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Sule Ozler
 944 9th Street #5
 Santa Monica, CA 90403
 E-mail: suleozler@econ.ucla.edu

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RELIABILITY OF A MULTIDIMENSIONAL MEASURE FOR SCORING REFLECTIVE FUNCTION

Lindsay L. Hill (Pennsylvania State University), Kenneth N. Levy (Pennsylvania State University; Weill Cornell Medical College), Kevin B. Meehan, and Joseph S. Reynoso (The Graduate School and University Center, City University of New York)

How people understand their own minds and those of others has long been of interest to philosophers, psychoanalysts, neuroscientists, and theologians. Drawing on philosophy of mind and object relations and attachment theory, Peter Fonagy and colleagues (1998) coined the term *reflective function* (RF) to denote an individual's capacity to mentalize (or reflect upon) the thoughts, feelings, intentions, and desires of self and others. This capacity is developed in childhood and is dependent on the quality of interpersonal interactions with caregivers.

Fonagy proposed that RF relates to a range of outcomes, from parenting to relationship functioning to resilience during stressful

situations. To test his theory, he developed a scale to assess various aspects of reflective function (e.g., understanding a developmental perspective, understanding the opaqueness of mental states, and the possible defensive nature of mental states). Consistent with his theory, Fonagy and colleagues (1995) found that caregiver RF predicted babies' functioning in a laboratory procedure. That is, insecurely attached parents with high RF were more likely to have securely attached babies than insecurely attached parents with low RF.

In a later study, Fonagy and colleagues (1996) found that among psychiatric patients reporting abuse, those who scored low on RF were more likely to be diagnosed with Borderline Personality Disorder (BPD) compared to those who were abused but scored high on RF. This research opened the door for the possibility of high RF acting as a buffer against the development of BPD in persons with a history of abuse.

Subsequent clinical research using this scale has found that RF can improve during the course of psychotherapy even for severely disturbed outpatients with personality disorders (Levy et al. 2006). Levy and colleagues (2005) have presented findings indicating that RF is related to a number of neurocognitive mechanisms, including attentional capacities, executive functioning, and impulsivity. These neurocognitive capacities are central to the difficulties experienced by people with personality disorders.

As important and beneficial as the RF concept has been for understanding a wide range of significant outcomes, research in this area has been hampered by limitations in the current scale. These problems include both scientific and economic issues. Fonagy's RF scale was designed to be used in conjunction with the Adult Attachment Interview (George, Kaplan, and Main 1996), which must be audio-recorded and transcribed verbatim in order to use this coding system. These transcriptions typically take from six to eight hours per interview to complete; as a result, it may take up to several weeks for feedback on the subject's reflective capacities. Dependence on this interview thus prevents the coding system from being applied to a wider range of observations. Psychotherapists and process researchers alike could benefit from an RF measure that can be used within sessions.

Besides being cumbersome, the rating scale is designed to provide only a single score, which limits our understanding of the complexity of RF and our capacity to examine the psychometrics of the measure

(e.g., the factor structure). To increase the validity of this important construct, a more differentiated measure of RF is needed.

Development of a New Rating System

To meet this need, we developed a multi-item rating scale for assessing reflective function. Particularly, we wanted to develop a measure that could be applied to multiple data sources (e.g., interviews, including those other than the AAI, by informants such as therapists, and by observers rating interactions).

The Reflective Function Questionnaire (RFQ; Levy, Meehan, and Hill 2005) is a multi-item measure developed through an iterative construct validity approach designed to cover a wide range of domains encompassed by the RF theory. Fonagy's RF manual and various research in the area of mental representations allowed us to identify several domains and subcategories of reflective function. Items pertaining to each domain or subcategory were generated and then reviewed for wording, clarity, relevance, and readability. Examples or explanations were added to items whose intelligibility was perceived as problematic.

The present study is an outline of our ongoing attempt to establish criterion validity and inter-rater reliability for this measure. New items will be applied by two raters in order to establish the latter. Item ratings will be compared with existing interview codes (Levy et al. 2005, 2006) to establish criterion validity.

Participants in the Study

Participants were patients in a randomized control trial comparing three different psychotherapies for BPD. Of the 90 participants, 84 (92.2%) were female. Subject age ranged from 18 to 51 years ($M = 30.75$). Racial/ethnic distribution of the sample was as follows: Caucasian, 62 (68%); African American, 9 (10%); Hispanic, 8 (9%); Asian, 5 (6%); Other, 7 (8%).

Measures

Adult Attachment Interview. The AAI is a semistructured interview of early attachment relationships developed by Mary Main (Gardner, Kaplan, and Main 1996). Interviews were administered, audio-recorded, and transcribed in accordance with the procedure developed by Main and Goldwyn (1998).

Reflective Functioning Scale (Fonagy et al. 1998). The RF scale evaluates the capacity to perceive, understand, and reflect upon the

mental states of self and others. Passages in the AAI are rated on a scale of 1 to 9, and scores are then aggregated to provide an overall score for the transcript.

Reflective Function Questionnaire (Levy, Meehan, and Hill 2005). The RFQ is a 53-item scale based on Fonagy's manual. The items pertain to various ways in which an individual can demonstrate high or low RF. For example: "The patient acknowledges that one can be internally experiencing emotions different from what is being overtly displayed (i.e., I felt sad but didn't want to show that to her)"; "The patient often acknowledges how his/her perception of an event might have been distorted by what he/she was feeling or thinking at the time"; "The patient makes spontaneous efforts to clarify confusing aspects of his/her narrative in session."

Each item on the scale is rated from 1 to 5. Each rater is instructed as follows: "The statements below describe a number of ways in which patients may perceive, understand, and reflect upon the mental states of the self and others. Please rate the following items on the extent to which they are true of you in your work with your patient, where 1 = not true at all, 3 = somewhat true, and 5 = very true."

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Data Analysis

In an earlier study, Levy et al. (2005, 2006) administered and scored 90 AAIs for attachment classification and RF. Raters will score audiotapes of these interviews using the RFQ. Intraclass correlation coefficients (ICCs) will be calculated to determine the reliability across raters on ratings of the RFQ on the AAI audiotapes. In addition, a correlational analysis will be used to assess the relationship between the RFQ items and the existing RF scores. We hypothesize that there will be a strong and significant correlation.

Future Directions

The development and validation of this measure promise to expand our understanding of this complex construct. The measure allows for psychometrically sophisticated and timely assessments of RF. Researchers and therapists will have the opportunity to examine the dimensional components of RF, as well as to apply this measure in rating changes in psychotherapy patients.

Future studies will be able to examine the factor structure of the RF construct using the RFQ items, thus allowing us to determine the validity of the construct. Moreover, cluster analytic procedures applied to

the factor scales can determine if subgroups of individuals exist with regard to reflective function. Recognizing variations in the level and areas of RF in different psychopathologies may enhance our understanding and treatment of these conditions.

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Kenneth N. Levy
 Department of Psychology
 Pennsylvania State University
 240 Moore Building
 University Park, PA 16803
 Fax: 814-863-7002
 E-mail: klevy@psu.edu