Running Head: Comparisons of CBT Competency

Title: Cognitive Behavioral Therapy Competency: Pilot Data from a Comparison of Multiple Perspectives

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Abstract

Background: Measurement of cognitive behavioral therapy competency is often resource intensive. A popular emerging alternative to independent observers ratings is to use other perspectives for rating competency.

Aims: This pilot study compared ratings of CBT competency from four perspectives – patient, therapist, supervisor, and independent observer using the Cognitive Therapy Scale (CTS).

Method: Patients (n=12, 75% female, mean age 30.5) and therapists (n=5, female, mean age 26.6) completed the CTS after therapy sessions and clinical supervisor and independent observers rated recordings of the same session.

Results: Analyses revealed therapist average CTS competency ratings were not different from supervisor ratings and supervisor ratings were not different from independent observer ratings; however, therapist ratings were higher than independent observer ratings and patient ratings were higher than all other raters.

Conclusions: Raters differed in their competency ratings. Implications for potential use and adaptation of CBT competency measurement methods to enhance training and implementation are discussed.

Keywords: Cognitive behavioral therapy, competence ratings

Cognitive Behavioral Therapy Competency: Pilot Data from a Comparison of Multiple Perspectives

Measurement of cognitive behavioral therapy (CBT) competency is designed to reveal how well therapists deliver CBT, the results of which can serve many important functions in research and clinical training contexts (Simons, Rozek, & Serrano, 2013). For instance, competency measurement is a valuable tool for ensuring fidelity to treatment in the context of randomized controlled trials. the results of competency measurement also serves as a guide for supervisors to help therapists strengthen their CBT skills by identifying a therapist’s shortcomings that can be targeted in supervision to enhance the quality of treatment being delivered (Lewis, Scott, & Hendricks, 2014). Competency measurement has the potential to optimize training and dissemination of CBT across a variety of settings.

Competency measurement methods often rely on objective raters, or independent observers, not involved in clinical sessions to conduct evaluations through audio or video recordings (Falender & Shafranske, 2010; Muse & McManus, 2013). Objective raters are usually blind to treatment outcomes allowing the evaluation to focus on therapist competence independent of the treatment plan and progress. However, this approach may inflate or deflate ratings, as objective raters may not account for treatment plans, progress, as well as other context clues (e.g., therapist training level, patient risk factors). Moreover, it is often not feasible to use independent observers in community settings with limited resources (e.g., equipment, money) and practical issues (e.g., time constraints; Fixsen, Naoom, Blasé, Friedman, & Wallace, 2005). As a result, more efficient methods for assessing CBT competence are being explored.

An alternative approach to enhancing competency evaluation accessibility is to garner the perspectives of clinical supervisors, therapists, and patients in lieu of objective raters (Muse & McManus, 2013). Supervisors may be especially well qualified to evaluate therapist competency as they have a strong understanding of important contextual factors including therapist variables (e.g., therapist background/skills) and patient variables (e.g., treatment plan targets). This added context may allow supervisors to more accurately evaluate therapists’ abilities (Muse & McManus, 2013). Alternatively, this information may produce demand characteristics that could inflate competency ratings. Additionally, supervisors are often involved with treatment planning, especially with less experienced trainees, likely leading to overestimations of perceived competency scores.

Therapists’ self-reported competency has potential benefits including that therapists do not need to review recorded therapy sessions before rating competency and it encourages the therapist to reflect on the session, identify personal knowledge and skill limitations (Bennett-Levy, McManus, Westling, & Fennell, 2009), and seek training opportunities to promote skill growth. However, research suggests therapists have difficulty evaluating their own competence (Brosan, Reynolds, & Moore, 2008), particularly when they have yet to develop skills in a specific intervention (Mathieson, Barnfield, & Beaumont, 2009). Indeed, therapists often either over- or under-estimate their own competency compared to supervisor or independent observer ratings (Mathieson, Barnfield, & Beaumont, 2009; McManus et al., 2012).

Utilizing patients’ perspectives is another option for measuring CBT competency, which may reduce the burden associated with competency ratings as patients, like therapists, can complete the ratings immediately following the session. However, patients’ limited CBT knowledge may impact ratings as they may have difficulty both understanding specific CBT components and rating the competency of their therapist (Wright et al., 2002). Patients may also experience bias in their rating of competency due to their therapeutic relationship and perceived implications that ratings may have for continued treatment (Muse & McManus, 2013).

In summary, each rating perspective has potential strengths and weaknesses (Muse & McManus, 2013). Insight into the relations among these perspectives is important for understanding how competency measurement methods could enhance CBT training in settings with limited resources. For example, if therapist and patient competency ratings agree with those of objective raters or supervisors, more resource-intensive competency evaluation methods may not be necessary. In contrast, if objective rater, supervisor, therapist, and patient ratings fail to agree, alternative methods may be required for the feasible evaluation of CBT competency.

**Previous Research Comparing Competency Ratings**

Studies evaluating differences between rater perspectives of therapist competency have been largely equivocal in nature. Previously, research has shown that therapist ratings of competency are higher than independent observer ratings and greater discrepancies were found in less competent therapists (Brosan, Reynolds, & Moore 2008). Specifically, less competent therapists had difficulty rating their interpersonal effectiveness and competence in specific CBT techniques. Similarly, McManus and colleagues (2012) investigated therapists’ ratings of competency compared to supervisor ratings with results indicating that therapists had significantly lower mean competency scores than supervisors. In follow-up analyses, less competent therapists did not significantly differ in their mean ratings compared to their supervisors and more competent therapists significantly under-estimated their competence compared to their supervisors. This pattern differs from the previous work and suggests that objective raters’ and supervisors’ ratings in relation to therapists’ self-reported competency ratings may differ. Additionally, only one study has examined patient ratings on competency compared to supervisor ratings with results indicating no correlation between overall competency ratings (Kuyken & Tsivrikos, 2009)

**The Present Study**

In summary, few studies have examined multiple perspectives (i.e., independent observer, supervisor, therapists, and patient) of competency evaluation, and there is limited consensus regarding optimal competency measures and methods (e.g., Mathieson et al., 2009). Additionally, none of these studies examined all four rater perspectives. Therefore, the aim of the current study was to collect exploratory pilot data to replicate and build on previous studies by comparing ratings of therapists’ competency from four different perspectives to determine their degree of alignment. Understanding how these perspectives align will help determine if competency measurement methods that require fewer resources can be adopted to increase the likelihood of utilization in the context of enhancing training and implementation of CBT.

**Method**

**Participants and Raters**

Patients were recruited at a psychology training clinic and treatment was open to both students and community members. All procedures were approved by the university’s Institutional Review Board. Patients (*n* = 12) were mainly female (75%), Caucasian (75%), with a mean age of 30.5 (*SD* = 13.05), and primary presenting problems included major depressive disorder (58.3%) and/or various anxiety disorders (41.7%).

Five trainee therapists enrolled in the university’s CBT practicum participated in the study. The trainee therapists were in their 4th-6th year of doctoral training. The sample of therapists was entirely female and primarily Caucasian (*n* = 3, 60%), with an average age of 26.6 (*SD* = 1.34) years. Prior to enrolling in the CBT training practicum, four therapists (80%) had exposure to CBT through reading CBT research articles and two therapists (40%) had attended a CBT workshop. Therapists were recruited to participate before beginning their CBT practicum course experience.

Objective raters consisted of two CBT experts, one advanced doctoral student, and two bachelor-level research assistants. The objective raters had over 30 years of combined experience in CBT and received more than 25 hours of training together on the Cognitive Therapy Rating Scale (CTS). Inter-rater reliability has been found to be variable for the CTS (Muse & McManus, 2013) and the current study adopted a group consensus rating approach, where the group of observers together determined the score for each item together rather than individually (Simons et al., 2010). The current observer group was led by the senior CBT researchers to provide the less experienced raters with training and support to make valid ratings (Weck et al., 2011). The supervisor was a licensed psychologist with over eight years of CBT experience. Objective raters and the supervisor rater conducted CTS training together; however, the supervisor rated sessions independently from the objective raters.

**Measures**

**Cognitive Therapy Scale (CTS; Young & Beck, 1980).** TheCTS is an 11-item measure of CBT skill competency using a 7-point response format ranging from 0 – poor to 6 – excellent. As the CTS was originally intended for use by independent raters, the researchers adapted the wording of the CTS (with permission from Dr. Aaron T. Beck) to create two additional versions of the CTS: one designed for therapists to rate their own competence and another designed for patients to rate their therapists’ competence. The adaptations of the CTS included the same item content and retained the 7-point response format of the original CTS; only the wording of the level anchor descriptors and the instructions were changed as significant changes to wording would have made it difficult to determine if differences were due to wording changes or different perspectives.

**Procedure**

Ratings were obtained from four perspectives: 1) objective raters, 2) supervisor, 3) therapists, and 4) patients. Ratings were made for the only the second session of treatment for each patient as it is the first standard, non-introductory session where CBT content would be introduced and the therapist’s strategy for change could be assessed.

Therapists were administered the therapist-adapted version of the CTS on an electronic tablet immediately following session two of therapy. Patients similarly completed the patient-adapted version of the CTS on an electronic tablet after session two of therapy. Research personnel informed patients that their responses would not be viewed by their therapists and would be sent to researchers at another university to avoid response biases. Patients and therapists had no additional training on the use of the CTS.

**Data Analysis**

 Analysis of variance (ANOVA) was conducted on overall CTS scores. Two multivariate analyses of variance (MANOVAs) were conducted to test for differences between raters for the 11 individual items. If any of the overall ANOVA/MANOVAs revealed significant differences between mean ratings, univariate tests were conducted to determine the direction of the differences. Scheffe’s procedure was used for post hoc analyses, allowing for contrasting of two or more means (Scheffe, 1956).

**Results**

**Descriptive Statistics**. Table 1 lists the descriptive statistics for each CTS item as well as the total scale score. With the exception of two items, the order of mean ratings was consistent: Patient > Therapist > Supervisor > Objective. Of note, the full range of the CTS scale was not utilized by raters (e.g., no 0s were given). Observed power was calculated as .98 or higher for all analyses.

**Total scale score.** ANOVA conducted on CTS total scale score revealed that there were significant differences: *F* (3, 44) = 45.24, *p* < .001. Post hoc results indicated supervisor scores did not differ significantly from objective raters’ scores; therapist scores did not differ significantly from supervisor scores. All other means were significantly different (see Table 1).

**Item-level analyses.** MANOVA conducted on the individual items showed a statistically significant difference among raters, *F* (33, 100) = 4.40, *p* < .001; Wilk's Λ = 0.072, partial η2 = .583. Univariate analyses using Scheffe’s procedure are presented in Table 2. Finally, post hoc analyses were conducted, and those results are presented in Table 1.

**Discussion**

The aim of this pilot study was to compare CBT competency ratings obtained from four different perspectives (i.e., objective, supervisor, therapist, patient). The results for average CTS competency demonstrated therapist ratings were not significantly different from supervisor ratings and supervisor ratings were not significantly different from independent observer ratings; however, therapist ratings were significantly higher than independent observer ratings and patient ratings were significantly higher than all other raters. These results indicate different raters have varying perceptions of CBT competency and using less resource intensive raters (i.e., therapists or patients), may not be a viable option for the CTS. Given the lack of agreement of ratings by different perspectives, should one be given privilege over the others? This poses a difficult question as each perspective may be providing different but useful information for all competency measures used.

Independent raters bring a level of expertise and objective rating without the potential biases that may influence supervisors. This creates a more “clean” rating of sessions, however, it may not be indicative of “true” competency. Contextual factors available to supervisors such as knowing more about the treatment plan and working with the trainee provides information that likely affects competency ratings. The overlap of supervisors and objective raters in this study suggest that they share expertise, but there are some differences as the supervisor did not significantly differ than the therapist as well. This provides data suggesting these other factors likely impact the supervisor ratings and should be further explored. Although supervisors did not significantly differ than objective raters and this suggests that supervisor ratings can be used as “proxies” for independent observer ratings, it may be important to have independent observers and supervisors first rate a subset of tapes together to establish agreement and assure proper training for the competency measure (e.g., therapists’ likability; Muse & McManus, 2013). Additionally, it is important to note that supervisor and independent observer ratings have inherent obstacles (e.g., recording, time), making it difficult to use these widely.

Therapist self-ratings of competence were significantly higher than independent observer ratings but did not significantly differ than their supervisor’s ratings. Therapists’ ratings may provide information about their concurrent training with the supervisor and may differ from that of the CBT training of the independent observers. Therapists’ training often includes weekly supervision and collaboration in developing the treatment plan with their supervisor, which may increase their ratings of therapist competency. Self-ratings may provide information on where additional supervision is needed in both areas that are identified by therapists lower in competency and the discrepancies between supervisor and therapist ratings.

Patients rated all therapists as relatively competent and significantly higher than all other raters. There are several possible explanations for this including that patients typically have no formal training in competency measure ratings or in CBT and therefore may not have a clear understanding on how to rate items. Alternatively, patients may have a lower threshold for rating a therapist competence. However, patient ratings may provide useful information for a therapist to gain additional feedback such as areas the patient may not see going as well or what parts of CBT the patient finds helpful. These could be used to check understanding of techniques taught to patients. Monitoring patient ratings of competency may provide helpful feedback, similar to symptom monitoring, and may be used to modify and enhance treatment plans.

Different rater perspectives may provide additional useful information, however, current competency ratings may not fully measure what they intend to measure. This presents another problem to the field – are there other methods to better measure competency than the measures currently used (e.g., CTS, CTS-R, etc.)? One initial approach to addressing the measurement of competency may be creating new measures starting with assessing adherence to CBT or whether or not the clinician is utilizing specific components prescribed by CBT; for example, did the therapist use a thought record or did the therapist assign homework? A measure focusing on the technical components (behavior-based items) of CBT (e.g., thought records) might yield more accurate and reliable results as it is easier to report if certain skills were used in a session rather than how well they implemented these skills (e.g., Hogue et al., 2008). In fact, measures that focus on the behaviors rather than the quality of behaviors have been reliably applied in both expert raters and undergraduate raters (e.g., Webb, DeRubeis, & Barber, 2013). Once the behaviors used in session are identified, supervisors could rate the competency of these behaviors based on role-playing scenarios (Muse & McManus, 2015). Using therapist reported behaviors followed by competency based role-plays, supervisors can still use the available contextual information. This also allows supervisors to rate if these techniques are used appropriately while reducing overall time required to assess competency.

A second method to promote reliable ratings is to increase specificity in the CTS (Shaw et al., 1999; Whisman, 1993). Anchors used in the CTS are often broad, which can lead to imprecision and decreased reliability (Clark & Watson, 1995). Additionally, some items in the CTS ask for ratings of more than one therapist behavior making it difficult to determine which anchor to rate a therapist if they achieved some of the components competently but did not or had difficulty applying the other components. Future research may focus on revising the CTS to create less ambiguous anchors, reducing rating multiple components in one item and not depending on the rater to make inferences about the therapist’s actions and treatment plan. If new measures of competency can be created that are more reliable, they can be used to help disseminate and implement CBT easier.

In fact, recent research has started this process by addressing the limitations of the CTS by providing behavior based anchors, updating the areas of competency based on up to date research, and reducing the amount of inferences used by assessors (Muse, McManus, Rakovshik, & Thwaites, 2017). The Assessment of Core CBT Skills (ACCS) shows initial promise in addressing problems with the CTS and has potential to be used by the therapists themselves, reducing the resources needed for competency measure. Future research should continue to work on validating and refining competency measures like the ACCS that are less resource intensive in order to enhance training and, in turn, increase accessibility to empirically based treatments allowing for better patient outcomes.

**Limitations**

 While the current study has a number of strengths (e.g., four rater perspectives within the same study, using the same rating scale, etc.), there are several noteworthy limitations. Primarily, this was a pilot sample and consisted of a small number of therapists and patients, which may present a problem with the power to detect small differences. Although observed power was .98, future research on the CTS or other competency measures may benefit from larger sample sizes in order to detect small differences. This pilot data provides initial data suggesting that overall there are differences in raters and that the feasibility of using the CTS in this modified manner is likely not the solution to reducing resources needed for competency ratings. Second, the therapists were trainees and therefore findings may not generalize to more experienced therapists. However, use of competency ratings for training purposes often occurs and this sample is informative for this purpose. Third, patients in this study also varied in diagnosis, which may affect how competency was rated; however, this is more generalizable to what is seen in community settings. Fourth, the independent observer group ranged in experience with CBT. However, the consensus format where the observer group rated items in a discussion fashion allows for a more thorough examination of each item where there may be disagreement on (Simons et al., 2013). Future research may use a more traditional use of observer ratings by having a single independent observer; however, given there were multiple experts in the group, it is likely the scores may reflect a more balanced score with reduced bias of any one rater. Additionally, future research should focus on rating several sessions for each therapists and patient dyad to have a more comprehensive view of competency rather than a one-time snapshot.

Another limitation of the current study is that the supervisor of the current study trained on the CTS with the objective raters. This introduces a third variable that may explain why the supervisor did not significantly differ than with the objective observer. Additionally, the supervisor and observers rated therapist competency after the end of treatment and knew the treatment outcome, which may have affected competency ratings. Given that the therapy was rated at different times (i.e., immediately after therapy vs. later) may also have impacted ratings more than just which group the individuals belonged to. Ideally ratings would happen as sessions occur as this would ensure the raters are not informed by other information (e.g., patient outcome). Unfortunately, this is something that may not be possible in many clinics due to time restraints and may actually impact ratings more than known. Therapists and patients were not trained on the CTS, which may have had an impact on their ratings as well. Overall, these pilot data provide preliminary insight into issues with current competency rating systems.

**Conclusion**

In conclusion, this study adds to the growing literature investigating CBT competency measures. Results showed that ratings of therapists’ competency differed. Although the current study used the CTS, many of the criticism exists for related and revised versions of competency measures used in CBT training. Future research is needed to examine if differing views of competency can provide useful information for training and if new competency measures or methods (e.g., ACCS) can be developed and fine-tuned to increase reliability in order to enhance training of new CBT therapists. If new measures of competency can be created that are more reliable, they can be used to improve training and dissemination of CBT**References**

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*Table 1: Descriptive Statistics and MANOVA Post-Hoc Test Results for the Cognitive Therapy Scale (CTS) by Rater*

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | *M* | *SD* | *Range* |  |  |  | *M* | *SD* | *Range* |
| **Total Scale** | PatientTherapist s Supervisor t,oObjective s | 57.642.436.332.4 | 5.06.06.74.9 | 50-6633-5226-4422-39 |  | **Item 6** **(Pacing)**  | Patient tTherapist p,s,oSupervisor t,oObjective t,s | 4.63.52.62.8 | 1.41.01.00.7 | 2-62-51-52-4 |
| **Item 1** **(Agenda)** | PatientTherapistSupervisor oObjective s | 5.33.72.72.7 | 1.00.80.70.5 | 3-63-52-42-3 |  | **Item 7** **(Guided Discovery)** | PatientTherapist s,oSupervisor t,oObjective t,s | 5.13.22.82.7 | 0.90.40.70.9 | 4-63-42-41-4 |
| **Item 2 (Feedback)** | PatientTherapist sSupervisor t,oObjective s  | 5.23.93.42.7 | 0.71.01.10.8 | 4-62-62-52-4 |  | **Item 8** **(Focus on Key Cognitions & Behaviors)** | PatientTherapist s,oSupervisor t,oObjective t,s | 5.33.93.63.1 | 0.90.80.91.0 | 4-62-52-51-4 |
| **Item 3 (Understanding)** | PatientTherapist s,oSupervisor t,oObjective t,s | 5.33.73.33.0 | 0.80.80.90.4 | 4-62-52-52-4 |  | **Item 9** **(Strategy for Change)** | Patient tTherapist p,s,oSupervisor t,oObjective t,s | 4.94.02.93.3 | 1.11.11.10.8 | 3-62-62-52-4 |
| **Item 4 (Interpersonal Effectiveness)** | PatientTherapist sSupervisor tObjective  | 5.54.54.13.3 | 0.70.70.80.5 | 4-64-63-63-4 |  | **Item 10 (Application of CBT Techniques)** | PatientTherapist sSupervisor t,oObjective s  | 5.44.03.52.8 | 0.80.90.70.7 | 4-63-52-41-4 |
| **Item 5 (Collaboration)** | PatientTherapist sSupervisor t,oObjective s | 5.53.93.72.9 | 0.80.81.10.7 | 4-63-52-52-4 |  | **Item 11 (Homework)** | PatientTherapist s,oSupervisor t,oObjective t,s | 5.54.23.63.2 | 0.90.71.30.7 | 4-63-52-62-4 |
|  |  |  |  |  |

*Note.* p mean did not significantly differ than with patient mean; t mean did not significantly differ than with therapist mean; s mean did not significantly differ than with supervisor mean; o mean did not significantly differ than with objective mean. All other means were significantly different at *p* < .05.

*Table 2: Item-level univariate analysis of the effect of rater on each item of the Cognitive Therapy Scale (CTS)*

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | *Type III Sum of Squares* | *df* | *Mean Square* | *F* | *p* | *Partial Eta Squared* |
| **Item 1 (Agenda)** | 57.0 | 3 | 19.0 | 33.9 | < .001 | .70 |
| **Item 2 (Feedback)** | 39.8 | 3 | 13.3 | 16.1 | < .001 | .52 |
| **Item 3 (Understanding)** | 38.7 | 3 | 12.9 | 23.6 | < .001 | .62 |
| **Item 4 (Interpersonal Effectiveness)** | 31.5 | 3 | 10.5 | 24.1 | < .001 | .62 |
| **Item 5 (Collaboration)** | 42.5 | 3 | 14.2 | 19.8 | < .001 | .57 |
| **Item 6 (Pacing)** | 27.2 | 3 | 9.1 | 8.0 | < .001 | .35 |
| **Item 7 (Guided Discovery)** | 44.9 | 3 | 15.0 | 26.4 | < .001 | .64 |
| **Item 8 (Focus on Key Cognitions & Behaviors)** | 30.9 | 3 | 10.3 | 13.0 | < .001 | .47 |
| **Item 9 (Strategy for Change)** | 27.4 | 3 | 9.1 | 8.7 | < .001 | .37 |
| **Item 10 (Application of CBT Techniques)** | 43.2 | 3 | 14.4 | 24.8 | < .001 | .63 |
| **Item 11(Homework)** | 37.2 | 3 | 12.4 | 13.9 | < .001 | .49 |

*Figure 1.* Average CTS ratings across raters.