crits-Christoph and Luborsky, it seems more likely that the brief treatment duration is the primary contributor. These findings also appear consistent with those predicted by Howard *et al.*'s (1993) and Leuger *et al.*'s (2001) phase model. Howard *et al.*, posit a fairly consistent pattern of treatment effects beginning with a process of remoralization (subjective well-being), remediation (symptomatic reduction), and rehabilitation (recovery of life functioning). Leuger *et al.* (2001) argue that:

The phase model provides an approach for systematically selecting treatment goals. . . early in treatment an immediate goal is to remoralize the distressed and hopeless patient who is at 'wit's end.' Then treatment goals shift to refocusing the patient's coping skills to bring about symptom relief. After the remediation of symptoms, treatment can focus on unlearning maladaptive ways and on establishing new ways of responding to challenges in one or more areas of life functioning (p. 151).

Changes in theme pervasiveness are probably representative of this final rehabilitation phase of treatment and therefore may be expected to be undetectable until later in treatment. For example, Hoglend (2003) found that patients needed an average of 30–35 sessions to establish stable characterological changes. In their review of the Sheffield psychotherapy projects, Shapiro *et al.* (2003) noted that 'over 65% of patients had recovered with respect to acute symptoms after some 14 sessions, whereas fewer than 40% had recovered with respect to characterological symptoms at this time' (p. 219).

Ultimately, these results raise questions about the relative sensitivity of the pervasiveness methodology if significant change is only detectable subsequent to a substantial number of sessions (e.g. greater than 15). With typical treatment durations being significantly curtailed by managed care and third-party payers, the present data suggest that the pervasiveness methodology would only be useful for the subset of clients receiving treatments of longer durations and that are primarily focused on characterological versus symptomatic change.

Is theme pervasiveness significantly related to symptomatic change in brief therapy?

As described above, a number of studies have suggested that changes in theme pervasiveness coincide with symptomatic change. Does this also remain true in a brief therapy paradigm? When the present researchers compared changes in theme pervasiveness and simple pre-post change on the SCL-90-R the results were uniformly non-significant. These findings are inconsistent with Crits-Christoph and Luborsky who identified significant correlations between changes in theme pervasiveness and symptomatic improvement on the HCL.

The within-group comparisons across the clinical significance outcome groups are also informative. It was predicted that the no-changers would not experience significant changes in theme pervasiveness from the early to late sessions and that improvers would. As expected, no-changers did not experience significant changes in theme pervasiveness on any of the CCRT components. However, among the improvers, significant changes in theme pervasiveness were only found in one CCRT component. A significant increase in the pervasiveness of positive response of others (PRO) was identified ($M_{\text{early}} = 24.50$ versus $M_{\text{late}} = 43.50$). This indicates that improvers tended to report more positive and supportive interactions with other individuals subsequent to their participation in treatment. PRO was also the only CCRT component that differed significantly in the between-groups analyses of the late observation. While definitive causal conclusions are impossible, these results imply that as patients' symptoms improve they may be able to interact more effectively with others, resulting in an increase in positive interactions with others. Additionally, as others recognize symptomatic changes in an individual they may be disposed to view the individual in a more favourable light.

What conclusions can be drawn from these data? Changes in pervasiveness, with the exception of PRO, do not appear to be meaningfully related to symptomatic change in brief treatment. The fact that the present study failed to find a significant relationship between a conservative measure of symptomatic change (e.g. Jacobson and Truax's clinical significance) and change in CCRT pervasiveness has a number of interesting implications. The finding that changes in theme pervasiveness are unique to symptomatic change does not impugn the value of the methodology. In fact, providing an alternative to symptom checklists like the SCL-90-R was ostensibly one of the aims of the methodology in the first place. 'The correlations between the CCRT change and symptom change were not so high, however, as to suggest that changes in the CCRT is redundant with change on symptom inventories. Our data indicate that change in the CCRT provides reliable extra information that is not captured by symptom inventories or clinician ratings' (Crits-Christoph & Luborsky, 1990, p.144). Furthermore, dynamically-oriented therapists are more likely to judge outcome based on significant intra and interpersonal changes rather than the alleviation of symptoms alone. At the end of the day, the present investigators are left concluding that the relative independence of symptomatic improvement and thematic changes may be the most compelling reason to endorse the methodology for longer treatment durations.

Implications for psychotherapy outcome research

Several studies have suggested the possible utility of the CCRT pervasiveness methodology as a psychodynamically oriented outcome evaluation strategy. The results of the present study indicate that (1) the pervasiveness methodology may have limited

usefulness in the brief treatment paradigms so common to contemporary clinical practice, (2) with the exception of positive response of other (PRO), changes in theme pervasiveness do not appear to be meaningfully related to symptomatic changes.

While these findings suggest that the pervasiveness methodology may be of limited relative usefulness in a brief treatment paradigm, they may have relevance in a broader perspective. Without doubt, measures of symptomatic improvement have been the paramour of outcome researchers for decades. Evaluations of treatment effects have indicated significant symptomatic changes with increasingly fewer numbers of sessions (Lunnen & Ogles, 1998; Hanson, Lambert, & Forman, 2002; Copeland, Swift, Roffman, & Stevens, 2001). These findings have fortified arguments that 'more is not necessarily better' when it comes to psychotherapy. Insurance companies, managed care organizations, and other third party payers have used these arguments (rightly or wrongly) to significantly curtail access to psychotherapeutic services. However, an underlying premise to these arguments – that symptomatic improvements are the best way to conceptualize outcome – is not necessarily tenable. Shapiro *et al.* (2003) argue that 'The dose-response and phase models propose that treatment response is negatively accelerated. In terms of cost-efficient service design, this suggestion of diminishing returns with longer treatment has the important implication that relatively strict time limits would be desirable. However, that implication is open to challenge' (p. 219). These 'diminished returns' may only represent decreased symptomatic changes following the early stages of therapy. Alternative markers of change, such as the pervasiveness methodology, may ultimately provide compelling evidence for meaningful treatment effects beyond the accelerated portion of the dose-response curve.

Future research should explore ways of improving the utility of the pervasiveness methodology. For example, the present researchers applaud the work of Cierpka *et al.* (1998), who evaluated not only pervasiveness, but provided a methodology to consider theme dispersion and flexibility. Additionally, further investigations should explore changes in theme pervasiveness for positive response of other (PRO). Why does this theme seem to change more quickly than others and is it a precursor to further thematic changes?

The CCRT pervasiveness methodology provides an intriguing alternative method for measuring outcome for dynamically-based interventions. While the present results do not broadly support its use for treatments of brief duration, the CCRT pervasiveness methodology may provide a unique and valuable alternative for process-outcome evaluations for longer treatment durations.

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