Reflective functioning (RF), as conceptualized by Fonagy (1991; Fonagy and Target 1997), is the capacity to make sense of what might be expectable transactional behavior between people based on their motivations, affective states, or developmental stages. The term is a concise way of referring to a patient’s process of thinking about his own thoughts, feelings, and behavior. RF is an ego capacity that may or may not improve with psychodynamic psychotherapy as patients internalize the therapist’s mode of thinking. As patients’ predominant defenses change from projecting or externalizing conflicts to assessments that are more realistic, one would expect reflective capacity to improve. An important research question is, Does RF improve as a result of symptomatic change, or is improved RF necessary for that change to occur? Do patients with greater reflective capacity do better in
psychotherapies in general? Broader utilization of this set of measures in standard clinical trials will help unravel this.

Limited data have been accumulated in this regard. Levy et al. (2006), in a randomized controlled trial (RCT) of 90 patients with borderline personality disorder treated either with dialectical behavioral therapy (DBT), transference-focused psychotherapy (TFP), or supportive psychotherapy (ST), found significantly greater change in RF in the TFP condition relative to the other groups.

Bouchard et al. (2008) have demonstrated that low RF scores on 73 Adult Attachment Interviews predicted the presence of Axis I or II disorders. Does an increase in RF then correlate with a diminution of Axis I symptomatology? A cogent research strategy might examine changes in patients’ reflective capacities over the course of psychotherapeutic or psychopharmacological treatments geared to specific Axis I or II disorders. Do improvements in RF precede symptomatic improvement? Does an improvement in reflective capacity follow symptomatic change, and thus not mediate it, yet nonetheless contribute to overall improvement or to relapse prevention on follow-up? (see Figure 1).

Psychodynamic psychotherapies tested in randomized controlled trials are usually symptom- or diagnosis-specific, focused on helping patients understand the psychological underpinnings of their illness. In an effort to refine the RF measure to look specifically at individuals’ reflective capacities about their personal symptomatic affective experience, we developed symptom-specific RF measures. Within brief dynamic therapies, it is most likely that reflective changes will center on this aspect of patients’ mental lives.
Mediators, Treatment elements essential to effect clinical change in the therapy. Potential mediators are measured before the therapy, within the therapy yet before symptomatic changes are anticipated, and at termination. Changes in the potential mediator are assessed in relation to changes in the primary outcome measure (psychiatric symptoms). To be found a true mediator, a variable must change consistently before symptomatic improvement occurs, and symptomatic improvement cannot occur without change in the mediator.

Moderators. Patient pre-treatment attributes that affect degree of response (as tracked by the primary outcome measure) to a specific therapy. Potential moderators are measured before treatment. Presence or absence of the moderator variable significantly predicts degree of response to the therapy, either positively or negatively.

All mediator and moderator studies are viewed as preliminary data for the design of future studies, not as constituting a level of evidence that without further evaluation could permit treatment recommendations (Kraemer et al. 2002)

Studies of Symptom-Specific RF

Panic disorder. A measure of symptom-specific RF was piloted (Rudden et al. 2006) within a randomized controlled trial (Milrod et al. 2007) of panic-focused psychodynamic psychotherapy (PFPP; Milrod et al. 1997), as compared with applied relaxation therapy (ART; Cerney, Vermilyea, and Barlow 1984). The scale, based on the RF scoring system, is scored from a brief, semistructured interview. Though the sample was quite small since the pilot study began during year 2 of the RCT (N = 26; PFPP cell, n = 18; ART, n = 8), there were promising findings. The panic-specific RF scale (PSRF) was found to be reliable (20 interviews, 2 raters, ICC = 0.86), and PSRF improved significantly in the psychodynamic therapy group (Z = -2.116, p = .03), while it worsened after ART (Z = -12.04, p = .04). Between –group difference post-treatment was quite
significant ($Z=-2.75$, $p=.006$). PSRF is now being tested as a potential mediator of psychodynamic change in a two-site RCT of PFPP, ART, and cognitive-behavior therapy (CBT); Barbara Milrod and Jacques Barber, co-PIs. RF is being tested as a moderator of PFPP (Figure 2).

**Posttraumatic stress disorder.** Kevin Meehan has adapted symptom-specific RF to an RCT comparing Interpersonal Psychotherapy (IPT; Weissman, Markowitz, and Klerman 2000), Prolonged Exposure (PE; Foa and Robinson 1998), and Relaxation Therapy (Taylor et al. 2003) for patients with chronic PTSD. IPT is a promising non-exposure-based approach to treating PTSD that focuses on using affective understanding to rebuild relationships and gather social support. Attachment and social supports have emerged as key factors in PTSD risk and treatment (Brewin, Andrews, and Valentine 2000; Safran and Muran 2000), yet the mechanisms of change in IPT and other PTSD interventions have yet to receive broad investigation. Because IPT for PTSD focuses on helping patients reflect on the thoughts, feelings, and intentions of others affected by patients’ symptomatology and to improve interpersonal relationships, we hypothesize that IPT will increase patients' RF. We hypothesize also that increased general and symptom-specific RF will mediate symptomatic improvement in IPT. RF is not expected to change meaningfully in the PE and Relaxation conditions.

**Depression.** Fredrik Falkenström has adapted symptom-specific RF to his ongoing RCT of depression treatments. The study compares two psychotherapies based on interpersonal theory—IPT, and brief relational therapy (BRT; Brewin, Andrews, and
Valentine 2000)—that differ in focus. While IPT focuses on interpersonal problems, BRT has a psychodynamic underpinning focused on processes of rupture and resolution of the therapeutic alliance. Depression-specific RF and general RF are being compared as potential moderators and as measures of psychodynamic change for each treatment modality.

---

**Figure 2. Ongoing Studies Using Symptom-Specific RF**

**Panic Disorder**

RCT (NIMHR01 MH070918) of PFPP, CBT and ART, 2 sites: Jacques Barber, Barbara Milrod, PIs. Projected sample: 233 subjects, randomized in a 2:2:1 allocation ratio: PFPP:CBT:ART.

Reliability of revised interview: (20 interviews, 3 raters) ICC = 0.85. Evaluating RF, PSRF at three time intervals (weeks 0, 5, and 12) to test mediator status. RF will also be tested as a moderator for response to PFPP.

**PTSD**

RCT (NIMH R01 MH079078) of IPT, PE, and relaxation therapy for 145 patients with PTSD. PI: John C. Markowitz, New York State Psychiatric Institute.

Data analysis is planned to evaluate symptom-specific RF at three time intervals (weeks 0, 4, and 14) to test mediator status.

**MDD**

RCT of IPT vs. BRT for MDD. PIs: Fredrik Falkenström and Rolf Holmqvist, Linköping University, Sweden.

Patients randomized to either IPT or BRT will be scored for RF and symptom-specific RF before treatment, at termination and at follow-up one and two years after termination. RF and symptom-specific RF will be evaluated as moderators and as mechanisms of change in the treatments.
Discussion

There are several advantages in using symptom-specific RF measures in psychotherapy outcome studies.

1. Symptom-specific RF makes it possible to import a well-researched, reliable, and valid set of psychoanalytic measures for a developmentally derived ego capacity, RF, to standard outcome research methodology. While assessing a subject’s capacity to reflect on his or her psychological processes as they connect to a particular symptom, it nonetheless maintains the complexity of the original RF concept.

2. Symptom-specific RF corrects for the tendency of general RF to measure a subject’s reflections on the motivations and behavior of others more accurately than one’s own (Safran and Muran 2000).

3. Symptom-specific RF is scored from a brief, easily administered interview, facilitating its incorporation into RCTs.

4. The PSRF measure has been shown to have excellent interrater reliability in two different settings.

5. In the pilot PSRF study significant PSRF improvements were noted in the PFPP group.

6. Symptom-specific RF can easily be used with the revised brief RF interview (Rudden et al. 2006).

Despite these advantages of symptom-specific RF, however, there are disadvantages to its use.

1. In the pilot PSRF study, no correlation was found between changes in the primary outcome measure, the Panic Disorder Severity Scale (PDSS; Shear et al. 1997)
and changes in PSRF after PFPP ($\rho = -.03, p = .29$). The sample was likely too small to accurately measure this.

2. Because of the small sample in the pilot study, rigorous psychometrics gauging the validity of the measure have not been performed.

Conclusion

Symptom-specific RF is a measure of psychological change currently being studied as a potential mediator, as a potential moderator, and as a correlate of symptomatic change in three RCTs. These measures are based on the concepts, scale, and scoring system for reflective functioning, which have been extensively researched and validated, and can be scored with excellent interrater reliability. The centrality of symptom-specific RF in the domain of standard psychotherapy research remains to be determined.

REFERENCES


Clinical Psychology 68:748-766.


Marie G. Rudden

[P.O. Box 5AU: STREET ADDRESS]

West Stockbridge, MA [AU: ZIP CODE]

E-mail: mgrudden@gmail.com